

Copyright is owned by the Author of the thesis. Permission is given for a copy to be downloaded by an individual for the purpose of research and private study only. The thesis may not be reproduced elsewhere without the permission of the Author.

Making Resistance Politics: the Opposition to Genetic
Engineering in Aotearoa New Zealand

A thesis presented in partial fulfilment of the requirements for the
degree of
Doctor of Philosophy
in
Sociology

Corrina Adele Tucker

2011

Abstract

The politics making of genetic engineering resistance in Aotearoa New Zealand involves a complex interplay between a diverse core of movement network actors and a broad, mediated collective identity. The movement's organisational structure and cultural meanings comprise both diversity and cohesion, which enhance each other, making for successful politics making. This thesis demonstrates how these seemingly contradictory movement features were able to coexist. Drawing on in-depth interviews with 18 key activists, this research investigated how the movement was structurally and culturally organised. Previous social movement analyses have tended to separate structure from culture, resulting in one-sided interpretations that have not adequately addressed the role both elements play in making politics. To overcome this shortcoming, this thesis developed a complementary approach to methodology and analysis that drew on social network analysis to investigate organisational structure, and framing to explore meaning-making and the achievement of collective identity. The network structure of the movement is decentralised, non-hierarchical, flexible and complex. This has enabled both diversity (seen in movement sub-groups, strategic and tactical disparities), and coordination (seen in the significant overlap of relational ties and the convergence of actors in mass mobilisations), to exist at the same time. The same kinds of characteristics are evident when looking to framing and movement collective identity. Activists relayed a broad range of oppositions to genetic engineering, but at the same time their concerns were shared at an elementary level, and were posed as challenging common understandings of Aotearoa New Zealand. The movement was therefore deeply engaged with and embedded in the wider cultural context of this country. The characteristics of flexibility and embeddedness displayed in this movement are a powerful combination for movement mobilisation and endurance. Until there is a commercial release of a genetically engineered crop in this country, the potential for future mobilisation remains.

Acknowledgements

There are many people that I wish to acknowledge for their contribution and support throughout the long journey that has been this PhD thesis. My chief supervisor, Dr Brennon Wood, has been the greatest supervisor that I could possibly have hoped for. Brennon has pushed me to do the best I can (and the best that I didn't think I could do), and has been supportive of the challenges that I have faced throughout this PhD. Thank you so much Brennon – it has been a privilege and honour working with you.

There were 18 people that directly took part in this thesis as research participants. I appreciated the time that you made available to me for interviews, and for the enthusiasm, knowledge and insights that you imparted in the process. It was these 18 people and my appreciation of their time and the stories they had to tell that at times kept my momentum going during this thesis. I am indebted to all of you for sharing a part of your lives with me.

There are many other people who since I first enrolled in this PhD have played some role in supporting and assisting me. In particular I want to acknowledge Kathy Stuart who has been a pillar of strength throughout my thesis, and who has provided me with invaluable critique of my work. I cannot thank you enough, in particular for the time and encouragement that you contributed in the last gruelling weeks of my thesis. I also wish to especially acknowledge Matt Russell, who has been ever-encouraging and supportive in particular as this thesis neared completion.

I wish to furthermore acknowledge the following people who have at different times and in different ways contributed their support: Robyn Andrews, Doug Ashwell, Henry Barnard, Avril Bell, April Bennett, Maria Borovnik, Alix Coleman, Julie Collins, Chamsy El-Ojieli, Trisia Farrelly, Nicky Hager, Jill Hancock, Ang Jury, Jude Marshall, Ruth McManus, Carolyn Morris, Lesley Patterson, Paul Perry, Mary Roberts, Chris & Jennifer Russell, Allanah Ryan, Catherine Scheele, Ross Strong, Sue Tait, Marianne Tremaine, and Avril Ward.

Finally, I want to acknowledge my family. Mum and Dad have patiently been waiting for me to complete this PhD, and I know you are proud of me. Thank you for being so supportive of me throughout my studies. Sage and Lenaia, my two 'big kids', have seen me studying for just about their whole lives. Thank you for being great kids in your enduring understanding of my need to often work at night time and on weekends, when I would much rather have been spending the time with you both. Lastly I want to acknowledge Finnley, my 'baby'. Having you mid-way during my PhD certainly was not the easiest thing in the world, but you have enriched our lives more than I could have ever imagined.

Table of Contents

Chapter One

Politics-making: The GE Resistance Movement of Aotearoa New Zealand	1
1.1 GE: Terminology, Significance, Resistance	3
1.2 Resistance Through Time: Revolutions, Social Movements, Networks	11
1.3 Political Resistance and GE	15
1.4 Chapter Outline	23

Chapter Two

Theorising GE Resistance in Aotearoa New Zealand	27
2.1 Politics as Structure	31
2.2 Politics as Culture	37
2.3 Enter Globalisation	43
2.4 The Way Forward	49
2.5 Summary and Conclusion	57

Chapter Three

Researching GE Resistance: a Methodology	59
3.1 Data	60
3.2 The Analytical Tools	72
3.3 Conclusion	84

Chapter Four

A Networked Movement: Multiplicity is its Power. The Big Song Sheet	85
4.1 What's in a Name?	86
4.2 GE Resistance: a Movement Snapshot	90
4.3 Movement Structural Dynamics	98
4.4 Tactical Repertoires	104
4.5 Unity and Diversity	108
4.6 Actors Speak on Organisation and Relationships	110
4.7 Conclusion	124

Chapter Five

Collective Identity: Value Politics. The Same Tune	129
5.1 Us and Them	131
5.2 Collective Action Frames	138
5.3 Master Frames	154
5.4 Conclusion	167

Chapter Six	
GE Resistance Politics-making: Fluid and Negotiable	171
6.1 Methodological and Theoretical Conclusions	173
6.2 Structure, Organisation and Networks	174
6.3 Culture and Collective identity	178
6.4 Future Research	181
6.5 Research Limitations	183
6.6 Reflections and Futures	185
References	189
Appendix A	213
Appendix B	216

List of Figures

Figure 1. Basic social network structures	75
Figure 2. Directed nominations of most important movement alliances and relationships (MDS layout)	92
Figure 3. Individual affiliations with GE resistance organisations (2-mode, MDS layout)	94
Figure 4. Four central movement group's networks (2-mode, MDS layout)	96
Figure 5. Four peripheral movement group's networks (2-mode, MDS layout)	97
Figure 6. Movement individuals and groups 1996 to December 1999 (2-mode, MDS layout)	99
Figure 7. Movement individuals and groups December 1999 to October 2003 (2-mode, MDS layout)	100
Figure 8. Movement individuals and groups October 2003 to 2005 (2-mode, MDS layout)	100
Figure 9. Networks of three 'lawful process' movement activities (2-mode, MDS layout)	105
Figure 10. Networks of three 'direct-radical' movement activities (2-mode, MDS layout)	106
Figure 11. Tactical repertoire continuum (2-mode).	107

Chapter One

Politics-making: The GE Resistance Movement of Aotearoa New Zealand

My impression is that the movement in New Zealand has been stunningly successful. It didn't win that battle, which was to do with maintenance of the moratorium at that stage, but they've won a huge amount because there hasn't been a commercial release. There's very little wish by any companies to do trialling, or any kind of investment in New Zealand. Most food companies, bit by bit, pretty well nearly all the food companies in New Zealand, have been rejecting the use of genetically engineered products in food. It's been quite a stunning movement, and pretty well all of that is a result of the work of the GE free movement, that they won in spite of the moratorium decision (Jacob).¹

During the past decade Aotearoa New Zealand has experienced an arduous Royal Commission of Inquiry, mass public and media debate, numerous protests and actions, and a rash of publications, all addressing one subject – genetic engineering (GE) – a scientific technique that involves “altering the genetic material of a cell” (Biology Online, 2008, ¶1). Marian Hobbs stated in a speech to Parliament that the Royal Commission investigation was “the most wide-ranging into genetic modification undertaken in any country” (2001, November 27, ¶8).² There has been considerable and often heated debate and controversy over GE in Aotearoa New Zealand since the late 1990s. This controversy has resulted in and has been driven by a broad movement of resistance. GE is the contentious object of this thesis. The thesis investigates the way GE resistance has been mounted and organised in Aotearoa New Zealand. I argue that an intricate network structure and collective identity are imperative to the movement's politics-making.

GE resistance in Aotearoa New Zealand during the period 2000 to 2003 has been one of the most intense and enduring mobilisations ever seen in this country, resulting in some of the largest protests since the 1981 Springbok Tour demonstrations (Boraman,

¹ Jacob was a participant in this research. Participants have been assigned pseudonyms throughout this thesis to protect their privacy and the confidentiality of their statements.

² Hobbs was Minister for the Environment during the Royal Commission on Genetic Modification (RCGM) process.

2006). This resistance has played a role in influencing numerous changes, some of which have been substantial. Pivotal outcomes have included a moratorium on commercial GE from 2001 to 2003 and a Royal Commission of Inquiry on Genetic Modification (RCGM), which was instituted in 2000.³ An awareness of GE and its application in food and the environment in particular has been aroused in many Aotearoa New Zealanders. In addition, since the moratorium was lifted there have been no commercial applications to grow GE crops.⁴ It is for reasons such as these that activists like Jacob, as seen in the opening quote to this chapter, describe the movement as “stunningly successful”. The GE resistance movement of Aotearoa New Zealand has played a role in influencing such outcomes. This thesis investigates how it is that this movement has been able to affect change.

The objective of this thesis hinges on two concerns that stem from the same central interest. The first concern is the way in which GE resistance politics-making has transpired and advanced in Aotearoa New Zealand; of specific concern are the organisational features and relationships that exist between core movement actors. The second concern is how those driving the resistance construct a sense of collective identity that enables movement recruitment, mobilisation and maintenance.

In the following, I firstly outline some key terminology. I introduce and define the terms genetic engineering or GE and explain the concept of ‘biotechnology’. In discussing GE, I provide reasons for its significance as well as some of the rationale for resistance to it. A further series of terminology around political resistance is then explained, including the concepts of revolution and social movement. An overview of resistance to GE beginning with the inception of the movement internationally, to the roots of resistance in Aotearoa New Zealand is relayed. As part of this overview, a political-legal timeline of GE related events is outlined. Following this overview, the chapter concludes with a brief description of the forthcoming chapters.

³ The Royal Commission of Inquiry into Genetic Modification (RCGM) received nearly 11,000 submissions: 92% overall opposed GE. Of the more than 10,000 general public submissions, 97% opposed GE (Eichelbaum, Allan, Fleming & Randerson, 2001; MfE, 2001a).

⁴ There has been once commercial GE application made and granted, and this was in 2009, for a horse vaccine.

1.1 GE: terminology, significance, resistance

Recent literature tells us that we are entering a new era in human history: “the era of new biotechnology advances” (De Melo-Martín, 2002:246; Sternhell, 2001). This era has been coined “the biotech century” (Rifkin, 1998; Wolfson, 2002:23) and the “Gene revolution” (Strauss, 2000:105). It has been characterised as a “total revolution”, a revolution which is altering the world in myriad ways (Hindmarsh, Lawrence & Norton, 1998; Leopky, 1998:245; Wiegele, 1991). Biotechnology - “a set of biological techniques developed through basic research” – is therefore of great interest for sociology given the disciplinary concern with societal structure (among other things), which is being dramatically altered by GE technology (Biology Online, 2006, ¶1; Bridge, McManus & Marsden, 2003).

Hindmarsh et al. (1998) discuss how in economic terms alone the result of commercialised biotechnology will be momentous: bio-industry analysts predict that by 2025 around 70% of the industrial market and 40% of the global economy will have some form of biotechnology as its foundation. Furthermore, the Biotechnology Industry Organisation (BIO) (2007a) has reported a gradual increase in the sales of new biotechnology from 1994. In 1994 new biotechnology sales were worth US\$7.7 billion; by 2004, sales had reached US\$33.3 billion. Even though there have been some ups and downs in the biotechnology economy, the Executive Summary of the ISAAA (2010) global status of biotechnology report (Brief 41-2009) states that in 2009 the biotechnology seed market was worth US\$10.5 billion just by itself, while sales from the four main biotechnology crops – maize, soya bean, canola and cotton – were US\$130 billion. The economic implications of this new technology are profound, but are nevertheless just a pin prick in terms of its overall ramifications and possibilities for new social arrangements.

There are numerous issues, for example, around identity as human beings, globalisation, trust, knowledge, and how the human body will be affected by the outcomes of developments in the world of biotechnology (Leopky, 1998). The commercial exploitation of this emergent technology has the ability to transform the food chain, pharmaceuticals, societal structures, and life-sustaining nature itself.

Claims praising the wonders of biotechnology amongst the scientific community continue with zeal. Hindmarsh et al. (1998:5) describe some of the optimistic claims made by its champions:

Civilisation, finally, will be able to control its biological destiny. By escaping from their genetic straightjackets and the constraints of nature, people will find a new kind of freedom – a freedom to overcome disease and hunger, to have an improved standard of health and, of course, to live longer.

The development of a headless frog in 1997 highlights the optimism described by Hindmarsh et al. Those responsible for the development of the headless frog hope that this research will eventuate in the ability to grow headless human clones for the purpose of 'spare' body parts (Hindmarsh et al., 1998). Such developments are viewed widely in the scientific world as ethically sound, given that the development of a headless human clone for body parts would be "in the service of humanity" (Hindmarsh et al., 1998:6). This view has also however been criticised, as evident in the claim by animal ethicist Professor Andrew Linzey that such work is "scientific fascism because we would be creating other beings whose very existence would be to serve the dominant group" (Hindmarsh et al., 1998:6). Human ethics is just one area where contention abounds.

Anxieties have been expressed by some scientists involved in biotechnology. David Suzuki (1998:xv-xvi), an award winning geneticist, describes his concerns as he entered the world of genetics as a graduate in 1961:

I learned that there were parts of the history of genetics that none of my professors had taught me. And, as the years went by and the scientific community exploded in number and vigour, it became clear that despite the remarkable discoveries being made, life was not getting better for most people on earth while the planet itself was beginning to show unmistakable signs of distress.

Suzuki was prompted to begin questioning biotechnology by becoming aware of two historical events in the history of genetics. He describes how he found out that it was geneticists who rationalised the eradication of the 'yellow peril' (in this instance, Japanese-Canadians of whom Suzuki is one) from British Columbia, Canada, around the time of World War Two. Secondly, Suzuki (1998:xvi) discusses eugenics and the Holocaust:

Eugenics Acts were passed in many countries that resulted in the sterilisation of people judged to be undesirable or inferior... For me, the most shocking realisation was that the Holocaust was not the result of the ideas of a madman, but had been based on the grand claims of geneticists.

Suzuki was disturbed by the fact that he had never been taught such things in his training as a geneticist. Quite the contrary, he was told a more grandiose version of the progression of genetic science, a version that neglected the human element of the technology:

I had been taught science as a steady progression of insights by intellectual giants. It had never occurred to me that these heroic figures were fallible human beings, as competitive, jealous, ambitious and biased as any other group of experts. [E]qually disturbing was the fact that in many fields, but especially genetics, scientists in the 1960s and 1970s were making the same kinds of claims that history should have warned them against. Molecular biologists ... were claiming to have their hands on the levers of life so that hunger, poverty, deleterious mutations, disease and other afflictions were potentially controllable (Suzuki, 1998:xvii).

Suzuki points to the fallibility and vulnerability of humanity – in particular of those scientists who are seeking to have the “levers of life” in their hands. With this in mind, I turn now to looking more closely at what exactly this technology is that has created so much controversy, including among scientists who work in this field.

The term biotechnology itself has been the cause of much confusion, and its interpretation has caused contention between those arguing from different perspectives (Doelle, 1999). Biotechnology, alternately known as bioengineering, is an umbrella label for a whole succession of various techniques and areas that combine biology and technology. Essentially, biotechnology refers to the direct or indirect scientific manipulation of living organisms, or parts or products of living organisms, particularly at the molecular level, to produce products or to run a process (BIO, 2007b). At its simplest, biotechnology is applied biology.

It is useful to think of there being two biotechnologies: the old or classic variety, and new biotechnology. Some people use the term biotechnology only to refer to newer practices in genetic science, where biotechnical methods are used to modify or manipulate the genetic materials of living cells, such as in the use of recombinant Deoxyribonucleic Acid – (r)DNA. The terms ‘genetic modification’ and more recently

‘genetic manipulation’ are commonly used to refer to these newer methods. GE is used to identify these new technologies, but is also often more specifically applied to gene splicing (Bren, 2003)⁵. The majority of contention experienced with biotechnology application occurs within the area of GE, with transgenic organisms or new biotechnology (Blank, 1990). To fully appreciate what is meant by these new developments however, *old* biotechnology must first be considered.⁶

The roots of what we now understand as biotechnology date back to the middle of the 19th century. A Czech monk named Gregor Mendel was breeding pea plants, keeping careful records of his experiments which provided insight into hereditary traits (Strauss, 2000). Mendel is now credited as being the individual responsible for the eventual discovery of DNA and, by association, of GE. However, there were other critical interventions along the way.

Fári, Bud and Kralovánszky (2001) argue that old biotechnology was led by technicians and engineers from the end of the 19th century into the early 20th. The areas in which those engaged in old biotechnology worked were large industrial plants, for example, in wineries, breweries and tanneries, or in the production of yeast, alcohol and milk. Also during this time, agricultural engineers began specialising and developing techniques for the improvement of agriculture, which would herald the beginning of ‘the green revolution’.⁷

Several prominent people (for example, Orla-Jenson, a Danish microbiologist, and Patrick Geddes, an English biologist) were responsible for innovations in agriculture, such as fertilizer development and soil tillage improvement (Fári et al., 2001). But there is one figure who is particularly prominent: Károly Ereky, a Hungarian engineer, economist and political figure (Fári et al., 2001). Ereky created the term biotechnology in 1917 and prescribed what constituted it in his 1919 publication *Biotechnologi*. This

⁵ The term genetic engineering was first used in 1941 (Bio, 2007c). The term genetics was coined in 1906, and molecular biology in 1938 (BIO, 2007c).

⁶ The Journal of Toxicology & Environmental Health (2001), volume 64 is a special issue that looks at biotechnology. Kacew (2001) presents an exploration of the history and possible future of GMOs in the article *The Past, the Present, and the Future*.

⁷ The green revolution refers to the agricultural practices that began in the 1940s, which included mainly the mechanisation of machinery and the introduction of chemicals to assist in production (Briney, 2010).

was the first time that the term ‘biotechnology’ was put into print (BIO, 2007c; Fári et al., 2001). Although praised in German journals as laying the foundations of the discipline, Ereky and his contemporaries were largely ignored at the time.⁸ Even so, he was purposeful in his coinage of the term biotechnology and in his vision of what it would or could mean in years to come. Ereky spent his lifetime substantiating his vision, which for him was the development of “technology based upon biochemistry”; he is thus regarded by many as the “founding father of biotechnology” (Fári et al., 2001:2). What is especially interesting about Ereky’s vision is his insight in foreseeing the implications and issues that would arise as biotechnology became increasingly integrated into society.

Ereky developed his biotechnology theory in the decade preceding 1919 at a time when many were concerned about the food supply of his country and of the world in general (Fári et al., 2001). Ereky was concerned with the very questions that academics, politicians and scientists, among others, are grappling with or arguing about today. The issues he signalled included finding out how food shortages could be amended, how issues concerning those rural dwellers whose livelihoods depend on agriculture could be addressed, how land cultivation could be improved, and how natural science discoveries could be used to improve agricultural production (Fári et al., 2001). To this end, Ereky envisioned a global age of agricultural-technological advance based on science.

A number of factors comprised Ereky’s proposed agrarian, biotechnological reform (Fári et al., 2001:3-4). These included the need for family-based farming units to be expanded into larger enterprises, along with the need for poor people to be introduced to modern, competitive agricultural techniques and equipment. The poor would also need to be transformed into entrepreneurs, employees, and organised workers to improve their health and well-being. Intensive farming and specialisation of intensive animal husbandry and livestock breeding farms that take into consideration economics, plant and animal physiology would be needed to help provide the world’s food. Finally, Ereky envisioned industrial scale production of new biotechnology products, specifically by scientific extraction processes from the green leaves of cultivated plants. It is quite startling to see just how Ereky’s vision has developed since his time. Ereky argued that

⁸ It was not until the publication of *The Uses of Life. A History of Biotechnology* in 1993 that Ereky was recognised (Fári et al., 2001).

It is necessary to reorganize food production ... by means of natural sciences. If ... the farmer, the physiologist and the biochemist will control the production of food, and if they open up the treasures of nature, in that case it might promote the prosperity of mankind at inconceivable dimensions, which the posterity will recall as the beginning of a new era of abundance. To create this biochemical age ... is a matter of decision (1919, as cited in Fári et al., 2001:4).

As Fári et al. (2001:3) comment, Ereky was very concerned with the question of how “mankind [will] enter the new age of biochemistry”. This question remains pertinent: the divergent views of people within and between countries do not show signs of reaching resolutions regarding the age of biochemistry or biotechnology any time soon. Ereky himself forewarned that acceptance of biotechnology would not be an easy feat: “The change of the food production system will frustrate ideologies, theories of political orientation, social classes, [and] economical institutions” (1919, as cited in Fári et al., 2001:10). Even so, Ereky remained optimistic: “I know that in partial questions everybody will not agree with my program, but, if my opponents want to improve humanity’s fortune in the same way of unbreakable trust as I, we will find concordance easily in the details” (Fári et al., 2001:10). Nearly a century on, it has become apparent that Ereky underestimated just how much contention there would be.

In the late 1970s, the term ‘industrial microbiology’ was replaced by the word ‘biotechnology’, to describe the myriad expansions and advances in animal and plant sciences (Doelle, 1999; Regal, 1996). In 1953 Francis Crick and James Watson discovered what is known as the DNA double helix, from which came what is known as the central dogma of molecular biology: “the premise that assumes that an organism’s genome – its total complement of DNA genes – should fully account for its characteristic assemblage of inherited traits (Commoner, 2002:1).⁹ In 1973, Cohen and Boyer invented the GE technique of altering plants, animals and microorganisms at the genetic level (Osgood, 2001). A further breakthrough was made six years later by the UK scientist Dr Bedrock (and colleagues), who showed that DNA from a plant could be “cloned and replicated in bacteria” (Osgood, 2001:81). Since this time the term

⁹ The Human Genome Project which was undertaken between 1990 and 2001 tested the central dogma of molecular biology, and found it to be false: “there are far too few human genes to account for the complexity of our inherited traits or for the vast inherited differences between plants, say, and people” (Commoner, 2002:1-2).

‘biotechnology’ has gradually enlarged to include medical, agricultural, microbial and marine biotechnology, and has even extended into the areas of sustainability and socio-economics (Doelle, 1999).

A common biotechnological technique uses (r)DNA, which simply put is “the carrier of genetic information” (Hindmarsh et al., 1998:4). Recombinant DNA (or gene splicing) technology involves taking a copy of a piece of DNA containing one or a few genes and either transferring this between organisms or recombining them within an organism. Where an organism becomes modified by genetic manipulation such as in recombinant DNA technology, it becomes known as transgenic, or as GE.¹⁰

What may be considered the more extreme applications of biotechnology include areas such as cloning and stem cell research. A clone is a population of genetically identical cells or organisms that are derived from a single original cell or organism by asexual methods, and used to replicate already existing organisms. Stem cell research essentially involves the use of blank cells that potentially can be turned into any type of body tissue. Such research offers a technology that is particularly useful for medical applications (Cohen, 2001; BIO, 2007b). Bioinformatics, or the use of computers in handling biological information in particular to characterise the molecular components of living things, has been suggested as constituting a central role in future developments of the technology (Counsell, 2003).

Other new concepts have developed in association with new biotechnology. These include biopiracy and biocolonialism, which are perceived as problematic aspects of the new technology. Biopiracy refers to the possibility of a world where:

indigenous peoples’ genes, and knowledge and ownership of their flora’s genetic information, is appropriated by Western firms for genetic databanks; and where potentially dangerous rDNA vaccines are tested unregulated in Third World countries (Hindmarsh et al., 1998:9).

Biopiracy and bio-colonisation are concepts used to argue that the biotechnology industry (largely of the Western world) is colonising the developing world by exerting its power and influence on those more vulnerable, under the pretext of delivering a

¹⁰ The changing around or manipulation of human DNA is more specifically referred to as *germ line therapy* (Trefil, 2001).

better world for all.¹¹ Extending on biopiracy and biocolonising, Hindmarsh (2000:541) describes how GE is seen by some as “futures-biocolonizing”, which is “following in the haunting imperialist colonial footsteps of old; a future that will restrict alternative futures more congenial to the emerging moral landscape of ecologically sustainable development”. All these new concepts bring to the fore the power and significance of GE, and the resistance to it, at both local and global levels. Biotechnology is promoted quite strenuously by many as a means to feed the ever-growing world, aid the poorer nations, and assist in alleviating climate change (BIO, 2010; Kaplan, 2010, June 30; National Academy of Sciences, 2010; Prakash, 2005). However, it is also viewed very much as a double-edged sword by its opponents.

There are many ways in which GE technology can touch peoples’ lives, whether for better or worse. Bridge et al. (2003:8) outline why we should care about this new technology as human beings:

Applications of biotechnology to health, food, and medicine, for example, raise not only technical questions about costs and benefits or the possibility of unintended effects, but fundamental questions about the relationship between state and citizen, about the role of civil society in the regulation of science, and about the extent to which private interests can deliver the public good. Biotechnology therefore assumes an increasingly central place within what Giddens (1994) and others have termed ‘life politics’ – the emergence within post-industrial societies of issues to do with identity, health and environment as central problematics.¹²

The relevance of biotechnology to people’s lives is omnipresent. No matter who you are, where you are or what you do, if not directly then indirectly, your life and who you are will be impacted on by developments in the new biotechnology era. It is unsurprising therefore that there is anxiety and caution felt toward GE. With each new technology come new challenges and issues. GE is no exception. Unsurprisingly then, resistance to this technology is widespread both in its global reach and in the concerns expressed.

¹¹ Ostergard, Tubin and Altman (2001) discuss among other things, the impact of new biotechnology on countries of the developing world.

¹² See Giddens, Anthony. (1994). *Beyond Left and Right*. England: Stanford University Press.

1.2 Resistance Through Time: Revolutions, Social Movements, Networks

Resistance to various things and ideas (such as new technologies like GE or out-dated ways of thinking about women's rights) has existed in many guises over past centuries. At the onset of early modernity resistance was often seen as revolutionary activity. Then, with the industrial revolution, mass resistance came to be seen as a social movement. Social movements can be defined in general terms as "forms of collective action aimed at social reorganization" (Abercrombie, Hill & Turner, 1994:389). Social movements themselves can be understood as having gone through important historical transformations, shifting from the old to the new forms. This thesis argues that resistance to GE is not a revolutionary movement; it is rather a networked social movement, which is the most contemporary form of resistance politics. In order to situate this transformation, I will first explain the importance of researching social movements as a particular form of resistance.

Sociology has long been drawn to the study of social movements. This is not surprising for social movement activists and applied sociologists are in some respects alike.

Perhaps more than anyone, social movement activists merit the designation of 'applied sociologist' to capture the dialectical relation between theorizing about change, testing those theories through strategic action, reformulating them based on outcomes, and proceeding to another round of social change experimentation (Buechler, 2000:8).

The sociological importance of these movements is clearly articulated by Buechler. He describes the basic elements of sociological investigation as theorisation and research (or testing theories). Activists do a very similar thing in a social movement environment as they move through a trial and error process to ascertain the best approach for dealing with grievances. Activists and applied sociologists are both committed to trying to find or implement solutions to societal problems.

With activists having on their agendas the alleviation of societal ills, it is no wonder that social movements comprised of these social actors can be of considerable importance in the development of contemporary society. Jordan (2002:9) states that "it is within some of these movements that beliefs are being invented that may shape our

future”. Thus movements are indicators of moral change: they elucidate new ideas about what is right and good. As Melucci (1996:1) says,

Movements are a sign; they are not merely an outcome of the crisis, the last throes of a passing society. They signal deep transformation in the logic and processes that guide complex societies. Like the prophets, the movements ‘speak before’: they announce what is taking shape even before its direction and content has become clear.

Melucci points to the importance of social movements as signifiers of social change, an importance that has long been recognised by sociologists. However, social movements as we currently understand them have been around for nearly two centuries, and have been concerned with different kinds of social change at different times.

Social movements evolved in parallel with the beginnings of modernity in Europe, that is, with the transition from feudal to capitalist society heralded by the industrial revolution (Buechler, 2000). This was a time of mass disruption and sweeping change on many fronts, which brought with it the importance of science for understanding not only natural facts but also social facts. In other words, society would now be available as an object for enquiry by (social) scientists, especially as the influence of religion and the divine as explanations declined. With the realisation that societal rules and norms varied, and are socially constructed and therefore changeable, came the realisation that hierarchical structures and other *facts* in society were variable, and thus must also be changeable. As Neidhardt and Rucht (1991, as cited in Buechler, 2000:5) state: “the idea of conscious collective action having the capacity to change society as a whole came only with the era of enlightenment”. Thus social movements as a distinctive form of organisation were born.

Revolution was the term used to describe a mass movement, before the term social movement came into widespread use. Revolutions are described by Giddens (1996:620) as having the objective of “major processes of reform or change”, and tactically “involve[d] the threat of use of violence”. The American Revolution of 1776 and the French Revolution of 1789 may be considered the most important revolutions in terms of bringing about worldwide change. The catchphrase of the French Revolution, “Liberty, equality and fraternity”, became the core ideological image fought for in these times, and this motif has since forged its place in modern day politics as constituting

basic democratic values (Giddens, 1996; Buechler, 2000). So even though the form that resistance politics has taken has changed over the years, these values founded in the French Revolution are still evident in resistance politics today, including in the GE resistance movement.

Britain in the 1790s was the birthplace of the first, 'old social movements' (OSMs) (Buechler, 2000). Membership of these OSMs was determined by social position. They were founded in the common relationship of people to capitalist production and hence, their class position. In other words, these movement's 'collective identity' – "the shared definition of a group that derives from its members' common interests, experiences and solidarities" – was predetermined by their class position (Ritzer, 2007, ¶1). This first wave of social movements included spectacular technological conflicts in the form of the *Luddite Revolts* in England (Jamison, 2001). These revolts were a direct reaction to newly industrialised areas of England, and involved workers sabotaging machinery which was viewed as being the reason for job losses (Jamison, 2001).

A second wave of OSMs occurred in the second half of the 19th century, specifically the 1870s and 1880s, with the growth of the labour movement throughout Europe and the rise of populism in the USA (Jamison, 2001). The Russian revolution of 1917 and the Chinese revolution of 1949 had a huge impact on these countries and on the world. The Russian revolution involved disgruntled workers and peasants essentially forcing the abdication of the Tsar, thereby bringing in a new era under the leadership of Lenin. The Chinese revolution occurred after decades of internal political struggles, with the communists led by Mao and his Red Army taking over government and uniting China under communism (Giddens, 1996). Revolutions of this nature and stature have not been seen again in modern times. From the mid-20th century these old style movements had largely given way to a new form – the new social movements (NSMs).

The NSMs that began in the 1960s did away with labour and class-based collective identity. This occurred as agents themselves began to define their common interests and reasons to mobilise. On these new terms, the possibilities for social movements became potentially unlimited. What constituted a collective identity became less certain as material factors became less of a concern, especially for those in industrialised nations

(Scott, 1990). Of defining significance for NSMs is the actor taking centre stage. There is a shift from structure to actors and their agency.

The NSMs saw the widespread emergence of unofficial politics, most notably including movements that focused on anti-war or peace, women's or feminist civil rights, and the beginnings of environmental politics (Boggs, 1986). These new movements were important for three central reasons. They demonstrated that mobilisations of people for a common cause can be effective. They demonstrated that direct action as opposed to official politics could also be effective. Thirdly, they inspired students and youth to become more involved in activism (Boggs, 1986; Tormey, 2004). These characteristics have become relatively commonplace in contemporary social movements. In particular, the feminist or women's movement has paved the way for women to be key figures and inspirations in this area, and the fight for civil liberties and equality for minority ethnic groups has meant that a plethora of various cultural viewpoints can be heard in relation to issues. Also, the looming environmental movement united a variety of people around a shared range of interests. It also brought about the involvement of Non-Governmental Organisations (NGOs) in social movements (Greenpeace and Earth First! are early examples). These attributes of NSMs have remained important as a new phase emerged. It was in the late 1990s that we saw the emergence of *networked* social movements.

Jamison (2001:13) refers to a structural shift that has changed the character of contemporary social movements: "In the contemporary world, social movements are perhaps best seen not as organisations but as networks". Broadly speaking, network as a social movement characteristic refers to "ideological diversity, loose organizing and a global outlook" (Kavada, 2003:2). These characteristics entail a number of changes in social movements. Ideological diversity is evident in the way that people from all walks of life, of all ages, of various socio-economic backgrounds and religious / spiritual views come together to mobilise. The loose organisation style is evident in the blurring of boundaries within and between movements. Now, for example, we often see peace movements sharing affiliations with and supporting civil liberty issues. Moreover, contemporary, networked movements are often not geographically bound – they have a global awareness or outlook. The opportunities made available through new communications technologies, whose development has rapidly accelerated with recent

globalisation, have opened up myriad possibilities. As this thesis argues, GE resistance in Aotearoa New Zealand is a modern-day movement that shows these kinds of networked movement characteristics.

1.3 Political Resistance and GE

Aotearoa New Zealand has a relatively short but powerful history of social movement activism. During the 1890s the women's suffrage movement (first wave feminism) saw Aotearoa New Zealand women being the first in the world to win the right to vote in general elections. In the 1970s there was a massive surge of activity that saw the formation of the Māori land rights movement. Such activity included a land march led by Dame Whina Cooper in 1975, a four-year long protest led by Eva Rickard to reclaim Tainui land, an occupation at Bastion point in 1977-1978, and numerous other protest actions (New Zealand in History, 2010; Te Ara, 2009). In 1981 the anti-racism protests against the Springbok tour saw at least 150,000 people, over a 56 day period participate in 205 protests in 28 different locations (Puke Ariki, 2003). Nuclear free campaigning, which originally began in the 1960s, culminated in the years 1984-1985 with nuclear free legislation being adopted in 1987 by the Labour Government under David Lange (NZ History, 2010; Stone, 2005). The movement against GE, which began in the 1990s, thus stands in a long line of social movement activity in Aotearoa New Zealand. It has become one of the largest that this country has ever seen in terms of the numbers involved and the duration of campaigning.

Resistance to GE technology began in Aotearoa New Zealand later than in other countries. When rDNA techniques were developed in the early 1970s, concerns about the technology were raised internationally, beginning first in the USA (Schurman, 2004; Osgood, 2001). However, it was the landmark USA court decision in 1980, *Diamond v. Chakrabarty*, which really saw apprehension over new biotechnology accelerate.

The *Diamond v. Chakrabarty* court case involved Chakrabarty, a microbiologist, seeking the right to patent a bacterium that he had created which could break down crude oil (Wiegele, 1991). Initially Chakrabarty's request was rejected as microorganisms were not considered patentable given that they are living products of

nature.¹³ The case next went to the Supreme Court, where US legislation (*35 U.S.C. 101*) required interpretation:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefore, subject to the conditions and requirements of this title (United States Patent and Trademark Office, 2008, ¶1).

Eventually the Court ruled that Chakrabarty's microorganism was patentable. Wiegele (1991:80) relays the crux of this court ruling:

His claim is not to a hitherto unknown natural phenomenon, but to a nonnaturally occurring manufacture or composition of matter – a product of human ingenuity... [T]he patentee has produced a new bacterium with markedly different characteristics from any found in nature and one having the potential for significant utility. His discovery is not nature's handiwork, but his own.

This ruling sparked interest and concern for those already feeling disquiet about the fledgling GE technique. Biotechnology developers had been allaying public concerns by arguing that genetically modified organisms (GMOs) are *not* something new. Instead, GE was argued by the biotechnology industry to be no more than an improvement in techniques that had been around for millennia (see for example Biotech Institute, 2010; Peters, 1993).

The success of Chakrabarty's court case had wide-reaching implications for the development of commercial biotechnology globally (Wiegele, 1991). This case paved the way for scientists wanting to patent GMOs, and there are now thousands of patents issued for genes, animals, plants and human cell lines (King & Stabinsky, 1998). This was welcome news for those companies and researchers engaged in biotechnology research, but the court decision was not viewed favourably by all.

Jeremy Rifkin (as cited in Wiegele, 1991:81), a renowned critic of GE, stated:

¹³ US Patent laws were first developed by Thomas Jefferson, and at the time excluded plants and animals (King & Stabinsky, 1998). Jefferson also stated that if a patent was deemed "contrary to the public interest", then it should be the public interest that takes priority (King & Stabinsky, 1998:82). The Plant Patent Act, passed in 1930 by the US Congress, allowed products of plant breeding to be patented, that is, hybrid plants (BIO, 2007c).

for the first time, the Patent Office has formulated a public policy and has taken the authority of Congress in their own hands. They have decided literally who is to control the ownership of life in the twenty-first century.

A subsequent decision in 1992 by the Bush administration (in the USA) to make changes to the law around biotechnology further invigorated the opposition to GE. Osgood (2001:79) describes what these changes meant:

[the Bush Administration] simplified the approval process for agricultural biotechnology products, dramatically reducing the required testing to the same standard as non-genetically modified foods. Under this legislation, companies are free to undertake additional testing and are not required to label products containing genetically modified (GM) products.

The ability to patent GMOs, combined with a relaxing of USA law, saw an explosion of interest in what was now a commercially viable technology. In 1992 in the USA alone, 602 biotechnology companies were listed; by the end of 2003 there were 1,473 (BIO, 2007a; Scher, 1993).

In response to legal relaxation, Jeremy Rifkin launched the *Pure Food Campaign* in the US, the purpose of which was to fight GE foods and inaugurate a moratorium on GE crops. In the same year, the Earth Summit adopted *The Convention on Biodiversity*, which essentially outlined a legal frame for conserving “global bio-diversity, the sustainable use of biological resources, and the fair and equitable sharing of genetic resources” (Moghaddam & Ginsburg, 2003:239).¹⁴ Out of this Convention came the *Cartagena Protocol on Biosafety*, which addressed GMO trade through rules relating to the notification of content of GMOS and labelling. This Protocol was opposed by the USA, and to date they are still notably absent from the list of countries that have signed up (Nash, 2000; Strauss, 2000). Aotearoa New Zealand also did not sign up initially, but public and international pressure led to their signing the protocol on March 17 2005 (Convention on Biological Diversity, 2010; Tanczos, 2006).

¹⁴ This UN-initiated meeting of leaders from around the world first met in 1992 to address two matters deemed to be in need of urgent attention: environmental protection and socio-economic development (United Nations, 2010).

Some of the first protests against GE food took place in the USA in 1993, when the *MacGregor Flavr Savr* GE tomato was commercialised in America.¹⁵ By the mid-1990s Rifkin had a following of farmers, consumers and animal rights advocates participating in a barrage of protests which were becoming increasingly forceful, and increasingly global (Osgood, 2001).¹⁶ With GE food becoming commercially available in 1995, the tactics and strategies used by those concerned about GE diversified and increased, with the environmental NGO Greenpeace leading the way in many instances (Schurman, 2004).¹⁷

Such was the concern with GE that by the end of the 1990s direct action approaches to deal with the perceived threats began. It was in India, in November 1998, that the first GE cotton field trial was destroyed under *Operation Cremate Monsanto*, which then inspired direct actions in other countries (Kingsnorth, 1999; Nanjundaswamy, 1998). These acts of sabotage were no doubt spurred by Monsanto, a leading biotechnology company, when they claimed in 1998 that they were “aiming to consolidate the entire food chain” (Nanjundaswamy, 1998:152). Meanwhile in Europe, consumer boycotting of GE began in 1998 (Lynas, 2004).¹⁸ Large demonstrations against GE began in North America, including the *Biodevastation* event first held in St Louis in July 1998 (Nash, 2000; OCA, 2000; Osgood, 2001). In addition, with the use of the Internet, concerned individuals and groups were able to coordinate global events, and keep people in many parts of the world informed about protest actions.¹⁹

A rift between the US and European Union (EU) over GE food emerged during the 1990s. The USA were eager to embrace commercialisation, while the EU have insisted

¹⁵ This tomato was genetically engineered to not rot (Friends of the Earth International, 2005). Martineau (2001) describes the creation of the Flavr Savr tomato.

¹⁶ A number of articles have been written which discuss farmer resistance and anxiety about GE crops (see for example Clark, 2001; Pollack, 2004).

¹⁷ The first GE crop was planted in Canada in 1994, with larger commercial plantings in the USA in 1996, as well as in China, Argentina and Canada in the same year (Osgood, 2001).

¹⁸ Denmark, France, Greece, Italy and Luxembourg united to block the introduction of all new GE products in the EU. Safety rules were eventually introduced to counter this (Nash, 2000). Nielson, Thierfelder & Robinson (2003) discuss consumer resistance in Europe (and Japan) to GE food.

¹⁹ *Indymedia* are one example of internet based alternative media who have individuals at the grassroots level, internationally, relaying written and pictorial information as it happens often from amidst actions, that give a view of events outside of those saturating the mainstream media.

on labelling, and have been reluctant to allow GE crops to be grown in many of its member countries (Strauss, 2000). A global divide has also emerged between wealthier nations and poor. In wealthy nations, resistance against GE is often couched in terms of consumer choice and environmental preservation, while in poorer nations there are more basic concerns, for example, around being able to maintain livelihoods through subsistence horticulture. Concerns expressed by those opposing GE in Aotearoa New Zealand have tended to coincide with those shared by its counterparts in the wealthier nations, although there is strong concern among Māori with the protection of indigenous flora, fauna and other taonga. Such concerns are shared by many indigenous peoples around the world.

It was Māori who first forcefully publicised concerns over GE in Aotearoa New Zealand, by way of the Wai 262 claim made to the Waitangi Tribunal.²⁰ The *Wai 262 flora and fauna and cultural intellectual property claim*, was filed in 1991 by six Māori tribes (Te Rarawa, Ngati Kuri, Ngāti Porou, Ngāti Kahungunu, Ngati Wai and Ngāti Koata). These tribes sought acknowledgment and protection of the intellectual and cultural rights of indigenous flora and fauna, as well as the customary practices, traditions and knowledge associated with them (Hutchings, 2004a; Paget-Clarke, 2001). Concerns with GE are highlighted most significantly in terms of three *tikanga* Māori concepts: *mauri* (life force), *whakapapa* (genealogy) and *kaitiakitanga* (cultural guardianship).²¹ Some of the many concerns of Māori shared with other indigenous peoples include biopiracy or bioprospecting (IPCB, 1993; Ostergard et al., 2001; Williams, 2003).²²

From 1996 to 1998 concerns about GE really began to widen in Aotearoa New Zealand (Southward & Howard-Clark, 2000). The first grassroots group – RAGE

²⁰ The Waitangi Tribunal was established in 1975 by the Waitangi Tribunal Act, to hear Māori grievances and make recommendations on these to Government (Waitangi Tribunal, 2010a). The Wai262 claim seeks intellectual property rights over Māori knowledge (mātauranga Māori) and indigenous flora and fauna. This claim is currently in the report writing phase (Waitangi Tribunal, 2010b).

²¹ Tikanga are customs and traditions that have been passed down through the generations. For further information about GE from a Māori worldview, see Gibbs (1996); Hutchings (2001); Hutchings (2004a), Hutchings (2004b); Reynolds (2004); Te Pareake Mead (1997); and Tipene-Matua (2000).

²² See Moghaddam & Ginsburg (2003) for a discussion on Intellectual Property, patents and biopiracy.

(Revolt Against Genetic Engineering) – emerged in 1998.²³ A July 23 1998 press release by RAGE tells of the converging of different organisations that initiated this group:

Nationwide more than eighty-five health, environmental and consumer organisations are supporting the formation of RAGE (Revolt Against Genetic Engineering in Food), an umbrella group to nationally coordinate activity against the introduction of genetically engineered organisms into the food chain (Southward & Howard-Clarke, 2000:165).

Many different interests came together under the RAGE umbrella. This organisation was instrumental in helping bring about increasing public awareness of what was going on in this country concerning GE.

Public awareness and concern hinged on a number of key issues. There was the fact that GE food was being sold in Aotearoa New Zealand, and that the Government had already allowed 238 GE field trials to take place by 1999, largely without the knowledge of the public (Legat, 1999; Weaver & Motion, 2002). There were also concerns about the lack of testing of any GE foods being sold, and a lack of any labelling of such foods (Weaver & Motion, 2002).²⁴

Interest in and concern about GE in Aotearoa New Zealand was increased by international and national events, such as the Mad Cows Disease outbreak in Europe, and direct actions in India and Britain.²⁵ In Aotearoa New Zealand, media pounced on a controversial event that happened in this country as well: the first GE potato sabotage in early 1999.²⁶ The year 1999 was a watershed, with a flood of actions and activities concerning GE in this country (Southward & Howard-Clarke, 2000). It was in this same

²³ RAGE Inc. became 'GE Free New Zealand' (in food and environment) in 2000.

²⁴ The Government had twice blocked a private members bill that requested GMO food labelling (Weaver & Motion, 2002).

²⁵ Mad Cows Disease, otherwise known as BSE (Bovine Spongiform Encephalopathy), broke out in the mid 1980s in the UK (Henahan, 1996). By 1993, more than 1,000 cases per week of this disease were being reported, which led to the subsequent destroying of hundreds of thousands of cattle (Henahan, 1996). The first case of BSE being passed on from cows to humans became apparent in 1995 when the first human deaths were reported (Johnson, 2001).

²⁶ Twelve members of the Wild Greens pulled up GE potatoes at Lincoln University, following the approval granted to the Crop and Food Research Institute to do the field trial (Southward & Howard-Clarke, 2000; Tanczos, 1999).

year that the Life Sciences Network, a pro-GE lobby group, was established. The year 1999 was a pivotal one for GE resistance in Aotearoa New Zealand.

There are many different ways that the story of GE resistance in Aotearoa New Zealand could be told. I have provided some vital context around how this resistance emerged, and from where. Another key context is providing a sense of critical legislative and political events that began in 1996. The story of the mobilisation of resistance to GE runs alongside the story of how the State has acted and reacted to this new technology.

A range of legislation has been developed in Aotearoa New Zealand that is either directly or potentially applicable to GE.²⁷ Some of this legislation was developed before new biotechnology was even thought about but which has since come to be relevant. There have also been political undertakings that are directly related to GE. The years 1996 through 1999 saw the first series of GE specific legislation begin.

Two significant events happened in 1996: the HSNO Act (Hazardous Substances and New Organisms Act) and the first Mixed Member Proportional representation (MMP) election. The purpose of the HSNO Act is the protection of the “environment, and the health and safety of people and communities, by preventing or managing the adverse effects of hazardous substances and new organisms” (NZIoC, 2007:5). The first stage of this law came into force in July 1998 and dealt with *new organisms*. MMP on the other hand is a voting system that was determined in a referendum in 1993, which meant establishing an election process that would allow for minority parties to be represented in Parliament (rather than just the two dominant National and Labour parties). The first MMP elections were in 1996, but it was the Government that was voted in during the November 1999 elections – a Labour-Alliance coalition Government supported by the Green Party – that provided an opportunity for the GE resistance movement to develop allies within Government by way of the Green Party. It was then co-leader of the Green

²⁷ Legislation that is potentially applicable to GE includes: Wildlife Act 1953, Patents Act 1953, Reserves Act 1977, Wild Animal Control Act 1977, National Parks Act 1980, Fair Trading Act 1986, Plant Variety Rights Act 1987, Animal Protection regulations 1987, Conservation Act 1987, Consumer Guarantees Act 1993 and the Animal Welfare Act 1999. Legislation that has or has come to have direct relevance includes: Health Act 1956, Medicines Act 1981, Food Act 1981 (this led to the agreement in 1996 between Aotearoa New Zealand and Australia to establish a system for developing joint food standards – the Joint Food Treaty – which were approved in 2000), Environment Act 1986, Australia New Zealand Food Authority Act 1991 (ANZFA), Resource Management Act 1991 (RMA), and the Biosecurity Act 1993.

Party, Jeanette Fitzsimons, who presented a petition containing 92,000 signatures to Parliament, which called for a Royal Commission of Inquiry into GE, a moratorium on commercial release and a labelling regime for goods containing GE (Eichelbaum et al., 2001). In December 1999, the newly elected Government announced that it would be acting on the demands made in the petition that Fitzsimons presented. This marked a critical moment for GE campaigning, as the resistance movement shifted from a momentum-building, awareness-raising stage into a peak period of activism.

This peak stage of movement activism occurred at the same time that the Aotearoa New Zealand Government was using its highest form of inquiry, a Royal Commission, to investigate the future of GE in the country. The RCGM commenced in May 2000 and the moratorium on commercial GE was established in the same month. In July of the same year, the Australia New Zealand Food Standards Authority (ANZFA) was approved and set in motion. ANZFA's role is to develop food standards and ensure the safety of food, which means that GE food needed to be approved as at least as safe as its conventional counterparts. The establishment of this body led to a mandatory labelling regime for GE food, which came into force in December 2001 (FSANZ, 2004).

The year 2001 was also a busy one in relation to governmental political activity around GE. The second stage of the HSNO Act – hazardous substances – came into force in July. In the same month, the RCGM produced its four-volume Report and Recommendations, and presented it to Parliament. The Government came back with its recommendations based on the report, in October. The key recommendation from Government was that Aotearoa New Zealand should cautiously proceed down a path toward commercialisation; this meant that the moratorium earlier imposed on GE would be lifted in October 2003. The New Organisms and Other Matters (NOOM) Bill was a further piece of lengthy legislation that came into force in 2003 as a result of recommendations made from the RCGM report.²⁸

Since 2004 there has been little in the way of legislation activity by Government in relation to GE. The pattern of mobilisation against GE corresponds with the pattern of Government activity. The GE resistance movement was operating at its peak in terms of

²⁸ The NOOM Bill is explained in more detail on the ERMA (2010) website: <http://www.ermanz.govt.nz/news-events/archives/events/noom/noom-bill.html>

various protest and campaigning events from December 1999 through to the end of 2003, just as the Government was also most involved with GE in this period. When things began to wind down post-2003 for the movement, so too was GE less on the political agenda for Government. By around 2005 there was relatively little happening politically outside of or within Government. In general terms then, three key stages of political activity are evident: 1996 to December 1999, 2000 through to 2003, and 2004 to 2005.²⁹ This periodisation equates to GE resistance movement stages of momentum-building, peak stage, and the current period of abeyance. This thesis will analyse in detail the ways in which this movement developed through these three periods, focusing in particular on its organisational form and collective identity.

1.4 Chapter Outline

The objective of this thesis is to find out how the GE resistance movement of Aotearoa New Zealand undertakes politics-making, through investigating the movement's structural and cultural characteristics. I want to know how this movement is organised, and what its collective identity is founded on. To address these questions, key movement activists are interviewed, and an analytical apparatus is developed that encompasses both methodology and theory. Social network analysis and framing are the tools used to investigate the thesis objective.

Chapter Two provides a general outline of social movement theory and sets out the theoretical underpinning of this thesis. Social movement theories are presented in two groupings, one that has emphasised rationality, instrumentality and structural characteristics (collective behaviour, resource mobilisation and political process perspective) and another that has focused more on cultural characteristics, including values and identity (new social movement theory and framing). I argue that there has been a shift in recent years toward a more synthetic approach that seeks to incorporate the strengths of given approaches in ways that overcome their various weaknesses. This thesis also seeks a systematic theory that can provide more balance between the structurally or culturally weighted approaches. Furthermore, the challenge posed to social movement theorists by globalisation processes is examined. Recent globalisation has fundamentally altered both the way social movements are organised and their

²⁹ The year 2005 is also when fieldwork for this thesis began.

cultural articulations. Lastly, I describe how framing and social network theories are adopted in this thesis as useful analytical tools that support the theorisation of GE resistance.

Chapter Three provides a methodological overview of the research undertaken in this thesis. Data and methods are described, as are the categorisation and analytical tools. The data for this research comes from the transcribed interviews of 18 key movement activists that have had significant involvement in GE resistance in Aotearoa New Zealand. Ritchie, Spencer and O'Connor's (2003) *framework* techniques were used to organise the hundreds of pages of transcript data into indices with sub-categories. The two analytical tools described theoretically in Chapter Two, social network analysis and framing, are outlined here in terms of method.

Chapter Four begins the empirical analysis. It addresses questions to do with the structural and organisational characteristics of the resistance movement. Visual imagery and metrics are derived using social network analysis. This analysis provides an understanding of the relationships and organisational foundations of the inner core of the GE resistance network. It reveals considerable organisational intricacies in both individual and individual-to-group relationships. Chapter Four also shows analyses to periodisation of the movement, arguing that it is has been reflexive and durable in the wake of various political and legislative actions. The discourse of social movement activists is brought into play to help understand some of the intricacies of relationships found in the network analysis.

Following on from Chapter Four's structural focus, Chapter Five looks at movement culture. Framing is used to identify collective action frames and master frames drawn on by movement activists in their efforts to mobilise and maintain resistance to GE. Collective action frames are useful for understanding the articulation of movement-specific grievances. Master frames are drawn from pre-existing and widespread understandings of the world and are therefore informative regarding the cultural environment in which the movement exists. The roles that these framings play in collective identity formation are the core concern of this Chapter.

Chapter Six concludes the thesis by summarising the main findings and limitations of this work. Future research opportunities are also considered. The way that the GE

resistance movement has politically organised itself and negotiated culturally valued discourses attests to the importance of understanding contemporary social movements. Much can be learned from the way that these activists have networked and negotiated meaning, with the insights gained being transferrable to understanding and analysing other areas where a collective body is working together toward some common end. This final Chapter concludes with an assessment of how the GE resistance movement is currently positioned.

This thesis demonstrates the importance of resistance politics, as politics that challenges existent and new ways of thinking and doing things is a critical aspect of social life. The GE resistance movement is shown in this thesis to have influenced a multitude of changes, formal and informal, cultural and political. As a researcher making a sociological enquiry into the field of GE resistance in Aotearoa New Zealand, I am reminded of the words of Melucci (1996:397):

Research is a form of social action which introduces its own outcomes into the social field. In complex societies, research becomes a process of metacommunication, a self-reflective learning process. Providing an account of the plurality and tensions constituting collective life, it can contribute to a practice of freedom.

Politics is something that we play a role in, whether consciously or not, on a daily basis. At the most general level then, this thesis is about how we live: it is about how we are all social actors playing a role in the possible futures of our existence. Some social actors – such as the key drivers in the GE resistance movement – take a more purposeful role in seeking to influence the present and the future. A sociological understanding of the dynamics involved in how and why it is that these social actors come together can tell us much about this world that we live in, and about our own personal experiences.

Chapter Two

Theorising GE Resistance in Aotearoa New Zealand

I think that the GE movement in New Zealand is quite a phenomenon. GE is a reasonably difficult issue to understand, but there seems to be a *broad* understanding of its implications on a number of different fronts, and that people have a number of different view points, all within a kind of a continuum of opposition to it. So there were people who were saying things like “keep it in the lab” and who were quite happy with the idea of scientific rationalism, all the way to the extreme other end of that saying “GE is crazy and we don’t want any part of it”. ...it’s a social movement and it’s part of a global social movement I think, and to me it is a global social movement that is about recognising alternative ways of being really (Heidi).

In her role as a key activist, Heidi offers valuable insights about the nature of the “GE movement in New Zealand”. As she says, it is “quite a phenomenon”. Above all, her words convey a sense of complexity. On the one hand, there is a “broad understanding” that mobilises many to oppose GE. All in the resistance movement agree that GE is undesirable. On the other hand, however, alongside this shared understanding there is a surprisingly wide range of “different viewpoints”. While some, for example, are happy with laboratory experimentation, others reject the technology root-and-branch. This combination of consensus and divergence certainly poses a challenge to sociological theorising in terms of understanding this “continuum of opposition”. Questions arise around how to account for the unity of the GE resistance movement without losing sight of its diversity, or equally, around how this diversity can be acknowledged without losing sight of the fact that opposition to GE is indeed a “continuum”. The central task of this chapter is to develop a conceptual apparatus that can take stock of the intricacies that this movement involves.

A way forward is suggested in Heidi’s comments. According to her, GE resistance is a “social movement” that is “part of a global social movement”. This chapter critically reviews social movement theory in order to produce a set of concepts that can be used to analyse GE resistance in Aotearoa New Zealand. As will be shown, social movement theory highlights many of the key aspects of opposition to GE, but it also requires considerable reworking and extension to be able to grasp the complexity of this

resistance. The significance of such complexity has dramatically increased under conditions of globalisation.

The term *social movement* describes mass mobilisation seeking change in the *status quo*. Unsurprisingly then, the concept has a long and varied history in sociology. Underpinning this diversity, however, is a set of common concerns. In Diani's (2006:141; *my emphasis*) review of eminent theorists in the field, he argues for a synthetic conception based on three aspects of convergence:

A social movement is a network of *informal interactions* between a plurality of individuals, groups and/or organizations, engaged in a political or cultural *conflict*, on the basis of a *shared collective identity*.

This definition usefully highlights a coordination of plurality and unity. According to Diani's analysis, "informal interactions", a "conflict" situation, and a "shared collective identity" have proven to be the combined factors that constitute a social movement. It is these three aspects of GE resistance that I am interested in researching and theorising. As Diani points out, however, the convergence of the field around these three core definitional components does not mean that the literature speaks in one voice. This definition is open to the "integration of different theoretical perspectives" that evolved over the last century (Diani, 2006:145). As this chapter will show, the social movement literature is very well developed but it is also characterised by considerable theoretical disaggregation. The three components of the core definition have been put together in quite different and often unsatisfactory ways. As I have said, the interests of this thesis are the interests of social movement theorists. The field's theoretical disaggregation, however, is a challenge that must be addressed. A more synthetic approach is needed to draw together the "informal interactions", "conflict" and "collective identity" that make up GE resistance in Aotearoa New Zealand.

The disaggregation of social movement theory can be presented in a number of different ways. The divergence between American and European traditions is often cited (Diani, 2006). A more useful positioning is to distinguish between two different approaches to politics, one that emphasises structure and another that emphasises culture. Structure with respect to social movements refers to the pattern of relationships that exist between movement actors. Structural accounts tend to explain this pattern by referring to external conditions outside the movement "which facilitate or constrain the

occurrence of conflicts” (Diani, 2006:133). Cultural accounts, on the other hand, emphasise more active processes of meaning. Such approaches focus on the “cultural craft-work ... done by movement participants” (Hart, 1996:10). Rather than external conditions, the emphasis falls on phenomena like “rhetorical strategies or types of narratives [that] ... are selectively appropriated, interpreted, transformed, and applied” (Hart, 1996:10).

The division between structural and cultural analysis runs throughout social movement theory. Earlier work, such as the collective behaviour approach, and other more recent constructions such as resource mobilisation and the political process perspective, look at movement politics as structure (Giugni, 1998). New social movement theories, on the other hand, have emphasised movement politics as being more about culture (Giugni, 1998). The tendency to weight one side of this division over the other has been a constant trend in the literature. As Giugni (1998:365) remarks:

Scholarly accounts of social movements seem to follow a cyclical pattern. Like a sound wave, they have lower and higher limits, indicating the relative weight of structure and of culture in the explanations offered. This metaphor obviously simplifies the diversity of existing work on social movements. Yet there is a tension in this literature between explanations that stress structural constraints and those that stress cultural variables.

The tension between these two approaches has sustained a desire to overcome the imbalance and hence empowered the “cyclical pattern” that Giugni notes. The prevalence of such cycles is understandable, for while each approach has value it is also incomplete and hence unsatisfying.

The two theoretical clusters have distinctive strengths and weaknesses. As Melucci (1989, as cited in Diani, 2006:133) has stated, approaches that emphasise the structural are concerned with the “how” questions, while those with a cultural weighting are more concerned with “why”. The strengths of each approach are thus in some basic sense the weaknesses of the other. For example, where structural approaches pay scant attention to individual and collective identity construction, cultural theories fill this gap. But an over-emphasis on identity construction means that more structural or relational factors

receive inadequate attention. This interplay between strengths and weaknesses sets social movement theory the challenge of finding a more balanced path.

The challenge of finding a complementary approach has become even more urgent in recent times due to the impact of globalisation. As Heidi says, however firmly located in Aotearoa New Zealand, GE resistance in this country is “part of a global social movement”. The advent of late 20th century globalisation has had significant implications for how social movements work. The *newest* movements of the late 1990s and the 21st century, such as opposition to GE, operate in a context that makes the traditional divide between structural and cultural accounts more problematic than ever before. As Burgmann (2003:2) insists, “much of the territory now requires reconquering with new analytical equipment, because of challenges mounted by globalisation to both social movement action and previous ways of understanding social movement action”.

Social movement theorists of today face a number of pressing challenges. The divide between the cultural and structural aspects of politics making must be addressed, the implications of globalisation acknowledged. This thesis proposes a way forward. By way of a critical review of previous theoretical work, this chapter seeks to rework the rift between structural and cultural approaches in a way that preserves and coordinates the distinctive strengths of each. It will be argued that social network analysis and social constructionist framing together provide theoretically informed tools that can be used to analyse what Heidi rightly calls the “continuum of opposition” that characterises GE resistance. Social network analysis reveals the structural qualities involved in movement making, while framing shows how culture and identity create and add meaning to this pattern of relationships. Network and frame analysis are particularly useful because both have methodological applications: they can be aptly described as *investigative tools* for social movements. Though initially appearing very disparate in their approaches, their compatibilities are drawn on to provide a solid conceptual basis for an investigation of the GE movement in Aotearoa New Zealand. Each provided independent analyses, but the analyses of each can also be brought together to understand the same phenomena, thus providing enriched understanding.

2.1 Politics as Structure

How and why are people mobilised into social movement activity? Structural approaches have sought to address this question by looking to the instrumental rationality of actors, which involves prioritising the contextual features of opportunity and constraint with which social actors are presented. The earliest approach to theorising social movements from a structural perspective emerged in the 1940s: the collective behaviour approach. This approach is now largely discredited for a number of reasons, notably including its tendency to argue that participant mobilisation occurs due to the inability of certain, irrational social actors to cope with societal strain. The irrationality of actors was challenged by subsequent structural theorisations of social movements, resource mobilisation in the 1960s, and its more recent off-shoot, the political process perspective in the 1980s. Resource mobilisation and the political process perspective, while sharing the same general concerns as collective behaviour regarding the effect that societal structures have on the emergence of social movements, challenged the older view that social actors' decisions to mobilise was an irrational act. They argued instead that these were very much rational decisions. Despite these differences, the structural emphases of all these approaches have limited the focus on agents as drivers of mobilisation. The conception of agency is narrowed by their shared emphasis on instrumental rationality, which is in turn an effect of the focus on structural constraints and opportunities.

Collective behaviour theory argues that movement actors are essentially irrational. In this approach, the emphasis on rationality stems from the proposition that actors who cannot deal with social strain respond by acting irrationally (that is, by collective activism). Resource mobilisation challenged such claims, arguing that when given actors weigh up the pros and cons of joining a movement to assess whether it would be of benefit to them, they are acting rationally. Social actors are faced with structurally embedded constraints and opportunities that they take stock of when contemplating whether or not to participate in movement action.

The collective behaviour approach, which was popular from the 1950s to 1970s, argues that social movements of the early 20th century were a form of social action that materialised in times of cultural and social collapse (Morris, 2000; Smelser, 1963).

Pioneering theorists that undertook to analyse these early social movements included Rudolf Heberle, Herbert Blumer and Neil Smelser.³⁰ These theorists focused on the more extreme elements, linking them to crowd behaviour, riots and mass hysteria (Reed, 2002).

Blumer (1951:199) summarises collective behaviour's rationale for how and why individuals become involved:

Social movements can be viewed as collective enterprises to establish a new order of life. They have their inception in a condition of unrest, and derive their motive power on one hand from dissatisfaction with the current form of life, and on the other hand, from wishes and hopes for a new scheme or system of living. The career of a social movement depicts the emergence of a new order of life.

In other words, societal strain from "conditions of unrest" increases the "dissatisfaction" that some people feel, in particular given their desire for a new "system of living". Through social movement engagement, such individuals can act collectively to force a new way of life into being, at the same time finding an outlet for their pent-up anguish. Meyer (2004) retrospectively argues that rather than being viewed as a healthy expression of politics, the collective behaviour perspective positions social movements as being an alternative to politics (Meyer, 2004).

Collective behaviour theories can be divided into two main approaches: structural-functionalism, commonly associated with Talcott Parsons and Neil Smelser, and relative deprivation, which are social-psychological accounts commonly associated with Ted Gurr and Denton Morrison.³¹ Relative deprivation has two main variations: mass society and mass deprivation (Buechler, 2000; Mamay, 2004). Common to all these perspectives is the claim that individuals are dissatisfied and seek relief from their situation through collective behaviour.

Structural-functionalism argues that social movements emerge from societal breakdown. If collective behaviour persists long enough, a movement may gradually be

³⁰ Heberle's work covered a range of interests including social movements; he was critical of Nazis, but was better known for his comparative work on mass mobilisations which took a systemic, structural analysis approach (University of Kiel, 2008). Blumer was an early pioneer of symbolic interactionism. Smelser's perspective was in line with structural-functionalism.

³¹ Gurney and Tierney (1982) provide an excellent overview of relative deprivation accounts of social movements.

formed from which new norms might develop (Della Porta & Diani, 1999; van der Veen, 2002). In a very similar vein, relative deprivation accounts insist that those likely to get involved in collective behaviour are experiencing relative deprivation, “a *perceived* discrepancy between expectations and reality” (Gurney & Tierney, 1982:34, *original emphasis*). The “perceived discrepancy” that Gurney and Tierney (1982:34) refer to has been argued by theorists of this approach to not necessarily have included any kind of “objective referent”.³² Those who collectively engage in effecting some kind of systemic change are viewed as a group of frustrated individuals who are cognitively experiencing discomfort (Gurney & Tierney, 1982). In other words, individuals are broadly viewed by relative deprivation and structural-functionalist accounts as engaging in collective behaviour as a last resort.

Resource mobilisation arguments both emerged from and challenged collective behaviour approaches. Although retaining the same strong emphasis on the structural, they took a quite different approach to dealing with the individual.³³ Like collective behaviour approaches, social movement participation was seen to aid the individual, but unlike these approaches, individuals would choose whether to engage or not depending on whether they perceived possible benefits to engagement (Hart, 1996; van der Veen, 2002).

The primary concern of resource mobilisation is not to be found at the individual level however, but at the group level (Hart, 1996). Social movements are seen as special kinds of interest groups that seek social reform and the gaining of entry into established social structures (Hart, 1996; van der Veen, 2002). These movements are rational responses to new situations and opportunities. Resource mobilisation asks how it is that social movements emerge, whereas collective behaviour theory’s emphasis was on why they emerge. The interest in how movements emerge is apparent in the accentuation of power struggles and movement strategies (Drakeford, 1997; Hilson, 2002; van der Veen, 2002).

³² Gurney and Tierney (1982) cite Wilson (1973) and Runciman (1966) here.

³³ See especially the work of John McCarthy and Mayer Zald (1977), as well as Charles Tilly. The theoretical origins of resource mobilisation were developed in Siegfried Nadel’s 1957 work.

Overall resource mobilisation looks to societal structural conditions to assess conducive and inhibitive factors to social movement materialisation, but there are two different camps within this approach – the political (state-oriented) approach and the entrepreneurial or economic version. John McCarthy and Mayer Zald's (1973) entrepreneurial model posits that grievances have little to do with why a social movement develops, suggesting instead that such activity can be correlated with increased availability and access to resources. Consequently, social movements are largely shaped by and limited to operating within the confines of resources that are available, especially economic, political, and communication resources. The entrepreneurial approach also argues for the importance of social movement leaders or elites in making use of available resources (McCarthy & Zald, 1973).³⁴

The *political* resource mobilisation approach championed in the work of Charles Tilly and Doug McAdam is more concerned with power struggles: those between the political members and challengers within a nation state, and those between competing social movements. The emphasis on power struggles includes paying attention to the way tactics are selected by a movement from within the possibilities offered in a repertoire of contention, given the opportunities available (Tilly, Tilly & Tilly, 1975). Tilly et al. (1975) argue that social movements tend to occur within a *protest cycle* – a term that closely resembles Tarrow's (1994) concept – *cycles of contention*, which refers to periods of increased social movement activity. Given that movement activity tends to cluster (according to Tilly and Tarrow), competition for resources is therefore intensified during these times. At the crux of political resource mobilisation then is the idea that there are political opportunities and constraints that significantly impact a movement's course.

The concerns of political resource mobilisation were further developed in the work of Tarrow, Tilly, and McAdam. Their new approach, the political opportunity structure (POS) or the political process perspective (PPP), critiqued the entrepreneurial mobilisation theories, arguing that too much importance is placed on elite leaders and

³⁴ Elite theory premises are evident in resource mobilisation theory in relation to the importance of successful movement mobilisation requiring group elites or leaders to organise and lead a movement (Pakulski, 2008).

that social movement grievances were oversimplified (McAdam, 1982).³⁵ Although this approach has early beginnings in Eisinger's (1973) work, it really only flourished later in the early 1990s.³⁶ The primary interest of this position is in viewing the state as an institution of political opportunity.

The term "political opportunity structure" is important for understanding the new political process perspective:

The "political opportunity structure" constitutes what we call the hard core of the political process framework. The basic idea of the framework is that "political opportunity structures influence choice of protest strategies and the impact of social movements on their environments" (Kriesi, 2004:69).

The concept of political opportunity structure refers to the wider political structure and whether or not it is conducive to social movement development (Goldstone, 2004). Meyer (2004:126) explains how political process perspective analysts (like resource mobilisation theorists) look at the world exterior to a social movement, with the understanding that these external factors either aid or inhibit opportunities for:

(a) mobilizing, (b) advancing particular claims rather than others, (c) cultivating some alliances rather than others, (d) employing particular political strategies and tactics rather than others, and (e) affecting mainstream institutional politics and policy.

A range of conditions associated with societal structure and political opportunity have been recognised as impacting on social movements (see Goldstone, 2004; Morris, 2000; van der Veen, 2002). Recent findings emphasise two key tenets: democratic societies are correlated with persistent social movement activity, and secondly, core protest cycles occur in response to societal crises, which weaken governmental support

³⁵ McAdam studied the civil rights movement in the US in his 1982 work, analysing the course of civil rights activism over a period of 40 years (Meyer, 2004). He looked at how the political opportunities exterior to protesters shape a movements chances for success, and also the organisational strength of a social movement. Additionally, McAdam was interested in 'cognitive liberation', which is "a change in group consciousness whereby potential protesters see the existing social order not only as illegitimate, but also as subject to change through their own direct efforts" (Buechler, 2000:37). If there is interplay of political opportunity, organisation strength, and cognitive liberation, then McAdam reasons that you have the makings for a social movement.

³⁶ Eisinger looked at how 'open' or 'closed' local government authorities were to citizen participation, and found that those cities which had a combination of open and closed structures were more likely to have rioting occur (Meyer, 2004).

(Goldstone, 2004).³⁷ In general terms, this approach looks at the relationship between politics from below (protest-based social movements), and politics from above (institutionalised politics) – in keeping with Tilly’s earlier interests (Della Porta & Diani, 1999). In this respect, the political process perspective closely resembles the more classic political sociology agenda.

In other work, McAdam (1986) has shown interest in the individual activist, in particular with why individuals become participants. McAdam has proposed three indicators for movement participation: prior links with other activists, organisational membership, and an absence of constraints. While initially appearing a step away from the conventional focus on political opportunity structures, the influence of this model is clearly apparent in McAdam’s work given his identification of constraints as a factor in recruitment.

The collective behaviour approach, resource mobilisation and the political process perspective are strong positions for considering the factors that enable and constrain social movements, in particular those structural societal conditions that affect social movement emergence and outcomes. The recognition in the later of these structural approaches that movement activism is a legitimate way of expressing political concerns is also welcomed given it normalises the individual actor rather than treating them as aberrant or in some way pathological. However, critique of these approaches is also warranted.

A critique common to structural approaches in general is that these theoretical positions pay limited attention to the *cultural* aspects of social movements and minimise the agency of actors.³⁸ This marginalisation of agency corresponds to the emphasis on structure, actor rationality (or *irrationality* if referring to collective behaviour theory), and a tendency to downplay the significance of culture. Movement activity and

³⁷ Goldstone (2004:354) found that: “[what] determines the frequency of protest actions by particular groups and their success is not merely a matter of greater access, allies, elite divisions, or state strength and repression in any straightforward manner. Rather, it is complex relationships involving different levels of state actors, counter-movements as well as movements, threats as well as opportunities, factors affecting the cohesion and commitment of leaders and followers to the movement when under stress, and the potential responses of broader non-mobilized constituencies, that determine outcomes”.

³⁸ McAdam does go some way towards addressing this with his acknowledgement of the significance of the masses to effect change.

outcomes are seen as contingent on external factors, including the ability to accumulate resources, and on opportunity unfolding by way of events in the world of elite politicians and figures within the institutionalised political domain (Meyer, 2004). These emphases prioritise the structural to the detriment of individual agency.

The lack of attention paid to actor agency in structural approaches produces further problems because it downplays the role of collective identity or solidarity in social movements (Drakeford, 1997). Without a convincing concept of solidarity, the structural theories are typically unable to identify factors responsible for the recruitment of actors and continued participant mobilisation:

A sociologically adequate theory of mobilisation would have to identify the sources of solidarity, which are the preconditions for collective action by accommodating expressive, habitual and affective as well as instrumental orientations for action (Scott, 1990:111, as cited in Drakeford, 1997:10).

If actors are only interested in acting in a way that has instrumental, *individual* pay-offs, it would be impossible for a sense of collectiveness or solidarity to be constructed. Nobody would engage in activism because of belief in the cause per se, and subsequently little value is given to group membership (Marx Ferree, 1992). There is an indulgence in over-rationalisation and a neglect of culture and protest origin (Della Porta and Diani, 1999). Instead, movement activity is reduced to a structural outcome. This reduction overly narrows action to consideration of individual rationality or irrationality, and on such terms collective mobilisation cannot be understood. To appreciate the role of collective identity, cultural concerns must be brought into the picture. Only by taking heed of meaning can an integrated approach to social movement theorisation be achieved.

2.2 Politics as Culture

The questions of how and why people are mobilised is answered differently by social movement theories that emphasise cultural aspects. The structural approaches stress contextual influences, as the source of opportunities and constraints for mobilisation. Culturally weighted approaches, on the one hand, while acknowledging broader structural influences, are more concerned with matters involving actor identity and values. Social actors mobilise because they choose to. Such choices register the

appeals to certain values with which a given individual may identify. Values and identity are very much in the purview of cultural social movement theories.

There are a cluster of social movement theories that emphasise politics as culture. *New social movement* (NSM) theories and the closely aligned *new values* approach represented a turn in thinking that reflected, at least in the wealthier nations, a shift in movement interests away from materialist concerns to those of identity and values. Theoretically, this equated to a shift away from preoccupation with structuralism and actor instrumentality and rationality. New approaches arose as a result of the observed transformation from industrial to post-industrial society, from materialist to post-materialist values, and the consequent change in emphasis of movements of the 1960s and 1970s.

New social movement theory encompasses a range of interests, from questions and concerns about post-materialist society and its values and challenges, to those about movement participants, movement organisation and the collective identity of movements (Buechler, 2000; Mamay, 2004). Which areas of enquiry are taken up depend largely on the theorist involved. Alberto Melucci, Jurgen Habermas, Ronald Inglehart and Alain Touraine are notable figures in this approach.

A formative premise that new social movement theory was founded on was that these are movements that emerged in a particular milieu. These are post-WWII occurrences that came about given unease existent in post-industrial, post-materialist society (Mamay, 2004; Buechler, 2000). Here is where the work of the new values approach theorists comes to the fore.

The new values approach, associated most prominently with Stephen Cotgrove and Ronald Inglehart, emphasises how post-WWII economic affluence and political stability allowed social movements to focus on values, creativity and identity (van der Veen, 2002). The need to be concerned primarily with material values was diminished, which led to the development of intricate movement agendas (van der Veen, 2002:3). The post-materialist age has meant a significant and enduring shift in societal values. Inglehart's main contribution to this approach has been the development of a post-materialist values scale, which measures the extent to which individuals value or not, various different aspects of post-materialist society. Inglehart (1990:394) argues that

the “presence of materialist or postmaterialist values proves to be the most important single influence on whether a given individual will support new social movements”. Postmaterialist values include a “high priority to environmental protection, tolerance of diversity and rising demands for participation in decision making in economic and political life”, a “mass polarization over tolerance of outgroups”, a “shift from survival values to self-expression values”, and “a rising sense of subjective well-being” (Inglehart, 2009, ¶4).

The findings offered by the new values approach highlight the modernisation process in countries experiencing advanced capitalism and profound changes in the status quo, including changing family structure and work life conditions (van der Veen, 2002). The linking of new social movements to societal totality means that movements of this period actively responded to these changes:

If modern or postmodern societal totalities are defined by capitalist markets, bureaucratic states, scientized relationships, and instrumental rationality, new social movements are historically specific responses to these features of the modern and postmodern condition (Buechler, 2000:46).

Movements react to and articulate new conflicts that have emerged as a consequence of two modern societal trends: expanding human autonomy and growing regulation (Della Porta & Diani, 1999). Melucci (1996) argues that group regulation means that the state can increasingly intervene in a movement’s ability to mobilise through limiting opportunities (a project of central concern to political process and resource mobilisation theories). Unsurprisingly then, anti-state sentiment can often be found among activists. Habermas (1987) has influentially highlighted the colonising efforts of large societal institutions. Related to such anti-state sentiment is a rejection of conventional forms of authority. Politicians and scientists, conventionally considered to be the experts and elites, are no longer necessarily trusted (van der Veen, 2002).

With trust in experts declining, movement activists began seeking information themselves. Information is valued in postmaterialist society, and information is power. Accordingly, it is argued that “the control, production and dissemination of information and symbols has become a central preoccupation” of new social movements (Hourigan, 2001:88). Society had become preoccupied with the language of information over the machines of industry. As Touraine (2007:1) asserts: “I think that what we are

witnessing after the industrial society is this: we are going from a society of tools to a society of language ... or any other thing, but always more or less directly related to language”.

Shifting values and the significance of information and language have meant that everyday life has become politicised (Buechler, 2000). Life-space, “that area, physical, sociological, psychological, that defines the space of free movement for each individual”, has increased in significance (Day, 1962:146). Life-space is deemed important in that there are spheres that individuals can freely move in and others that must be negotiated. Struggles take place in which individuals seek to have control over their private lives, free from “state bureaucratic regulation” (van der Veen, 2002:2-3). This extends to individuals’ increased awareness of the implications of choices that they make; people have become more interested in making choices that enhance their quality of life and these choices depart from the classic distinctions of left versus right (Marangudakis, 2002).

With a changed value emphasis, the significance of the actor has been brought to the fore. As older left and right divisions are largely being left behind, the participant base in social movement activity has become much more diffuse (Buechler, 2000). As class is no longer the sole “fundamental axis of oppression”, participation has become chosen rather than predetermined by social location (Buechler, 2000; Day, 2004:722).

The social diffusion of movement participation has brought with it a diffusion of social movement organisation. New organisational forms are decentralised, small-scale, anti-hierarchical, based on direct participation, and have an informal style (Buechler, 2000; Byrne, 1997; Marangudakis, 2002; van der Veen, 2002). A diffuse participant base and diffuse organisational style, has furthermore led to considerable diversity in tactics. Existent forms of action have been revitalised and new forms invented, apparent in the undertakings of direct action, civil disobedience, and large, carnival style protests (Marangudakis, 2002). All the diffusion in participant base, organisation and tactical repertoire, means that collective identity has been a central preoccupation of new social movement theorising.

Collective identity – “a group self-image shaped by, but in turn shaping the consciousness of individual participants” – has been an important focus in the work of

Melucci (Reed, 2002:2). Melucci (1989/1996:71) credits emotions as playing a significant role in collective identity: “passions and feelings, love and hate, faith and fear are all part of a body acting collectively”. Emotions help to drive a movement. They also aid in the construction and reinforcement of feelings of solidarity. The reasons why individuals become involved in social movements are not limited to instrumental rationality. They include aspirations for satisfaction and fulfilment. By highlighting these aspirations and the solidarity they sustain, new social movement theory stresses the significance of agency.

Protest rituals play an important role in a movement’s collective identity. Following on from Alain Touraine’s ideas, Melucci has focused on uncovering codes or protest rituals that occur in social movements (Jamison, 2001). These rituals are related to symbolic action, the discourse and the sense of solidarity which is produced and reproduced (Ellison & Martin, 2000; Jamison, 2001). The cultural and emotional aspects of movement involvement are what give actors’ their sense of individual and collective belonging.

Cultural space is a useful concept developed by Melucci to theorise movement identity in post-industrial societies. It might be thought that post-industrialisation implies a complete rupture with older forms of national belonging. However, Melucci (1994, as cited in Hourigan, 2001:87) argues that instead these forms of identity have been detached from their conventional meanings and reinvented:

Ethnic symbolism and concrete reference to a motherland lay a foundation for the development of culture and a language for the identity of individuals and groups in a space that has lost its traditional boundaries.

Melucci proposes that movement solidarity, the collective *we*, is found through “reference to a motherland”, particularly given the loss of “traditional boundaries” that has been a feature of post-industrial society. While social movements have a long history of association with national issues and national identity, new social movement theorists including Melucci argue that this has become detached from the State with post-industrialisation, as individuals construct their own cultural identities. Where once movements were localised by state boundaries, Melucci (1994:111, as cited in Hourigan, 2001:87) argues that national identity has re-emerged as a provider of an alternative “foundation” for movement organisation in post-industrial society. As the

nature of society has changed alongside social structural shifts, so too has the cultural sense of movements. Today, they emphasise emotion, synthetic action and the identification of place, and in this way provide the means for a shared identity.

Culturally weighted social movement theory has provided a cogent alternative to structural approaches by addressing many of their characteristic shortcomings. New social movement theory has been better able to deal with the diversity of movement participants, groups and tactics. By stressing agency and meaning, it provides flexibility that structural perspectives lack. The importance placed on values produces strong accounts of solidarity and collective identity. However, this emphasis on the cultural found in new social movement theory also has its shortcomings.

Given that new social movement theory developed as a response to what is perceived to be a societal shift from industrial or materialist to post-industrial or post-material society, it is limited to only being able to deal with countries that are in a post-industrial mode. Individuals in poorer nations would be more likely to have different and often more subsistence-related concerns compared to those in wealthier nations. Also, social movements that emerge in less stable societies, where protest itself can end in the removal of certain rights, are not in the terrain of new social movement theory (Ellison & Martin, 2000).

The introduction of culture, heterogeneity and diversity, does however run the risk of bending too far away from structural concerns and thus overly weighting agency and values-based decision making. Structurally and culturally orientated approaches tend to disagree about the central organisational characteristics of social movements and the role of movement leaders or elites. Structural approaches emphasise the importance of group leaders in hierarchical organisations as a necessary component for successful mobilisation, whereas cultural approaches refer to the “disorganised” formation of contemporary social movements, with scant attention paid to leadership or elite roles (Byrnes, 1997:146). The role of diversity in social movements is therefore viewed differently, with a problematic dichotomisation of agency and structure being apparent. While new social movement theorists refer to awareness of structural conditions, a theoretical ‘bringing together’ of politics as structure and politics as culture that adequately deals with agency has not been satisfactorily developed. There are also

questions around the relevance of leaders in social movements, and of the importance placed by structural approaches on social movement organisations rather than individuals. These problems have if anything intensified under the social conditions of globalisation.

2.3 Enter Globalisation

The history of social movement theory has been characterised by a persistent dualism between standpoints favouring either cultural or structural approaches, a dualism which has been a matter of dispute amongst researchers. Where there has been a strong structural emphasis, agency and culture are undervalued; where culture has been favoured, structural aspects have been diminished and agency has been prioritised. This imbalance within conventional theory continues to be problematic.

The structure – culture divide evident in social movement theory is apparent in the GE resistance literature. Schurman (2004) and Schurman and Munro (2004) have employed a structural approach in their use of political opportunity structures. They investigate the institutional targets of GE activists and highlight how industry structures have enabled or constrained the movement. On the other side of the fence are Carpenter, Zec and Starbuck (2006), Halliday (2003) and Purdue (2000), who all favour new social movement theory, as well as Herring (2008) and Magnan (2007) who apply framing analysis.³⁹ These culturally inclined theories have been enlisted to better understand and make sense of activist discourse and values. A number of researchers, however, have actively sought to overcome the limitations of such theoretical and methodological partiality.

From a cultural perspective, Halliday (2003) has demonstrated sensitivity to the analytical shortcomings that stem from prioritising meaning over structure. In applying new social movement theory to the UK-based Genetic Engineering Network (GEN), Halliday (2003:33) found that while this approach was useful for understanding many facets of the movement, it was ill-equipped to account for how diverse multiple identities are “reconstructed to become GEN without deconstructing their original [identity]”. In other words, each group and individual that together constitutes GEN,

³⁹ Framing is discussed in the forthcoming section of this chapter.

brings with them their own particular views, ideas and values in association with the issue of GE. Halliday argues that new social movement theory with its emphasis on collective identity is not able to explain how such diverse voices can somehow align together as a voice of solidarity. Rather than condemning the new social movement approach out of hand, Halliday – citing Giddens’ (1991) critique of theoretical totality – instead urges researchers to look to what other perspectives have to offer. Halliday argues that a synthesis of approaches is necessary to address the disadvantages arising from a singular reliance on one interpretative model, and advocates a cultural and structural amalgamation for future research.

Schurman’s (2004) work drew on one theoretical perspective, political opportunity structures, to research a discrete element of a social movement, but in doing so found there were shortcomings. She was specifically interested in how globalisation has impacted the structural environment that movements operate within, arguing that “movements are increasingly aiming at non-state targets, including corporations and transnational institutions” (Schurman, 2004:245). Accordingly, it makes sense to use the political opportunity approach to unpack this development given its concern with scrutinising the environment external to movements. Schurman (2004) goes on to say however, that this approach falls short in its analytical and explanatory capabilities. It is insufficient in dealing with the roles of “industry structures and culture” that are so vital in shaping the environment external to social movements (Schurman, 2004:247). Like Halliday (2003), she argues that following a singular theoretical path will not suffice for future investigations. A more unified approach that can account for multiple phenomena without collapsing into a singular grand theory is advocated by both Schurman and Halliday.

For Schurman (2004) then, singularly unified theory loses much of its explanatory power when faced with the shifting complexities – cultural, material, and epistemic – wrought by global capitalism. And as Heidi made clear at the outset of this chapter, the GE resistance movement in Aotearoa New Zealand cannot be understood independent of the processes of globalisation. As she says, GE resistance is “part of a global social movement”. GE resistance movements worldwide have emerged both in response to and against the background of globalisation, and the Aotearoa New Zealand-based movement materialised during a period characterised by the seemingly unchallengeable

global ascendancy of new right market doctrines and neo-liberal monetarist ideology in government policy spheres. But, as Chareonwongsak (2002:191-192) stresses, globalisation involves much more than just a new and dynamic phase of worldwide capital expansion. It has also created massive structural and cultural shifts in society:

[globalisation is] much more than the worldwide production and consumption of products. It is not just an economic or cultural trend but a movement of ideas, lifestyles, and developments that could affect our families, our employment, and the future of the world.

Globalisation has become synonymous with the revolution of industry processes by various forms of technological advancement, and perhaps no two technologies are more closely associated with popular conceptions of globalisation than information technology and biotechnology. As Chareonwongsak (2002:191) indicates, it has become increasingly difficult to conceptualise these technologies independently:

Globalization, digitization, and biotechnologization are integrally connected in this new millennium. Globalization and technology share a causal relationship, each gaining from and building on the other. Digitization, the “bones and sinews” of globalization, has taken our lives out of the temporal and into the imaginary and unseen. Reality is no longer defined in terms of things we can see, feel, and measure; now reality is defined by ideas and by the ability of people to generate and communicate ideas. Added to these components is biotechnologization, an outcome of technology, whose global impact is measured by its usefulness – and threat.

For Chareonwongsak, neo-liberal globalisation is defined by “ideas and by the ability of people to generate and communicate ideas”. The tight connections between globalisation, digitisation and bio-technologisation, is reflected in the way problems that researchers often experience when attempting to define the GE resistance movement. Various labels have been proposed: anti-GE, anti-globalisation, environmental, or some combination of these terms is often used.

Some researchers situate GE resistance as either a form of or contributor to an anti-globalisation movement (Magdoff, Bellamy & Buttel, 2000). Others highlight a convergence or close association of GE resistance and anti-globalisation (Halliday,

2003; Herring, 2008; Osgood, 2001).⁴⁰ Buttel (2005) has spoken of GE resistance as an environmentalised movement, while Magnan (2007) refers to GE opposition as a coalition.⁴¹ However, the view that GE resistance is a movement in its own right is also preferred by a range of theorists (Carpenter et al., 2006; Purdue, 2000; Schurman, 2004; Schurman & Munro, 2004/2007; Urbanik, 2007). This is the position that I subscribe to in this thesis.

It is my perspective that GE resistance is more usefully understood as a specific movement that is closely associated with but not reducible to the environmental and anti-globalisation movements. Many of the organisations and individuals involved in GE resistance have been involved in environmental activism and GE resistance has emerged in large part from pre-existent environmental networks. On the other side of the coin, many GE activists share common concerns with the anti-globalisation movement. However, the anti-globalisation movement proper emerged in 1999, with the advent of *Carnival against Capitalism* or *J8*, and the *Seattle – N30* protests against the World Trade Organisation (WTO). Historically, these events were after the resistance movement to GE emerged. What is important to emphasise is that by virtue of its embeddedness in the processes of globalisation, the GE resistance movement is at once closely aligned with the anti-globalisation and environmental movements, as well as being a movement with its own distinctive characteristics. It has its own concerns, values, tactical repertoires – range of techniques and activities used by activists – and strategic trajectories.

The inseparability of GE resistance from globalisation and environmentalism has profound implications for contemporary social movements. As Bandy (2004, 2004:410; *my emphasis*) argues,

⁴⁰ Magdoff et al. (2000) entwine GE resistance with globalisation, but suggest that public concern about food and agricultural biotechnology has *contributed* to the anti-globalisation movement. Halliday (2003:30) describes the “worldwide resistance to genetic engineering” as existing alongside “its counterpart, the movement against corporate globalisation”. Herring (2008:466) states “the international coalition against GMOs had common interest with their local partners in opposition to corporate globalization”. Osgood (2001) argues that the global civil society response to plant biotechnology is tied up with anti-capitalism and anti-globalisation campaigns.

⁴¹ Although not “self-evidently simply an environmental” movement, Buttel (2005:309) states that the movement against GE crops and food has become *environmentalised*.

a variety of social movements are coalescing into *transnational networks* that oppose the polarizing inequalities, unaccountable *corporate power*, and declining social and environmental health or free trade. In the process of sharing grievances and resources, many movements are forging *cross-border networks* and shaping the beginnings of *transnational civil societies*.

In describing contemporary social movements as “forging cross-border networks”, Bandy (2004:410) identifies fundamental structural change. The machinery of globalisation has meant social movement networks bridging territorial boundaries are achieved relatively easily and instantaneously. Moreover, it is the *network configuration* of contemporary movements that necessitates a rethinking of existing structural conceptualisations.

As noted previously, Diani (2006:141) makes use of the term “network” to describe key social movement elements: “a network of informal interactions between a plurality of individuals, groups and/or organizations”. Indeed, network has become a familiar way of making sense of both the form and content of movement structure. As Passy outlines, networks also provide an important role for movement identity – a cultural function.

[Networks] socialize and build individual identities (socializing function), offer individuals who are culturally sensitive to a specific political issue an opportunity to participate (recruitment function), and shape individual preferences before individuals decide to join a movement (shaping function on actors’ decisions) (Passy, 2000:2).

Network concepts can provide a bridge between structure and agency. They point to a mechanism through which interests, concerns and goals are articulated, and a vehicle for global or transnational action to occur (Passy, 2000; Wapner, 2003). In this sense, the concept of the network offers a flexibility which is appropriate for describing the structural resilience and cultural content in contemporary social movements.

In noting the spectrum of movement opposition, Bandy (2004:41) is referring to cultural aspects of present-day movements: “polarizing inequalities, unaccountable corporate power, and declining social and environmental health or free trade”. These movement discontents are indicative of the value and hence cultural content of social movements, and of their involvedness. These are not localised struggles rooted in class or group association, but more abstract grievances spanning innumerable concerns *vis-*

à-vis globalisation. The global scale of these abstract concerns produces potential for widened engagement in movement activity, which in turn raises challenges for how collective identity is constituted, as both Halliday (2003) and Magnan (2007) remark. Halliday found that there were problems with how to incorporate a diversity of individual and group identities under one collective identity. The example of a political party was particularly problematic. Magnan's work showed that activists' grievances were oftentimes reduced to the lowest common denominator in order for shared collective identity to be maintained.

As a whole, the literature outlined above makes a case for aligning different theoretical perspectives in order to address culture – structure imbalances and to account for the systemic changes introduced by globalisation. 'Conceptual poaching' is a phrase that has been coined to describe approaches that take the best of existing theories to form complementary conceptual tools for social movement investigation. Conceptual poaching works by "appropriating the language and issues of a different paradigm and incorporating them as a minor theme in a pre-existing paradigm that undergoes no fundamental change in the process" (Buechler, 2000:53). Variations on what this poaching looks like are still being developed. The extent to which it might result in fundamental paradigm changes is not yet resolved.

McAdam, McCarthy and Zald (1996) argue that a combination of three perspectives is needed; the political opportunity structure model along with an approach that considers mobilising forces (such as resource mobilisation), and a further approach that can incorporate cultural influence. McAdam et al.'s (1996) recommendation has however been met with critique. Giugni (1998:373) argues that "political opportunities are clearly privileged" in McAdam et al.'s work and culture is "limited to its strategic aspects". Della Porta and Diani (1999) find the recommendation too reductionist and call for an even broader perspective.⁴² Giugni (1998:373) agrees with Della Porta and Diani, yet at the same time concedes that McAdam et al.'s work is probably the most successful attempt so far at "articulating structural and cultural factors in social movement theory".

⁴² Koopmans and Statham (1999) applied McAdam et al.'s (1996) approach methodologically, but found that further work is needed on the methodological implications (though they agree with Della Porta and Diani that a fusion of theories is the way forward).

All things considered, there is not yet a conceptual apparatus developed for adequately dealing with culture – structure asymmetry, nor with globalisation’s systemic and cultural influences on social movements. Combining theoretical approaches is agreed to be the way ahead, yet none have as yet developed an approach that is found to be adequate. This thesis does not propose a conceptual poaching which, as Buechler (2000) claims, tends to favour either a cultural or structural paradigm. This thesis develops instead an exploratory tool using complementary approaches: social network analysis and framing. These two approaches used in conjunction provide symmetry to the culture – structure dualism and are able to deal with the changes that globalisation has hastened. In this thesis, social network analysis and framing are not reconstructed as unified theory. Rather, each is used as a counterpart to the other, theoretically and methodologically. Although such an approach will not satisfy the desire for a singular theory, it is nevertheless of considerable value in advancing our understanding of GE resistance in Aotearoa New Zealand.

2.4 The Way Forward

Cultural and structural theorisations of social movements have each contributed insights into social movements, and while there are problems with each, these problems are known. Theorists have sought to address these problems by holding on to the most valuable aspects of both perspectives, and have looked to conceptual poaching as a means to retain the positives. I propose that two approaches – framing and social network analysis – together provide a way forward that retains the best of structural and cultural theory. They are well equipped to understand the logic of contemporary social movement mobilisation and activity. This compatibility can be turned into an advantage in ways that have not previously been recognised.

Framing and social network analyses are mutually compatible. Framing, initially developed by Erving Goffman in the 1970s, has proven valuable for investigating the cultural work of social movements. Social network analysis, on the other hand is valuable for considering the structural and organisational aspects of movements. In concert, these approaches provide the necessary tools for investigating the GE resistance in contemporary Aotearoa New Zealand.

Social movement structures have transformed from something cohesive, largely homogenous and hierarchical in the later 19th and early 20th centuries, to a vastly more ad hoc network form in more recent times. There is relatively little in existing movement theory that can usefully analyse this transformation. The concept of network is salient as structurally, social movements have become networks in the current milieu. Framing is argued by Chesters and Welsh (2002:3) to constitute “individual sense making activity”. Accordingly then, networks can be understood as *individual structure making activity*.

Social network analysis has a longer history than framing, dating back to the 1920s and emerging as a distinctive field in the late 1960s / 1970s (Mützel, 2009). Framing on the other hand has developed solely within the social sciences, sociology most specifically. In recent decades, social network analysis has been the subject of increased interest within behavioural and social science communities, given the benefits it provides for researching relationships within social structures (Alexander, 2007; Kavada, 2003):

the network perspective allows new leverage for answering standard social and behavioural science research questions by giving precise formal definition to aspects of the political, economic, or social structural environment. The social environment can be expressed as patterns or regularities in relationships among interacting units [known as] structure (Wasserman & Faust, 1994:3).

Wasserman and Faust (1994:3) explain this intensification of interest in network analysis as due to the ability to interpret a given environment in relation to the interaction between social actors. Kavada (2003:1) elaborates on the shift toward “network thinking” for social movement investigation:

a closer look at current academic research suggests a sweeping paradigm shift towards network thinking... Influenced particularly by the analysis of social networks, current research in social movements uses network concepts and tools to define, map and understand the behaviour of social movements.

Social network analysis provides a wide range of mathematical metrics, and mechanisms by which to visually “map” a network and look at its “behaviour”.

Social network analysis investigates structures by researching the relationships or ties between actors. The approach from the beginning has been marked by a strong connection between metric and concept. As Ritzer and Goodman (2004:288) argue in network analysis:

[1] ties among actors usually are symmetrical in both content and intensity; [2] the ties among individuals must be analysed within the context of the structure of larger networks; [3] the structuring of social ties leads to various kinds of non-random networks; [4] the existence of clusters [groups of actors which network together] leads to the fact that there can be cross-linkages between clusters as well as between individuals; [5] there are asymmetric ties among elements in a system, with the result that scarce resources are differentially distributed; [and 6] the unequal distribution of scarce resources leads to both collaboration and competition.

Patterns of ties are the structural relationships or interactions between social actors. These patterns are the main focus of structural social network analysis:

Network analysts start with the simple, but powerful, notion that the primary business of sociologists is to study social structure... The most direct way to study a social structure is to analyze the pattern of ties linking its members. Network analysts search for deep structures – regular network patterns beneath the often complex surface of social systems (Wellman, 1983, as cited in Ritzer and Goodman, 2004:287).

The structures that network theorists investigate vary widely. Typically they involve the analysis of “relational datasets” to reveal “the regularities in the patterning of relationships among social entities” (Hawe, Webster & Shiell, 2004:971). Fundamental to such analysis is the idea that the social actor – most often individuals, but also groups and organisations – has variable access to resources like power, information and wealth. Variable access results in stratified networks, with some actors being (more) reliant on others (Freeman, 2004; Hawe et al., 2004; Ritzer & Goodman, 2004).

Social network analysis proves particularly useful for social movement research when there is no obvious or apparent ordering to the various individuals and groups involved. Diani (2002) draws attention to the importance of informal relationships, and this informality creates a complexity that needs to be understood without being reduced to some simple pattern. Although it may be clear who some of the main actors are, and where strong ties exist, weak ties are also important (Granovetter, 1973). Actors with

many ties act as conduits of information. Strongly tied in groups also have a greater impetus to network with and help others, and oftentimes hold influential positions (Ritzer & Goodman, 2004). Weak ties are important for preventing certain social actors from being isolated and are a means for new ideas and initiatives to enter the network.⁴³

Social network analysis has been applied in some recent work on social movements. Mario Diani in particular is a notable contributor.⁴⁴ The range of research on movements using this approach is broad. It has included interest in social actors. Passy (2000) for example examined factors influencing actors' likelihood of becoming involved, while Park (2004) identified 'duration' and 'intensity' as two kinds of strong ties linking social actors. Diani and Bison (2004) and Alexander (2007) have explored the organisation of social movements, with Alexander focusing on how they organise and behave, and Diani and Bison on how they are distinguishable from other collective actors. To date, social network analysis has not been applied to the actors involved in GE resistance.

A relatively well-developed series of network analysis has been carried out on biotechnology organisations – the often cited adversary of GE resistance activists. Salman (2002) explored the organisation of relationships within the biotechnology sector. Krafft, Quatraro, and Saviotti (2009:1) and Egeraat and Durran (2010) have outlined the “dynamics” of knowledge flow in the biotechnology sector, while Johnson (2008) and Schiffauerova and Beaudry (2008) focus on the relationships between biotechnology inventors. Pitt, van der Merwe, Berthon, Salehi-Sangari and Barnes (2005) have identified the entrepreneurial opportunities available in the Swedish arena. While this kind of work has been undertaken, none of it has focused on those who resist the biotechnology industry. This thesis aims to fill this gap, while remaining aware of and responding to some of the critiques that have been made of social network analysis.

Critiques of social network analysis are reminiscent of those applied to earlier instrumental-rational structural theories. As one harsh critic puts it, “when science

⁴³ In social network analysis an isolated social actor is termed an isolate or ghost: an actor that has *no* ties with the network.

⁴⁴ See for example: Baldassarri & Diani (2007); Della Porta & Diani (2006); Diani (1992, 1995, 2001, 2002, 2003a, 2003b, 2004); and Diani & Bison (2004).

[through network analysis] enters in action, meaningful action disappears and all we are left with is a pasteurized and desymbolized world of strategically acting dehumanized humans, or humants” (Vandenberghe, 2002:55). Vandenberghe argues that network models reduce relationships to mere exchanges where symbolism and values are not considered. In a similar vein, Emirbayer and Goodwin (1994:1415) argue that “network analysis ... directs attention exclusively to the overall structure of network ties while suppressing consideration of their substantive content”. However, Emirbayer and Goodwin (1994:1425) also state that a “structuralist constructionism” approach to such analysis poses a promising way for dealing with the inadequacies outlined.

Structuralist constructionism is described by Emirbayer and Goodwin (1994:1425) as “the most sophisticated network perspective on social change”, one that “thematizes provocatively certain historical processes of identity conversion and ‘robust action’”. They argue that structuralist constructionism is superior to two other common network approaches: structuralist determinism, which neglects cultural and political discourse as well as historical contexts, and structuralist instrumentalism, which accepts the significance of “actors in history”, but over-emphasises instrumentality and utility in decision-making (Emirbayer & Goodwin, 1994:1425). Structuralist constructionism is adequate, but not quite perfect:

[it] adequately conceptualises human agency and the potentially transformative impact of cultural idioms and normative commitments on social action, ...[but] falls short in understanding the full complexities of the theoretical interconnections among culture, agency, and social structure. It pays insufficient attention to the structuring influences of cultural and political discourses upon historical actors (Emirbayer & Goodwin, 1994:1426).

Emirbayer and Goodwin argue that these problems can be addressed by incorporating the structural nature of the cultural. They reason that cultural formations, like network structures, have constraining and enabling elements. For example, certain articulations might never be made as it is known by the actor that it would not be fruitful for them to do so, thus equating to constraints. Alternately, agents are enabled when they choose to align certain understandings of the world to construct “identities, goals, and aspirations, and be rendering certain issues significant or salient and others not” (Emirbayer &

Goodwin, 1994:1441). These examples of the more structural features of culture point in the direction of framing analysis. Such analyses highlight the way that actors (are enabled to) select certain information while side-lining others (that may be constraining) as they construct meaningful frames. This is the space this thesis seeks to develop, by using framing analysis to extend and enrich the exploration of social networks.

The use of framing techniques to investigate social movements has been developing since Goffman's early work in the 1970s. Goffman's "schemes of interpretation", or frames, provided the basis for further works, such as that of Snow and Benford (Giugni, 1998:360). Snow and Benford (1992:137) define a frame as "an interpretive schemata that simplifies and condenses the 'world out there' by selectively punctuating and encoding objects, situations, events, experiences and sequences of actions within one's present or past environments". Framing can be understood as "individual 'sense making activity' that via processes of social interaction and communication can become a collective understanding" (Chesters & Welsh, 2002:3). Essentially, a frame is a constructed narrative that is specifically used to express a particular message for the purpose of engaging and mobilising actors.

Frames can take a number of different forms. Goodwin and Jasper (2003) suggest a range of possibilities: symbols or clusters of symbols, stories, slogans, catch words or phrases, and ascription of blame for specific issues or problems. The potential ways for frames to be identified are multiple, just as the uses to which such frames are put to use are. Studies utilising framing have been used to increase understanding of social movement "emergence and articulation of grievances, the dynamics of recruitment and mobilisation, and the maintenance of solidarity and collective identity" (Williams, 2004:94).

Unlike social network analysis, framing has been used extensively to research social movements. Like social network analysis, however, using framing for research on the GE resistance movement has not been prolific. Magnan (2007) and Herring (2008) are two examples of researchers in this area. Magnan (2007) identified a range of frames: diagnostic, motivating, prognostic and counter-claims, in an effort to find out whether an overarching counter-hegemonic framing that could challenge the realm of

biotechnology agrifoods is possible.⁴⁵ He argued that it was not: “Though promising in its diverse composition, the coalition could not establish a coherent interpretive framework upon which to build a more wide-ranging challenge to prevailing agrofood [sic] relations” (Magnan, 2007:315).⁴⁶ Magnan’s (2007) findings are important to bear in mind as the analysis of framing involves investigating a progression from felt vague annoyances to grievances that are well defined and articulated.

Unlike Magnan, Herring’s (2008) work sought to understand why opposition to “transgenic technologies” has been successful.⁴⁷ Herring (2008:467) states that it is quite possible that activist framing of GE will “subside over time into the realm of niche politics”, but attributes two factors of this success in particular to activist framing. Firstly, the emphasis on food (rather than biomedical applications) was politically effective, and second, opposition taking place in the “formal-legal” space rather than on a more direct level – “not in the fields of farmers, where direct interests have outweighed ideology” – was seen as successful strategy (Herring, 2008:467). The findings of Magnan’s (2007) and Herring’s (2008) work point to the significance of carefully structuring frames in order to engage actor interest. Herring’s work also brings in the classic concept of ideology, which is suggestive of a link between this and framing as a meaning-making activity.

The meaning of ideology has been strongly debated ever since the term was coined in 1796 (Oliver & Johnston, 2000). Oliver and Johnston (2000:7) tentatively propose the following as a definition that incorporates the essence of ideology: “a system of meaning that couples assertions and theories about the nature of social life with values and norms relevant to promoting or resisting social change”. Ideology has been used at times in such a way that the boundary between what is a frame and what is an ideology has been blurred (Oliver & Johnston, 2000). Snow and Benford (2000:9-10, *original emphasis*) attempt to distinguish between the two, stating that ideology is:

⁴⁵ Magnan incorporates structural concerns in his work through critical neo-Gramscian theory.

⁴⁶ Magnan does state that framing was successful – although he noted concern about the accuracy of information conveyed in the frames – it was just achieving a hegemonic framing that was not achieved.

⁴⁷ Herring’s (2008:458) work comes from the perspective of viewing activist framing around the “cognitive divide around genetically modified organisms” as limiting the “diffusion and scope of this technology”.

a cultural resource for framing activity[,] framing may also function as remedial ideological work[.] Framing mutes the vulnerability of ideology to reification [and] framing, in contrast to ideology, is a more readily empirically observable activity.

The relationship between the two terms is contestable, but as Snow and Benford say, it is the empirical angle that is brought to the fore with framing. However, to more closely assess the validity of the framing concept requires consideration of criticisms made of this approach.

Framing is subject to hyperbole – as is potentially any utterance of a social actor. It is not truth though, that framing analysis seeks to unveil. It is cultural understandings; the values and identities of actors, including how they interpret and reconstruct the world and the conflict-causing grievance. This means that any analysis is reliant on actor discourse, whether that be written, verbal, or articulated through some kind of symbolism or slogan. Such reliance means that researchers are bound by the kinds of understanding disclosed by social actors. On the other hand, reliance on actor constructed discourse means that framing analysis is flexible and able to be used to understand a range of movements. The same is true for social network analysis. Networks are dynamic; the structure is always changing as patterns of coalition and consensus alternate with those of conflict (Ritzer & Goodman, 2004).

Social network analysis provides a valuable counterpart to framing analysis. Diani (2010:4) has stressed that:

more theorizing and research must be put into the exploration of the link between context – in particular, its structural, cultural, and political features – and network structures. The relationship between context and social networks has only recently gained attention in SNA at large.

Diani is correct to insist on context, and to observe that the relationship between context and networks is only just beginning to be paid the attention it deserves. Using a social network analysis approach, the structural form that is developed does not just show political organisation, it also provides a visual image of culture, in the form of a network. Networks do not just show causal relationships of exchange, they show relationships, affiliations and belonging. When using framing it is evident that political

culture is itself structure, as frames provide a very powerful ordering of actor knowledge, information, values and identity. The use of social network analysis with framing as an exploratory tool in this research captures the significance of structure, agency and culture in politics making, and the interrelationships therein.

2.5 Summary and Conclusion

In this chapter I have presented social movement theory approaches to highlight the ongoing imbalance in attention given to either the structural or cultural dimensions. Collective behaviour, resource mobilisation and the political process approaches have emphasised the structural, while new social movement theory has emphasised the cultural. This dichotomisation has been further confounded by the systemic shifts produced with recent globalisation. The context in which contemporary social movements, including the GE resistance movement of Aotearoa New Zealand, have materialised, have affected both the structure and culture of movements. These factors combined signify a need to reconceptualise an approach that can more capably explain social movements of the current era.

Framing and social network analyses are introduced as conceptual tools that when taken together, can provide an informative, sociological account of the GE resistance movement. Framing provides an analytically rich tool in its capabilities for understanding the interpretive work undertaken by movement actors. Values, identity, the cultural work of movements, are very much the domain of framing analysis. Social network analysis provides a view of organisation and relational dynamics. The detail of these relations is rendered visible and interpreted in turn by the analytical opportunities available in using framing.

This composite conceptual apparatus of framing and social network analysis offers a sound theoretical standpoint for social movement exploration. Moreover, both have the advantage of possessing a method. Social network analysis method is well defined, with numerous, well-established procedures and mathematical measurements available. Framing method is less clearly formalised. Although general conceptions are well defined, the means for identifying and extracting these frames is vague at best. Even so, both these approaches are well suited to the purpose of investigating how the GE

resistance movement of Aotearoa New Zealand works. Chapter Three describes and explores the methodology used in this investigation.

Chapter Three

Researching GE Resistance: a Methodology

How is the GE resistance movement of Aotearoa New Zealand organised? What is movement collective identity based on? These are questions about structure and culture; they concern how the GE resistance movement of Aotearoa New Zealand engages in politics. As the previous chapter argued, social network analysis and framing provide theoretical underpinnings that can guide the investigation of this political practice. In this chapter I attend to these underpinnings by outlining the use of social network analysis and framing as methodological and analytical tools.

Social network analysis is the study of relations between social actors and often if not typically, it focuses on communication, asking questions such as, ‘from whom do you take advice?’ But it is true to say that the content of the communication itself is usually quickly stepped over and the focus falls on actor to actor relations. This is where framing is complementary. It can be deployed to add more substance to the cultural dimension, given that social network analysis does not labour over such tasks.

Framing provides insight into culture. Frame construction, used much like a filtering device, is employed by activists as a means of organising available information for the purpose of articulating concerns to mobilise interest and participation in movement activities. Specific frames, including both collective action and master, relay three strands of meaning in particular. These are in relation to identity, grievances and accountability. Identity refers to the positioning of ‘us’ versus ‘them’, and thus to an understanding of who *us* or *we* are. Grievances refer to the establishment of what is wrong or unjust about a given situation or condition, and accountability to how grievances can or should be addressed, and by whom. Framing can provide answers to how the political culture of social movements is manufactured and played out, and how this in turn influences the organisational, structural form of a social movement. Used together, social network analysis and framing are complementary and conducive to a comprehensive exploration of social movements.

Data was collected in this research through interviews with key movement participants. Given the exploratory nature of this investigation, the objective with

interviewing was to allow for flexibility (when addressing issues relating to framing) yet also the ability to ask specific questions (used for social network analysis purposes). Inductive information is most useful for identifying movement framing, while specific questions are necessary to identify the relationships that form the basis of social network analysis.

The following sets out the methodological path taken in this research. I begin by describing the data collection, including the participant base, participant recruitment and interview procedures, as well as the transcription process and consideration of ethical – political issues. The data organisation method used, framework, is outlined and its utility defended. Finally I present the two analytical methods used in this research: social network analysis and framing.

3.1 Data

Recruitment of participants to this research was driven by the desire to talk to those who were social network analysis key players in the GE resistance movement. While the movement as a whole includes many whose participation is episodic, perhaps involving a one-off attendance at a mass event, this thesis focuses on understanding the involvement of core activists who were at the hub of activity and involved in the central architecture of the movement. This gives this research an ‘elite’ focus, though as will be seen, the GE resistance ‘elite’ has a number of characteristics that distinguish it from more conventional forms of organisational leadership.

Even with the basic participant criteria established, the question of how to recruit participants remained a problem. Identifying the key players in GE resistance was initially difficult. For example, can Green Party members, as political party members, be part of a social movement? Boundaries (and sampling) have been a classic problem for social movement researchers, just as they have also been problematic for social network analysts (Diani, 2002; Wasserman & Faust, 1994). There are two common approaches taken to specifying boundaries. One is the ‘realist’ approach, determined by movement actors, where “the network analyst adopts the presumed subjective prescriptions of system actors themselves, defining the boundaries of a social entity as the limits that are consciously experienced by all or most of the actors that are members of the entity” (Diani, 2002:176). The other approach is known as ‘nominalist’, where

“the researcher identifies a set of criteria defining membership in a given network, [and] selects the network nodes on this basis” (Diani, 2002:176; Wasserman & Faust, 1994). This research combined both approaches. Initially I used a nominalist strategy whereby I defined the parameters of the research as focusing on key activists. I then followed a realist strategy, where participants nominated (within the above parameters) other potential participants. This nomination approach involves the use of “name generators”, where the research begins by asking a “focal actor” for names based on a certain criteria, and then uses a snowball technique to expand the field of interviewees (Hawe et al., 2004: 972). The nomination of names was based on asking those interviewed to identify who they viewed as the most important individuals for the GE resistance movement.

In order to launch the participant recruitment process, I drew on my existent knowledge of the main groups and individuals involved in GE resistance. This knowledge was gained in two ways. First, I drew on my MA thesis work, which included a discourse analysis of submissions sent to the Royal Commission on Genetic Modification.⁴⁸ Second, this knowledge was supplemented by investigating news media reports and press releases to identify spokespersons and groups taking a GE resistance position. Online, print and television sources were all used. These strategies culminated in a range of groups identified, and a range of individuals who were spokespeople for various prominent GE resistance groups. The initial sample of potential research participants based on this approach numbered 14, and from these 14, two individuals were initially selected to begin a snowballing technique for further participant recruitment.⁴⁹

Ultimately a data set of 18 actors was identified. Though a comparatively small group, especially when considering the mass mobilisations involving thousands of people that were seen in Auckland in particular, there was wide consensus in terms of the identification and nomination of these individuals. It must be acknowledged that these 18 key participants comprise a small cluster of individuals relative to the social movement as a whole. While small in number, these individuals represented a great

⁴⁸See Tucker (2003).

⁴⁹It eventuated that all these 14 were nominated in the snowball process by participants.

diversity of organisations along with a wide array of strategic and tactical approaches, as this thesis reveals. Moreover, those at the centre of movement networking identified the same central figures repeatedly, and not necessarily because they were key alliances or personally important for them. They were identified as those figures that showed initiative and innovation. These individuals were responsible for keeping the movement in the public and political spotlight over a period of years and for this reason it is their relationships and culture that are the principle concern of this thesis.

It should be added that there were five other particular individuals who were nominated several times as key movement members but who were not interviewed – either they declined or were not available. Three of these individuals were quite critical for the movement, based on the number of nominations they received, while the other two were not as central. While the absence of these individuals is regrettable, it does not detract from the overall research objectives as this thesis will show (this point is revisited in Chapter Six).

There was also a miscellany of others each nominated by one individual only; oftentimes these were people with whom the research participant had personal, localised associations. These individuals with just one nomination were not included as key participants. Wasserman and Faust (1994:31) explain that those using social network analysis need to determine a cut-off point, and that it is not uncommon to exclude those whose ties to others are infrequent: “Network researchers often define actor set boundaries based on the relative frequency of interaction, or intensity of ties among members as contrasted with non-members”. Ultimately, the method for selecting research participants achieved what I intended: it identified a sample of recognised key players involved in GE resistance.

Although the participant sample is too small for statistical analysis, its demographics can be briefly described. The gender of the participant sample was nearly evenly split, with eight males and ten females. The age of participants clustered mostly in the 36 to 45 year age range ($n = 7$), though it ranged from early 20s through to late 50s (two participants did not identify their age). In terms of ethnicity, there was one Māori participant, eight individuals identifying themselves as migrants of various (mainly) European descents, and three New Zealand European or Pakeha. In the remaining

cases, no ethnic identity was specified (though in each of these six instances it was clear that these participants had spent significant time in this country). The relatively high proportion of European migrants is an interesting feature of this sample, especially given the importance of national culture in movement identity (as will be discussed in Chapter Five).

The identified key players tended to have high levels of formal education attainment, and correspondingly the majority of them were involved in professional occupations. Six participants had achieved postgraduate qualifications and a further eight had undergraduate qualifications. Nine were in professional occupations, three were self-employed, three were involved in campaigning and union related work, one was a primary caregiver, one was a student, and one did not state an occupation.

In terms of activist history, 12 participants had been involved in past social movements in Aotearoa New Zealand, while four had been involved in activism overseas. Environmental, peace / anti-war related, animal rights, gay rights and Māori activism were areas that these participants had been involved in. Overall, this was a fairly homogenous group: largely white, middle-aged, middle-class, highly educated, and oftentimes with a history of activism. Such homophily – similarity in “sociodemographic, behavioural, and interpersonal characteristics” – is not an uncommon result when using a snowball (or name generator) sampling technique (McPherson, Smith-Lovin & Cook, 2001:415). Campbell, Marsden and Hulbert (1986) even warn that movement diversity can be underestimated, in particular when considering the strongest ties. The interest of this thesis however is in what the key players do, not where they come from in terms of social location. As will be shown in Chapter Four, despite their social homophily they exhibit a highly diverse set of commitments to group membership and political tactics.

Interviews were the main data collection method adopted in this research. Two styles of question were used, and were organised with the two analytical approaches in mind: social network analysis and framing. Interviews began in a non-standardised, semi-structured style, appropriate for an “intensive study of perceptions, attitudes, and motivations” (Kidder, 1981:187). This in-depth type of interviewing is particularly useful for explorative research, when the aim is to find out “what the basic issues are,

how people conceptualize the topic, what terminology is used by respondents, and [the] level of understanding” (Kidder, 1981:187). While there are few limits to what might be raised in semi-structured interviews, which is useful for posing exploratory questions, such openness can also pose problems (Fraser, 2004). Semi-structured interviews offer only limited control over discussion, they may be more unsettling for the interviewee than a more structured interview, they can be time consuming, and the researcher needs to be prepared for what can be a lot of work in coding and analysing data (Fraser, 2004). Despite these issues, however, semi-structured interviews were the most effective way to elicit the richness of information that is needed to identify frames – a critical consideration for this research.

The interviews included the following questions, though not necessarily in this order or with exactly this wording:

- 1) Is the terminology I have used okay: anti-GE?⁵⁰
- 2) I would like to know what motivated you to get involved in GE activism; why you decided to get involved in anti-GE action in the first place.
- 3) I would like to know a bit about your background; how it is that you came to be oriented to political activism, and GE activism specifically.
- 4) Regarding any expectations you might have had about your involvement in GE activism before you became involved, can you tell me what it meant to you then, and what you thought might happen.
- 5) With regard to where you are at now in relation to your involvement with GE activism, have your views about GE, activism, and all that is involved, changed?
- 6) Please tell me, with as much detail as you can, your story of your experience with GE activism, with particular attention to the critical events and challenges that you have faced, and the way in which these events have influenced your personal, political and cultural development.
- 7) Can you tell me about what you see regarding your involvement in the anti-GE movement in the future?

⁵⁰The interviews then adopted whatever terminology the research participants were most comfortable using, given there were mixed responses to the use of the anti-GE term. Chapter Four considers the significance of differences in movement naming.

The first question aimed to establish what name the participant used to describe the movement, and why they preferred that terminology. Questions two to six were all specifically designed to elicit information about participant framing by drawing out the respondent's motivations and points of view. Question seven was asked to invite further reflection, which I anticipated would open up a range of possible areas of discussion that had not to that point emerged. Simple prompts and extended pauses were also used to encourage participants to relay their stories and views.

The second section of the interview was used to gain more specific information to be used for social network analysis purposes. Participants were informed that the questions may seem repetitive, given that they may have already referred to or discussed similar information in the earlier questions, but that they were asked for the sake of clarity and specificity. These four questions were guided by research undertaken by Diani and Bison (2004):

- 1) Please identify up to five of the most important partners and alliances with relation to your involvement in GE campaigning / activity.
- 2) Could you please state all the various groups that you have had involvement with, and worked collectively with, in relation to GE.
- 3) Could you please tell me what you consider to be the key events which you have had involvement with.
- 4) Could you please tell me what you consider to be your two most important initiatives in relation to GE. In relation to these initiatives, can you tell me if these involved conflict of any sort with anybody else or any other group, and if so, whom?

This first question has a clear social network analysis outcome – it identifies who the participant viewed as important partners or alliances in GE campaigning activity. This information was used to identify informal network ties and construct visual diagrams of key movement social actors. The second question associated the individual with their group connections, another social network analysis objective that further establishes alliances and was used in the construction of organisational ties. The third question was asked as a way to establish which individuals from what groups would meet together for certain GE resistance events, thus providing a further indication of collective organisation and networking among individuals and groups. The last question was a

more overt way to draw out information about identity, the 'us' and 'them'. It also highlighted what various individuals saw as important GE resistance initiatives, which again is indicative of where network alliances lie (and what they are perhaps based on, which feeds into the former interview section as this is useful information for framing analysis).

To conclude each of the interviews, participants were asked two final questions. Firstly they were asked if there was anything that they wanted to add – anything that they thought of as particularly important or interesting. Secondly, participants were asked who they viewed as the key, critical people involved in GE resistance. These individuals were those that I pursued for recruitment to this research, as discussed earlier.

The two participants initially contacted and invited to participate in this research were chosen out of the 14 first identified in the opening stages of sampling, given their close geographical proximity, with the anticipation that it might be necessary to return to these people again for further information once any refining of the interview schedule had been completed. Through email, they were each provided with an electronic information sheet and a less formal and personalised preamble (in the message of the email), in which I gave a brief introduction of myself and the research, as well as a request that if the individual was interested, that they reply to my e-mail. Appointments for these first two participants were subsequently made and the interviews were conducted on Massey campuses – one in Wellington and the other in Palmerston North. The duration of both interviews was approximately 90 minutes.

Following these first two encounters a more flexible approach to interviewing was adopted, given the variety of areas that the first two interviews ventured into. With an updated list of potential participants, which was continually generated throughout the interview process, meetings with further respondents were organised. In total nine interviews were undertaken in the first round.

After the first round of interviews was completed and the transcripts word processed, each participant had the opportunity to view and correct or make additional comments to their transcripts. Participants largely preferred to have their transcripts emailed to them, although a few wanted a hard copy in the post. Once all nine transcripts had been

returned and amendments made, the transcripts were read through to determine whether there were any gaps or other problems, before proceeding with further interviewing.

The second cluster of interviews commenced two months after the first. Potential research respondents identified by previous participants were contacted. This second round of interviews was conducted in much the same way as the first, although five interviews were undertaken by telephone and one by email for practical reasons. The interview conducted through email proceeded in a format whereby I would send questions, and when receiving the answers, would read through them before sending further questions. I had no choice but to use this kind of correspondence given the location of the participant. I found both the email and telephone interviews to be unproblematic.⁵¹

The second and final round of interviews was completed just over six months after the first interview was held, culminating in the gathering of a wide range of activist views and experiences from 18 key movement players. Interviews terminated once I found that participants were repeatedly naming the same people as key actors: a form of sampling saturation had been reached.

Dealing with transcription data along with the ethical issues that arose during the course of interviews requires some discussion. Although widely considered a verbatim, written version of oral discourse, transcription can be done in a variety of ways. The transcription procedures adopted are largely reflective of how the data will be utilised in the research process. As Kvale (1996:163) comments, transcription is not as simple a process as it may initially appear:

Transcripts ... are artificial constructions made from an oral to a written mode of communication. Every transcription from one context to another involves a series of judgements and decisions.

⁵¹ Telephone interviewing has been critiqued for not being as informative as face-to-face interviews (Denscombe, 1998). However, without this option I would not have been able to speak to certain participants, and I did not find that it led to any difficulties with developing rapport. Without the use of email, I would not have been able to include one vital participant in this research. Although more time consuming and not generating the same amount of information as face-to-face and telephone interviews, the information and insight gained from this interview was important. Even within this context, I believe rapport and good-faith developed between myself and the participant.

Kvale (1996:168) recommends that the best way to deal with transcription is to describe as clearly and with as much detail as possible, how the transforming of discourse from oral to written is undertaken.

Transcribing in this research involved progressively refining the manuscripts as they were completed. Initially, all words were noted. “Umms” and “ahhs” and other sounds were never transcribed, but broken sentences and repeated phrases such as “you know” were all transcribed verbatim. However, one participant in the early stages of the first round of interviews contacted me upon receiving their transcript to say that they were horrified at how they appeared on paper.⁵² Following this contact and the return of a further two transcripts within days of each other, which had both been extensively edited through deleting repeated terms and broken sentences, I adjusted my approach. I began omitting *filler* type terms such as “you know”, as well as repeated terms from the transcripts.

Even with this refinement, I had one participant contact me to say that they were very embarrassed at what they read in their transcript, and felt “really silly”.⁵³ This prompted yet another reconsideration of transcription treatment, in particular given Kvale’s (1996:172; *original emphasis*) comments as to the ethics involved. As Kvale (1996:172) remarked in transcribing: “*publication* of incoherent and repetitive verbatim interview transcripts may involve an unethical stigmatisation of specific persons or groups of people”. This comment invokes the ethical principle of “do no harm” (Tolich & Davidson, 1999:70). The remaining interviews were transcribed with Kvale’s comments in mind, and transcriptions that had already been completed were reviewed. Completed transcripts ranged from just five pages (1 ½ half line spacing) in length (this was the interview conducted via email), to 34 pages in length, with the average being approximately 25 pages. There was a further 18 pages of information forwarded by participants following the completion of interviews.

Other than the principle of doing “no harm”, Tolich and Davidson (1999:70) cite a further four ethical principles: participation must be voluntary, informed consent must

⁵²I assured the individual that their verbatim transcript was quite normal, and that I would not be using the data *exactly* how it appeared on the transcript, which the participant was satisfied with.

⁵³Once again, I reassured the participant, as described in the previous footnote.

be given, deceit should be avoided, and participants should be granted anonymity or confidentiality. In this research, each participant was informed as to the purpose of the study to the best of my knowledge at the time of speaking to them. Each participant had the right to decline participation at any time, consent was gained from all participants, and they were assured confidentiality. As research progressed, two ethical issues emerged, in addition to the transcription issues discussed above, to do with the principles of 'do no harm' and 'confidentiality'.

With respect to doing no harm, the Massey University Human Ethics Committee (MUHEC) guidelines name four areas: risk of harm to participants, to researchers, to groups, communities, institutions and to Massey University (Massey University, 2010). While I have already referred to an ethical consideration in terms of individual participants, there was also a need to consider the possibilities for harm to groups/communities or institutions. The Massey University Code of Ethical Conduct simply states that the "publication of research results has the potential to harm groups, communities and institutions. Researchers must be aware of this in writing up results" (Massey University, 2010:¶13). Throughout the interviews I received information that was considered by participants to be potentially damaging, not so much due to ethics but due to politics, specifically in relation to their work as activists. Where participants have expressly requested confidentiality with information they have relayed to me I have honoured their request.

Ensuring confidentiality is not a straightforward task. There are some ethical issues particular to Aotearoa New Zealand: "think of New Zealand as though it is a small town. ...New Zealand's smallness makes it relatively easy to identify any institution" (Tolich & Davidson, 1999-77-78). If institutions, including social movement groups, can be identified, so too possibly can individuals. Although I have used pseudonyms in this research, given the size of this country and the fact that I have been very clear about how I found my initial participants, extra measures have been needed to support confidentiality. Where a participant might mention a place, specific organisation, or occupation, for example, I have used my discretion as to whether to omit the information if there is a possibility that it could lead to identification of the participant. Although some participants were perfectly happy to be identified, others were not. The data organisation process assisted with this as all transcripts were read through and all

data coded, which provided an opportunity to omit that information strictly requested by participants to remain confidential from the final selection used in this research.

The interviews generated over 400 pages of transcript. A robust organisation system was therefore needed to organise the data. This requirement was met by employing a framework approach to index or code the transcript data gathered in this research. Framework is “a matrix based method for ordering and synthesising data” (Ritchie et al., 2003:219). This approach has been used here for four reasons. It is well suited for dealing with interview data, it deals with all data gathered (even that which may seem unrelated or useless), and a visual categorisation of data is provided, which is organised in such a way that it allows for relatively uncomplicated analytical comparisons. Finally, framework is particularly useful for organising data in preparation for framing analysis. While somewhat tedious, this system is an insightful process that is invaluable for data familiarisation. Moreover, such a tool was needed given the lack of methodological guidelines characteristic of a framing analysis (as detailed below).

Initial data management steps involve the need to become very familiar with the data. The first stage of framework is looking for repetitive themes that can be used to begin the indexing process. In this research, indexing was carried out with framing analysis in mind. The next step is to create a “conceptual framework or ‘index’... achieved by identifying links between categories, grouping them thematically and then sorting them according to different levels of generality so that the index has a hierarchy of main and subthemes” (Ritchie et al., 2003:221-222). This process resulted in the development of ten main themes: 1) biographical identity; 2) activist life history; 3) activist identity; 4) GE interests and values; 5) GE and geographical specific interests; 6) GE mobilisation and representations; 7) challenges, conflicts and relationships; 8) key people and organisations; 9) GE possibilities, and; 10) other and notes.⁵⁴ Theme number 10 is a generic index included so that any information that did not fit elsewhere could be noted nonetheless, and that any thoughts, notes or ideas that I had regarding the data or the interview could be included. Subthemes generated under each main theme ranged from between six and 17 in number, with all theme and associated subthemes being numbered as needed for coding the data.

⁵⁴See appendix A for the complete list of themes and sub-themes.

The main themes remained constant throughout the coding procedure, while the subthemes were adapted and amended as various frames and themes became apparent. In this way, the remaining task of framework, putting the data into the indexes, overlapped with the prior stage of working through sub-theme organisation and labelling.

Committing the data to the thematic framework is time consuming. First, it is necessary to read through the transcript, sentence by sentence, all the while asking, as Ritchie et al. (2003:224) suggest, “what is this about?”. This is necessary for deciding how and where to place the data in the index categories. Once it has been decided where a section of transcript belongs, the appropriate index number or numbers associated with the theme and subtheme/s (as some pieces of data may be applicable to more than one) is assigned to the piece of data. I did this process manually, by physically writing on the margin of the transcripts as I worked my way through them.⁵⁵ One page of transcript could have anything from just one or two index numbers assigned in the margin, up to around 25 for other pages. Summarising the data for the purposes of coding was a critical step to ensure enough of what was said was retained:

The final stage of data management involves summarising or synthesis in the data. This not only serves to reduce the amount of material to a more manageable level but also begins the process of distilling the essence of the evidence for later representation (Ritchie et al., 2003:229).⁵⁶

Using this framework approach provided a practical data organisation system. Perhaps more importantly, it also assisted greatly in the identification of frames for the purpose of analysis, and in identifying material related to relational and organisation matters that could be used to enrich the social network analysis. While framework was not developed for this purpose – Ritchie et al. (2003) outline their own analytical processes – it has the advantage of supporting the framing analysis undertaken within this thesis.

⁵⁵Ritchie et al. (2003) note that there are electronic packages available for using the framework process, e.g. the CAQDAS package.

⁵⁶Three basic rules for the summarising process are outlined by Ritchie et al. (2003:229): 1) “key terms, phrases or expressions should be retained as much as possible from the participants own language”; 2) “interpretation should be kept to a minimum”, and: 3) “material should not be dismissed as irrelevant just because its inclusion is not immediately clear”.

While coding data in framework, it was possible to identify frames more easily, and assist in understanding what was not so overtly obvious in the relational ties analysed by social network analysis.

3.2 The Analytical Tools

As noted in Chapter Two, a common thread that links social network analysis and framing is that they are both theories and methodologies, which makes them well suited for the task of this thesis. There has been a call for better aligning of cultural and structural analysis of social movements, as well as for a methodology suitable for applying to the newest social movements. Chesters and Welsh (2004:316) refer to how the impact of globalisation processes on social movements heralds the need for a methodological rethink:

The methodological implications of this shift are profound, as movements increasingly assume the character of distributed networks, involving a variety of individuals, groups and organisations that are geographically dispersed yet informationally close, so engagement with them requires a greater degree of methodological sophistication, including diachronistic analysis of network architectures, networking mapping and participant and visual ethnographies.

This thesis demonstrates how framing and social network analysis can work together conceptually and methodologically to address the disproportionate weighting attributed to either culture or structure that characterise the sociological literature on social movements. However, bringing together network mapping and participant culture aims to address the methodological implications of the shifting nature of social movements in today's world.

Diani champions the social network analysis approach. He provides a useful explanation of the practicality of this approach for the investigation of social movements:

Social movements are internally heterogeneous and diversified phenomena whose components are involved in complex relations to each other. Network analysis may help us disentangle this complexity (Diani, 2002:19).

Given that the units of investigation in this research are individuals who are typically involved with a variety of groups, that in turn constitutes the movement network,

presenting a picture of what a social movement looks like is challenging. Social network analysis allows for multiple relationships between individuals and between individuals' associated groups to be readily seen. More involved analyses can then be made in conjunction with the insights into various groups and individuals provided by research participants.

Diani (2002:173-174) argues that social network analysis is useful because the network form is a distinctive trait of social movements today:

First, it helps us to analyse how collective action is affected by the actors' embeddedness in pre-existing networks. Second ... we may use network analysis to illustrate how social movement actors create new linkages that in turn will constrain the subsequent development of protest and/or subcultural activities. The shape of networks may be regarded as the outcome of network-building strategies, which in turn can tell us a lot about the nature of a movement at a given point in time.

Diani here refers to the structural characteristics of social network analysis, such as how links between actors can constrain future activities. There is an absence of any reference to cultural possibilities of such analysis, yet the advantages of what is offered methodologically are evident. These advantages lie in the ability of this tool to extricate relational patterns from the data. This structural tendency is in fact characteristic of social network analysis. As Freeman (2004:3) puts it, the approach is:

motivated by a structural intuition based on ties linking social actors... It is grounded in systematic empirical data [and] it draws heavily on graphic imagery, and [i]t relies on the use of mathematical and / or computational models.

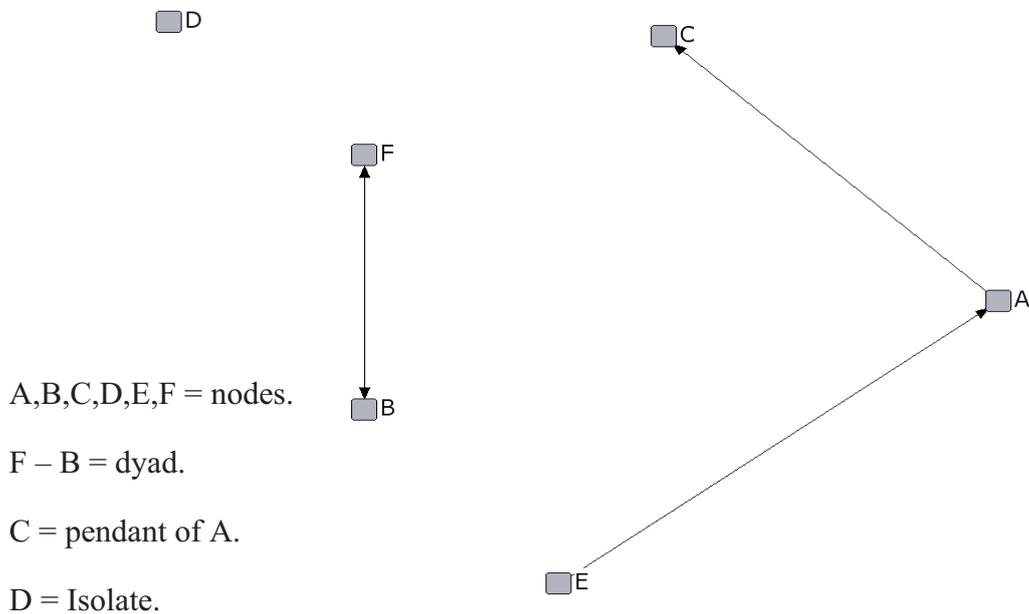
The social network analysis used in this research mirrors that described by Freeman: ties linking social actors are analysed based on empirical data; graphic imagery, mathematical and computational models are used. The ties linking actors and showing movement interactions are grounded in the data collected during interviews with participants. Included is individual-to-individual, individual-to-group, and individual-to-event data. The emphasis on the relational ties between these social actors is extended further in this work through the use of framing, which enhances the meaningfulness of these ties by bringing in participant understandings of these

relationships. In this way, framing complements the structural leaning of network analysis.

The *UCINET* software program was used to develop graphic imagery and undertake basic computations in line with the measures desired for this research (Borgatti, Everett & Freeman, 1999). Images were developed through the manipulation of data entered as matrices into UCINET. Four main sets of data were entered, in accordance with the questions detailed earlier in this chapter. First, analysis focused on individual nominations of their most important partners or alliances. Second, individual membership and affiliation with groups involved in GE resistance was explored. Third, ties were explored between individuals and key event involvement. Finally, analysis included looking at the individuals and groups whom activists cited having conflict with. This data was analysed directly using UCINET, with network graphs developed through the software programme, *Netdraw*.

In order to make sense of network graphs and metrics, some basic terminology needs to be explained. A network is made up of nodes, which in this instance represent individuals, groups, as well as events or activities (depending on the analysis being undertaken). These nodes are connected by relational ties. Two nodes that are connected by a relational tie are known as a dyad. A node that is connected to a network by just one relational tie is a pendant. When a node appears that is not connected at all to a network component – or a connected section of a network – it is known as an isolate (Hanneman & Riddle, 2005). Figure One provides a diagram of basic network structures.

Figure 1. Basic social network structures.



In this research, the relational ties were informal, based on social actors' nominations, rather than formal, such as the funding arrangements where one organisation formally resources another (Hawe et al., 2004).⁵⁷ Here the analysis focuses on binary rather than valued relationships. Binary relationships record the presence or absence of a tie, whereas valued relationships also consider the strength of the relational tie (Diani, 2002). The relational ties use arrows to indicate one-way or directed, and symmetrical (two-way) or reciprocal ties, producing what is known as directed graphs or digraphs (Scott, 2000). Showing directionality provides indicators of individual, group and movement identity, with symmetric ties indicating reciprocity. Directionality indicators contribute to the understanding of which social actors have more influence or power, and which have the least (Diani, 2002). For example, in a network where relational ties are based on social actor perceptions of who is most important for the

⁵⁷Multiple or multi-plexity ties can also be used, which as the name suggests, combine formal and informal ties (Hawe et al., 2004).

strength of the network, those actors with the most nominations would be seen as most critical and powerful for network resilience, at least by their peers.

The sets of data that are used in network analysis comprise actor-by-actor and actor-by-affiliation or attribute data. Actor-by-actor networks are known as 1-mode networks that are based on a one-dimensional matrix, which means that rows and columns are symmetrical and have the same entities (Borgatti, 2007). Actor-by-affiliation or attribute data on the other hand are 2-mode networks that are based on a two-dimensional matrix, where rows and columns have different entities; for example, rows are actors and columns are events (Borgatti, 2007; Hawe et al., 2004). Sub-graphs are also used in this thesis to highlight particular characteristics of networks.

Graphs produced from network data can be presented in a number of ways, ranging from randomly generated graphs, to those that are organised by some particular feature or metric. All but one of the graphs presented in the following chapter are generated using multi-dimensional scaling (MDS). The exception is a graph that was manually manipulated to show a particular organisation of the network nodes. MDS graph layout organises nodes according to similarity, which is based on the shortest path or geodesic distances between actors (Hanneman & Riddle, 2005). In this kind of graph, the distances between nodes and the direction and placement of nodes becomes meaningful: nodes placed close together will be similar according to their relational ties, and certain nodes may be grouped together in a particular area of the graph which can indicate some kind of organisation of these nodes based on similarity (Hanneman & Riddle, 2005).

Along with graph visualisation, a number of metrics can be used to highlight the relationships and relative influence of various social actors. While the options are numerous for network analysis metrics, in this research, specific measures for centrality and subgroups are used.

Digraphs allow for the centrality of actors to be easily gauged, given that the directionality of nominations is available. Centrality is defined by Diani (2002:186) as “the extent to which [the actor is] located in core positions in a web of exchanges”. It considers the number of available relational ties between nodes, as well as the distance between nodes. These measures of centrality are used to identify those social actors

who have some “importance” in a network (Hawe et al., 2004:974). In this research I draw on Freeman’s degree centrality metric.⁵⁸ Degree centrality is the “sum of all other actors who are directly connected to ego” (Hawe et al., 2004:974).

Subgroup measures explore how a network can be divided. There are two different basic approaches to sub-grouping: we can call these top-down and bottom-up approaches. Bottom-up approaches work from the level of dyads out; that is, they begin by looking at dyadic relationships and identify subgroups by building on these basic relationships. Top-down approaches consider the whole network, and seek to find subgroups within the network as a whole. Both sets of metrics are especially useful in large networks, but I have found that the bottom-up approaches when used in a small network such as in this research, do not add any value to findings. This is because relationships between nodes are more readily apparent in small networks when presented in a graph. My analysis does however draw on a top-down approach: lambda set.

A lambda set identifies which actors, if removed, would be most disruptive to the network. Lambda set uses a difficult metric, but a relatively simple idea (Hanneman & Riddle, 2005). The metric basically looks to see which actors are most central to the informational or relational flow of the network. The significant nodes in lambda sets are those that provide strong linkage points for the network.

The network metrics – degree and lambda set – along with the MDS graph layout, provide analytical tools that can be used to explore the structural characteristics of the GE resistance movement. Each can be used independently as well as in conjunction to determine and strengthen analyses. Network metrics are synchronic; they provide snapshots of what the movement looks like at a particular point in time. In order to capture the significance of historical change, and the resulting structural complexities of the movement, one final technique was applied to the data.

In order to reveal historical shifts, the data was analysed according to the legislative periodisation set out in Chapter One. This periodisation provides some vibrancy to

⁵⁸A range of centrality metrics were run on this data, but they did not add any new information to the analysis undertaken using Freeman’s degree centrality.

what otherwise would appear to be a stagnant movement. As Diani (2004:352) argues, it is important to consider movement evolution over time:

most studies of networks and participation are still based on data collected at one single point in time. It is far rarer to find illustrations of how networks evolve over time, and how those changes affect persistence or interruption of activism. Moreover, looking at the evolution of networks from the perspective of overlapping memberships would also provide us with a valuable clue to interpret the evolution of the structure of critical milieus.

Diani's recommendation of studying movement evolution is something that I believe is important for the network analysis of social movements. However, Diani's recommendation of collecting data at multiple points in time, it is not something that I have been able to do in this thesis. Instead, data was collected within a limited time frame, and not at various junctures throughout the movement's life-span. Given that I recognise how significant such an analysis is, I have adapted this research to enable a staging of the movement.

To construct a movement through stages, I drew on the information that each participant provided regarding the period throughout which they were involved, as well as the timeframes during which different movement organisations existed. In doing this, I was able to determine when individual participants and various groups were active. It soon became apparent that shifts in the movement structure and activities coincide with the legislative timeline outline in Chapter One. Information gathered was transferred into tables according to which stage or stages an individual or social movement organisation, was involved. Network graphs were then developed to refer to these critical stages, shedding light on the shifting and reflexive shape of the movement network. The movement is staged into three periods: from 1996 to December 1999 (the formative period that transitions in December 1999 when the Government announced the RCGM), from 2000 through to the end of October 2003 (the peak period during which the RCGM was instituted and reported to Government, with the transition point being the ending of the moratorium on commercial GE on October 29 2003), and the third stage, from November 2003 to 2005 (mid to late 2005 was the period when research participants were interviewed). While not an ideal method, this periodisation

does provide some idea of how the movement structure shifted in significant ways as the context in which it operated changed.

The network analysis outlined above has much to offer social movement researchers, especially in terms of analysis of the relationships between key players. As noted, however, such analysis tends to highlight structural concerns and too strong a focus on organisational patterns risks sidelining the significance of meaning in the construction of collective identity. In order to capture this cultural dimension, network investigations are complemented by framing analysis. A significant advantage of using these approaches together is that the informal ties, indicated through social network analysis, are amenable to explanation through framing. Social network analysis can provide a picture of relations, while framing can provide more cultural substance to the actual content of these relations.

Framing has become a well established tool for exploring the cultural characteristics of social movements. However, no one framing technique exists. The main thread that loosely links the varieties of this approach together is the work of its pioneer, Erving Goffman. Goffman (1974:10) explained the identification of frames as follows:

definitions of a situation are built up in accordance with principles of organization which govern events ... and our subjective involvement in them; frame is the word I use to refer to such of these basic elements as I am able to identify.

Goffman's early approach has been built on over the years. Stressed in disciplines such as sociology and alluded to by Goffman, is the understanding that frames are purposely and strategically drawn on. As Scheff (2005:369) states, they are "actively adopted and manufactured".

Frames provide a link between the world 'out there' and a rationale that encourages participant mobilisation. As Giugni (1998:369) explains, this link runs between "existing interpretations of objective facts and events", and also "participation in social movement activities". In other words, the link is between "collective action frames, or master frames, and protest" (Giugni, 1998:369). The frame types referred to here by Giugni, collective action and master, are I believe, the most significant analytical constructs used by those applying this approach to social movements.

Collective action frames involve the selection of relevant material for emphasis, while downplaying other aspects. In this way, framing is a means of interpreting the world and conveying a particular message. Yet collective action frames do more than interpret, they are

intended to activate adherents, transform bystanders into supporters, exact concessions from targets, and demobilize antagonists. Thus collective action frames not only perform an interpretive function in the sense of providing answers to the question “What is going on here?”, but they also are decidedly more ... contentious in the sense of calling for action that problematizes and challenges existing authoritative views and framings of reality (Snow, 2004:385).

As Snow argues, the ultimate outcome of framing is the mobilisation of activists towards challenging an existing view and towards effecting change.

Snow and Benford (1992:137) define collective action frames as cultural constructs that “function simultaneously as modes of attribution and articulation”. They are comprised of four different elements: accentuation, punctuation, attribution and articulation, with attribution being further broken down to diagnostic and prognostic attribution. Snow and Benford (1992:137-138) explain each of these frame elements as follows:

[the accentuation role seeks to] underscore or embellish the seriousness and injustice of social conditions or redefine as unjust and immoral what was previously seen as unfortunate but perhaps tolerable; [punctuation frames] punctuate or single out some existing social condition or aspect of life and define it as unjust, intolerable and deserving of corrective action; [diagnostic attribution will] attribute blame for some problematic condition by identifying culpable agents, be they individual, collective processes or structures; [prognostic attribution is] a general line of action for ameliorating the problem and the assignment of responsibility for carrying out that action; [and articulation is to] articulate and align a vast array of events and experiences so that they hang together in a relatively unified and meaningful fashion.

Snow and Benford’s deciphering of collective action frames is detailed, but it is this detail that makes it useful for identifying framing social constructs in participant discourse.

Another less complex way of looking at collective action frames is found in the work of Gamson (1992). According to Gamson (1992), these frames include three elements: identity (who is ‘we’ and who is ‘they’), injustice (what the perceived issues are) and agency (how it is that the injustices can be addressed). Although more simple, Gamson’s breakdown of collective action frames equates well to Snow and Benford’s system. Both approaches guide this analysis.

Collective action frames are constructed to relay a particular message about a problematic aspect of an issue. Master frames on the other hand, are more macro constructs that are recognised as pre-existent rather than being created by the movement itself. Master frames are drawn on by movement participants to serve their goals. An already established cultural construct is actively interpreted in such a way that it has wide appeal or resonance for potential movement participants. Master frames vary from the rigid or restricted to flexible and elaborate. The more flexible and elaborate forms are often judged most desirable given that these characteristics are more readily adaptable for mobilisation purposes: “hypothetically, the greater the resonance, the more potent the master frame” (Snow & Benford, 1992:140). As Buechler (2000:42) puts it, master frames refer to the “broadest structures of meaning in social movements that define grievances in terms of oppression, injustice, or exploitation and call for liberation, fairness, or equity”. A master frame is available for deployment by any number of social movements through a given period of time (Snow & Benford, 1992). Although these frames are used in much the same way as collective action frames, there are differences. Collective action frames are specific to the movement; they express its particular concerns. Master frames are already in articulation, and are engaged with to incorporate what it is that the movement seeks to change.

Collective action frames tell us much about the culture of a given movement. Master frames reveal the wider context in which a movement is operating. For contemporary movements, Snow (2004) argues that master frames will become more important given the large, often global scale mobilisations and the critical role that the media plays.⁵⁹ Given their location in the world exterior to social movements and

⁵⁹The media, especially with internet and other electronic communications, have come to play an increasingly important role for movement organising and activity (see for example: Gamson & Wolfsfeld, 1993; Loader, 2008; Van de Donk, Loader, Nixon & Rucht, 2004). For example, activists use the media as a vehicle for transmitting their grievances, while the internet is important for campaigning and organisation.

hence the fact that they were not constructed for a specific movement purpose, master frames reflect the various values existent at a particular point in time and tell us something of the kind of social structures that may be influencing (constraining or enabling) movement activity.⁶⁰

The malleability and multi-functionality of framing concepts is clear in one further important concept that has not yet been introduced: frame alignment. The process of framing can create conflict between opposing groups, as each group seeks to put forward its frame as superior or more righteous in the hope of attracting support. This seeking out of recruits (or attracting support) is conceptualised as the process of frame alignment, which is broken down into four different processes (Buechler, 2000). Frame bridging involves reaching out to others who already share the same concerns and views of the world, and letting them know that a group exists that has the same views on an issue. Frame amplification appeals to deeply held values and beliefs inherent in sectors of the public, and aligns these with the values held by the movement.⁶¹ Frame extension extends the margins of an original frame to include other important issues in an effort to extend the appeal of a given social movement to a wider population. Lastly there is frame transformation, a sophisticated process that aims to construct and nourish new beliefs, values and meanings.⁶² These alignment strategies are essentially implicit in the collective action and master framing processes. They are an intrinsic aspect of frame making in general.

Although frames are clearly defined and described in the literature, the techniques required for their analysis is in need of further development. As König (2009a) asserts, there is no explicit model for measurement of frames, quantitatively or qualitatively. By adopting the coding and analysis system of framework (described earlier in the chapter), I was able to code, categorise and access the data in such a way that frames

⁶⁰Not a lot of attention has been paid to this aspect of master frames. Political opportunity structure theory in particular is noted as an approach that considers the contextual environment – enabling and constraining factors – yet through master framing the same kind of information can be gauged in terms of cultural processes.

⁶¹Frame amplification therefore *creates* a link on behalf of the public, and establishes a commonality based on values and beliefs which could draw recruits into a social movement.

⁶²This in turn is a way of stirring up “movement participation by redefining activities, events, and biographies as requiring people to become involved in collective action” (Buechler, 2000:42).

became particularly evident. Although this method is time-consuming, it provides an approach that is compatible with framing analysis.

A first step taken toward frame analysis involved identifying who the movement is comprised of and who perceived adversaries are. To do this, one of König's (2009b) approaches was used, which involves looking for all occurrences of first and third party references in interview transcripts.⁶³ Entering this data into a matrix according to who was being referred to provided a solid basis for understanding who key movement members viewed as the collective *we* and who are viewed as *they*.

The organisation and categorisation of 'frameworked' data was used for the remaining tasks of identifying collective action and master frames that movement participants have constructed and drawn on. The visibility of these frames was evident throughout, but accentuated in particular when grievances were discussed, and when participants responded to questions about what first got them interested in GE. Once the key issues and concerns were identified, a synonym checker was used to generate pools of related or similar key words, which were then used to run through each interview transcript. This information was put into tables so that the different strands of argument that hinged around key concept ideas could be viewed together, thus providing collective action frames.⁶⁴

The underpinning master frames become clear as the collective action framing identification work is undertaken. Movement participants tended to refer to and draw on pre-existent ideas and positions readily during interviews, and such positions when looked at collectively in the framework indices, reveal master frames. It is through intense scrutiny of participant discourse that various master frames are identifiable.

This lack of an adequate systematisation of frames remains a problematic aspect of the framing approach. Even so, this approach highlights the significance of cultural constraints and so hopefully has "moved the field beyond the structural determinism of

⁶³The terms 'we', 'us' and 'our' were used to look for conceptualisations of who the movement is (the protagonists), while 'they' and 'them' were used to locate movement adversaries.

⁶⁴Using a content analysis and inputting data into matrices is not a recognised method for identifying frames. Given the lack – as earlier noted by König (2009a; 2009b) – of a measurement tool for identifying frames, I needed to come up with some method for this purpose. The familiarity with using matrices, gained through using social network analysis, is what influenced this particular approach.

resource mobilization and political opportunity models and away from the dubious psychology of rational choice approaches” (Benford, 1997:411). By using framing in conjunction with social network analysis – an approach that is clearly structural and susceptible itself to critique given this bias – this thesis has developed a method for researching the GE resistance movement of Aotearoa New Zealand that can circumvent some of the limitations of earlier approaches.

3.3 Conclusion

The background and context to both GE and GE resistance were outlined in Chapter One, and a conceptual apparatus for theorising GE resistance was detailed in Chapter Two. In this chapter, research participant recruitment, data and method details have been described, as have the methodological and analytical tools used in the research. Framing, a cultural approach to social movement investigation, and social network analysis, a structural approach, have been considered independently and an argument has been made for using these approaches side-by-side in an exploratory mode. This theoretical and methodological approach is applied in the following two chapters.

Chapter Four draws primarily on social network analysis to assist in the disentanglement of the GE resistance movement key players, both individual and group. Questions pertaining to how the movement is organised, what relationships exist, and how the movement has changed structurally over three movement stages are described and analysed. Chapter Five takes the information gained in chapter Four, and scrutinises it from a different perspective, using framing as a means to more comprehensively understand the relationships and organisational events. Also, collective and master frames are identified, adding cultural value to the structural data. Taken together, Chapters Four and Five have two objectives. They demonstrate the utility of using social network analysis and framing complementarily, both conceptually and methodologically. They also show how the GE resistance movement of Aotearoa New Zealand has engaged in politics making.

Chapter Four

A Networked Movement: Multiplicity is its Power

The Big Song Sheet

There's a range of players and a range of views and the multiplicity is its power: if you pile them all under one umbrella and everyone sings the same song, you're fucked. So you want a lot of people nearly contradicting each other, but fundamentally singing the same tune because the opposition can't handle that – they don't know how to combat [that]. And I think that there's a real strength in the diversity, certainly within the organic community, and the diversity of the GE community as well – the anti-GE lobby – that has such diverse viewpoints and ranges of skill base. And some people are just yelling out from their heart to well considered scientific delivery, and one is no more important than the other in the big song sheet (Dean).

Dean maintains that the multiplicity intrinsic to the GE resistance movement of Aotearoa New Zealand is powerful. This multiplicity is explored in this chapter by applying social network analysis, supported by qualitative information provided by key movement participants. The Aotearoa New Zealand GE resistance “big song sheet” has involved a “range of players”, which Dean views as a movement strength due to it being difficult for the opposition to know how to combat it. This multiplicity is further indicated by Dean referring to the organic community and anti-GE lobby as separate, yet at the same time referring to them both as communities who oppose GE. The structural multiplicity of this movement is something that these activists are aware of. They knowingly engage in this diverse organisational form with all the challenges it encompasses, and recognise as well the strengths that this brings. Questions explored in this chapter can be seen in light of the comments made by Dean. How is the GE resistance movement of Aotearoa New Zealand organised? What do the structural characteristics of resistance politics making look like?

This chapter opens with a static, snapshot investigation of the GE resistance movement. This snapshot explores the relationships between key players and their individual and group allies in order to understand the movement's organisational form. This formal analysis is then extended by looking at a periodisation of the movement. GE resistance has demonstrated considerable reflexivity through its positional

renegotiating, with significant shifts in structure as legislative proposals and changes related to GE technology have been made. Following this review of the movement staging, is an exploration of activists' tactical repertoires. Finally, the social network analysis findings are further elaborated by reference to key movement player dialogue.

In this chapter I argue that it is the networking structure of this movement that has been largely responsible for its durability and flexibility. It is these network features that have constituted movement strength. In order to produce these strengths, activists undertake political organisation in a distinctive way. Rather than unify the movement by developing a coherent and singular leadership, they build and sustain diverse relationships across a decentralised movement, marked by considerable internal complexity. In short, the activists do not lead an organisation, they drive a network. I begin with a consideration of the terminology used in naming the movement. As will be seen, the answers provided by movement actors highlight the diversity of opinion. There was no consensus about a movement name.

4.1 What's in a Name?

Having an agreed name for the movement as a whole, might be thought of as a minimal requirement. How could people work together for a common cause if the cause itself cannot be given a single, identifying title? Agreement about naming may characterise formal political organisation, but it does not characterise the GE resistance network. When asked, the activists most often indicated preferences rather than gave a single answer, and their preferences were significantly diverse. The names they gave were associated with their perception of the image of the movement, with their personal positioning as an activist, and with desired outcomes. None of these associations can be viewed in isolation, and the weight of each varied depending on who was doing the naming. All of these elements combined show that activists differentiate themselves from each other in ways that often seem contradictory. However, this differentiation nevertheless allowed them to work toward common ends of mobilisation and anticipated successful outcomes.

Research participants discussed their preferences and cited problems with two main aspects of movement naming: whether to use GE, GM or GMOs, and more profound concerns over using anti-GE, GE free or some other alternative. Initially I had used the

term anti-GE movement, given the dominance of this term in the media, which indicated that this was commonly used to describe the movement.⁶⁵ Anti-GE was however considered objectionable by some, while the preference for GE over GM or GMOs, was firm.

Jason discussed why the term more commonly used by activists to name what they oppose is GE, rather than either GM or GMO. He relayed how those involved in the initial campaigning used the term GMO, an acronym adopted by *Revolt Against Genetic Engineering* (RAGE) in the late 1990s, as encapsulated by the movement catchphrase “say no to GMO”.⁶⁶ Jason states that this phrase was used “because GMOs were what they were called in Europe at the time”, and activists here picked up on what was happening in the United Kingdom. As part of early campaigning, people were encouraged to call up companies and question them on their GE policies, and they found themselves getting engaged in debate about what GE or GMOs actually are: “and so they had to get into actual debate about [things like] what are the differences between traditional cross breeding and modification of those sorts, and modern techniques of GE?” (Jason). It was at this point, according to Jason, that a terminology shift was made from GM to GE. Yet Jason still uses the terms GE and GM interchangeably, noting though that there is a difference between traditional biotechnology and the more recent and specifically GE technology: “we’ve been modifying food for thousands of years, but [GE] is different, in a number of different criteria”.⁶⁷

Regarding ‘anti GE’ or ‘GE free’, like Lou, Shane preferred to use the former. He linked individual terminology preferences to the ideologies held by a given person, remarking that GE free is seen as positive and anti-GE as negative. Shane used the term anti-GE, “specifically to distinguish myself from those people who call it GE free”. Grant noted that the preference for GE free was mostly a matter of presentational style: “the GE free thing is more or less a sort of a marketing thing, because it sounds more positive than anti-GE”.

⁶⁵ ‘Anti-GE movement’ was used on the information sheets and confidentiality / consent agreements that were given to participants.

⁶⁶ RAGE later renamed itself *GE Free New Zealand (in food and environment)*.

⁶⁷ Refer to chapter one for more information about biotechnology and related terminology.

Others also noted that the label 'GE free' had more positive implications. Diane saw the phrase as being "less contentious", while at the same time not disqualifying all uses of GE:

we take the viewpoint [that] if everything's completely contained in the laboratory, used for ethical research [and] disposed of – which is our main concern – more efficiently and thoroughly [then that's fine]. We just don't want it introduced into the food chain basically.

Jason takes Diane's sentiment further, saying the term anti-GE is "completely misrepresentative of the majority of the public opinion":

I'm actually not anti-GE, I am anti the way it's being used and the basis in which it's being forced on people and [the] environment against the public will and without a reliability regime or good science to back it up (Jason).

Other positive connotations associated with using the term GE free were that it provides a link with a prior significant movement in Aotearoa New Zealand, the *nuclear free movement*:

The GE free movement was directly referencing the nuclear free movement; directly saying 'we're nuclear free, we can be GE free too'. And that was the vision aspect of it ... harking back to a historical social movement and an idea of New Zealand standing apart, taking its own direction and showing the world a bit of fight: 'do it our own way' kind of thing. I think that resonated with a lot of people (Gavin).

Nuclear free associated with GE free is aligned here with the representation of Aotearoa New Zealand as "standing apart" from other countries and showing "a bit of fight". Such comments are intended to invoke pride in being of this nation.

From a Māori perspective, the term *te raweke ira* was used: "Raweke means to tamper with or to change or to alter, and Ira means the life force: the life force that goes into things" (Amber). Jane provided a further variation with her preference for the term "GE Critical". Jane's rationale for this is quite in-depth, and provides an excellent indication of the kinds of considerations given when attaching a label to the movement:

I think the way that this technology has been framed and termed is part of defining where the debate goes and what the values attached to it are understood to be, and I see it on two levels. There's really how you feel

about the technology, and then there's the level at which a term frames you as an actor within a social or political debate. So I personally don't like the term anti-GE to describe my own position. I'd probably call it more GE critical, and it may sound a little bit non-committal, but having had experience of the debate so far I've found that anti-GE has been a term that has become synonymous with anti-science, luddite and so on, and it's part of that polarising effect which was made on a political landscape that is very much about grabbing the middle ground and about political management by big forces like government and so on. So I've found that GE critical is often a term that best describes the more nuanced views that people can have about the technology. It's not a one job lot.

Jane's reasoning is that terminology choice has to do with "how you feel about the technology, and ... the level at which the term defines you as an actor", and that these factors determine individuals' preferences in labelling the movement. A high level of intricacy is indicated here, succinctly highlighted by Jane when she states of the movement and accompanying debate that "it's not a one job lot".

In this thesis, determining a name for the movement for analytical purposes has necessarily involved considerations of what the participants themselves have said. GE (rather than GM or GMOs) was ultimately decided on as this provides a way to set the views of participants apart from those supporting the progression of the technology, including for example the Aotearoa New Zealand Government who tends to use either GM, GMOs or biotechnology as a blanket term.⁶⁸ Positioning the movement as anti-GE was abandoned given the strong-felt opposition to this term by most participants. The term GE free was also not used given the possibility of confusion with one specific movement organisation, GE Free NZ. Instead, the term GE resistance has been adopted, as resistance can encompass a range of positions yet has the commonality of being opposed to the object at hand, GE. As Hoy (2005:2) argues, the idea of resistance is linked with freedom: "the emancipatory resistance to domination". He notes that the term critical should precede resistance to make this particular interpretation more accurate. For the sake of brevity however, it is GE resistance that is used throughout this thesis.

⁶⁸ The use of the term 'genetic modification' in the Royal Commission of Inquiry is a prime example of terminology adopted by those supportive of GE technology, in this instance the Government.

Naming the movement has suggested that there are multiple ideals and visions at stake – the “not a one job lot” to which Jane referred. The self-positioning of activists with respect to their preferred terminology demonstrates considerable variations, for example, from those concerned with public appearances and media sound-bites, to those who have little concern for ‘impression management’ (Goffman, 1959). The existence of such variations in naming strategies tells us something important about the character of the movement as a whole. As I will argue in this chapter, working with differences that range from group affiliations to political activities is a defining organisational feature of GE resistance in Aotearoa New Zealand.

4.2 GE Resistance: a Movement Snapshot

Looking to how activists choose to describe the GE resistance movement indicated disparity and diversity. Social network analysis provides a useful tool for understanding how this disparity is mobilised such that multiplicity becomes power. Network analysis can be used to find various patterns and relationships, and to provide visual images of structures that hold together by coordinating differences.

Mario Diani (2002:173) has been at the fore of contemporary researchers utilising a social network approach, arguing that the network form is crucial to social movements – a “distinctive trait”. Analysing how networks form and metamorphose reveals many significant organisational features (Diani, 2002). As argued in Chapter Two, network analysis allows us to disentangle and make clear how it is that key movement actors are related to each other. Activists were involved in a variety of relationships with other individuals and groups who all associated themselves with a collective cause to resist (at minimum) the commercialisation of GE.

“The building and reproducing of *dense informal networks* between a multiplicity of actors” is an important characteristic of social movements (Diani & Bison, 2004:281; *emphasis added*). In social network analysis, density refers to a high proportion of possible relational ties being present (Wasserman & Faust, 1994). GE resistance involves dense relationships between both individual activists and a number of specific organisations. All of these relationships overlap in a multitude of ways. As Diani and Bison (2004:283) argue:

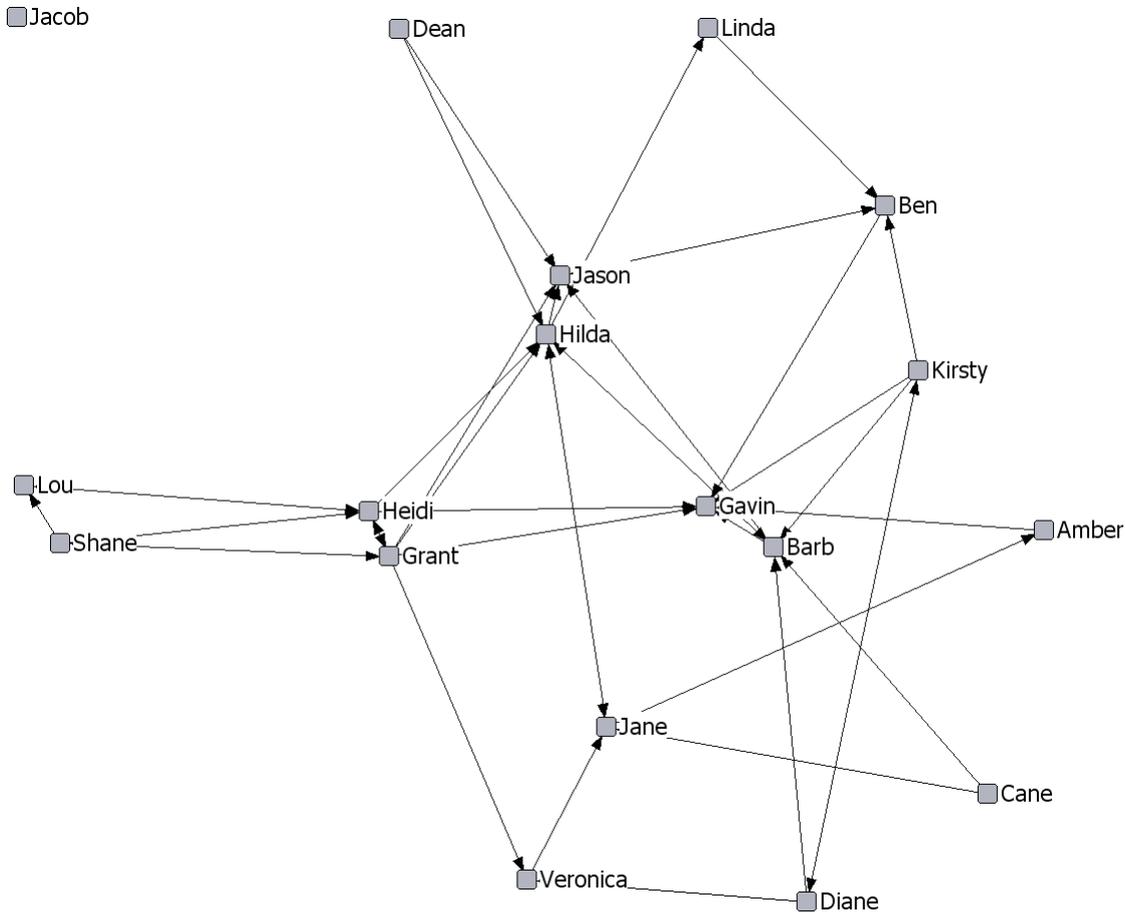
A social movement process is in place to the extent that both individual and organised actors, while keeping their autonomy and independence, engage in sustained exchanges of resources in pursuit of common goals. The coordination of specific initiatives, the regulation of individual actors' conduct, and the definition of strategies are all dependent on permanent negotiations between the individuals and the organisations involved in collective action. No single organised actor, no matter how powerful, can claim to represent a movement as a whole.

Diani and Bison emphasise the importance of strong networking ties formed by “permanent negotiations between the individuals and the organisations”. The centrality and endurance of such negotiations means that there can be no one particular social actor representing the movement as a whole. The GE resistance movement of Aotearoa New Zealand exhibits exactly this distributed form of network organisation.

In order to measure network density, this research follows Diani and Bison's (2004) work by asking respondents to select a maximum of five important allies or partners. Nomination of important alliances shows how this network of actors works together and demonstrates where the informal relationships between activists are strongest. Figure Two (following page) uses the multi-dimensional scaling (MDS) graph layout. The MDS layout organises nodes according to similarity based on the shortest paths – or closest possible relationship between actors. Visually it is therefore possible to quickly see the relationships between movement participants, including the dense concentration of nodes. Directionality is a further important factor in Figure Two. As these relationships are based on nomination, they are not necessarily mutual.

There are two components in Figure Two. Jacob as an isolate comprises one component, and every other node comprises the second component. Several pairings of actors are evident: Hilda and Jason, Gavin and Barb, Grant and Heidi and Lou and Shane, which shows where important affiliations exist. All other actors are more peripheral in this view, and are not situated closely to any particular other actor. A variety of relationships exist.

Figure 2. Directed nominations of most important movement alliances and relationships (MDS layout).



Running Freeman’s approach to degree centrality is useful at this point as it provides metrics on in-degree and out-degree. I am only interested here in in-degree however, as I want to gain an indication of whom the most important figures are overall in this network. This means focussing on nominations received rather than given. Freeman’s in-degree centrality shows that Gavin was the most important affiliation with 6 nominations (35.3%), Hilda and Jason received 5 nominations (29.4%), and Barb 4 (23.5%).⁶⁹ In other words, these four are the most important network affiliations to have.⁷⁰

⁶⁹ The mean in-degree was 13%, which means that Heidi, Jane and Ben also received more than average nominations as important movement affiliates.

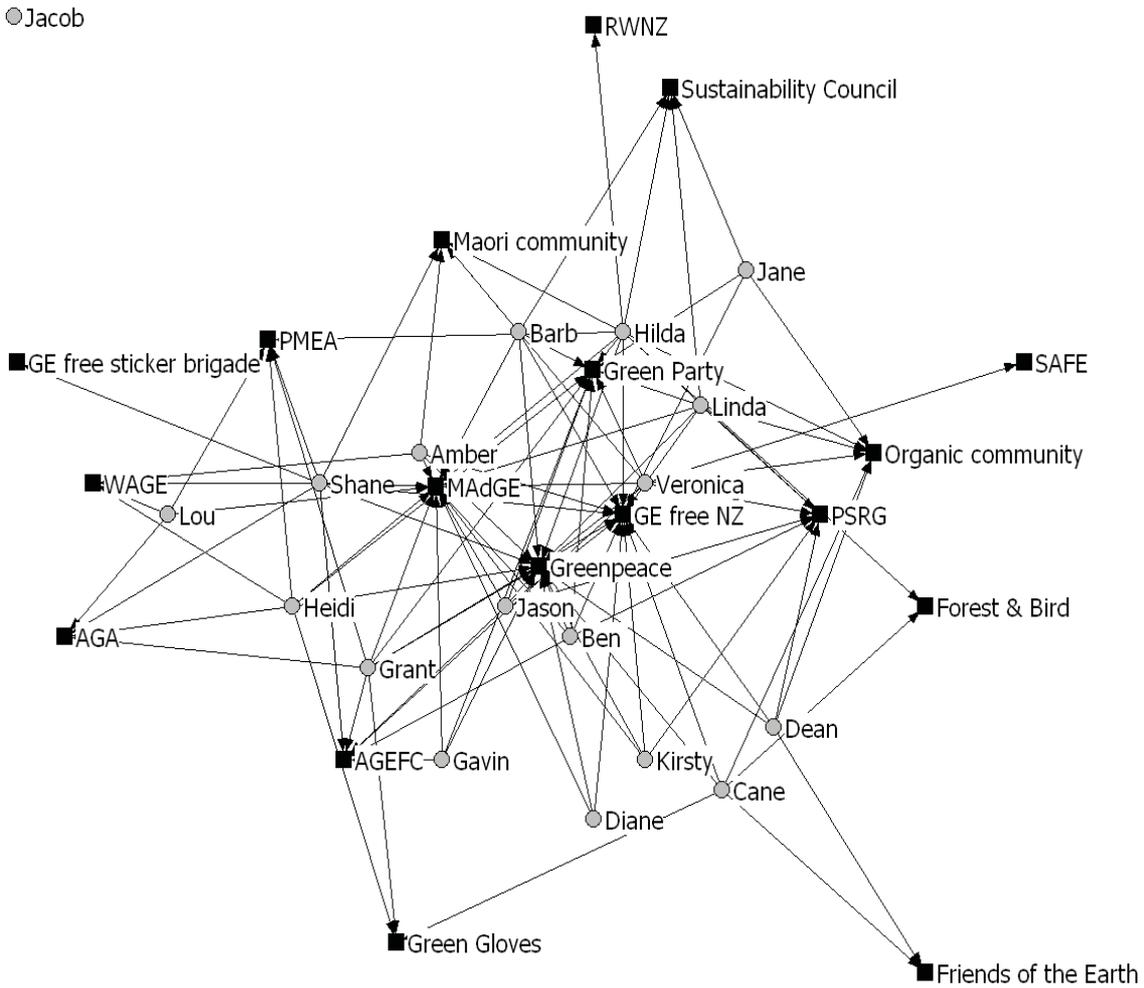
A point of interest here is that the activists, who were seen as important affiliations for participants, were not necessarily the same individual nominated as the most important for the movement in the sampling process. This suggests that when looking to form significant relationships, activists looked beyond their immediate associations, as the more vital connections were those that could be constructed beyond their usual communities of allies. This leaves the positioning of Jacob as an isolate in terms of close affiliations open to analysis – he was important enough for nomination – yet did not have close affiliation ties with other activists in this network. These findings imply that there is openness in terms of the actor affiliation structure of the network.

The overall network structure shows some organisational principles at work. We can see pairings of activists, an isolate, altogether encompassing a variety of affiliation ties. But what do they mean? Looking to individual actor affiliations with social movement organisations is a useful direction for analyses, as this can show whether group affiliations explain any of the patterning of these relationships between activists. Identifying and describing membership with movement organisations is a complicated matter. Individuals act at times individually, sometimes with friends, and other times through coalitional meetings. Identifying and mapping connections is an important social network analysis task given the range of ways that people act, the different ways that organisations function, combined with the multiple affiliations and memberships that people have.

In Figure Three (following page), I present an MDS graph of individuals' nominations of their group affiliations. There are as many organisations nominated by activists as there are activists. The terms of engagement for participant affiliations with these organisations also varied widely, from paying members of large, national bodies to direct activism involvement in small localised groups. In this 2-mode graph, the nomination of groups by activists is seen, with square nodes indicating organisations and circular nodes, the activists.

⁷⁰ There was variation in terms of who research participants nominated in sampling as key movement individuals

Figure 3. Individual affiliations with GE resistance organisations (2-mode, MDS layout).



The 2-mode network in Figure Three shows the significant multiplicity of movement participants' affiliations with organisations. Having multiple ties to multiple organisations is far more usual than not for these key activists. Only one individual – Jacob – has no group affiliations. If we exclude Jacob, then the average number of participant affiliations with organisations is six. Hilda (10 ties), Shane (9 ties), then Grant and Veronica (8 ties each) have the highest number of self-nominated affiliations with groups. With three ties, Diane registered the lowest number of organisational affiliations. Overall, activist organisational affiliations tend to be numerous, and range from no affiliations right through to ten. The relevance of this pattern will be explored further below.

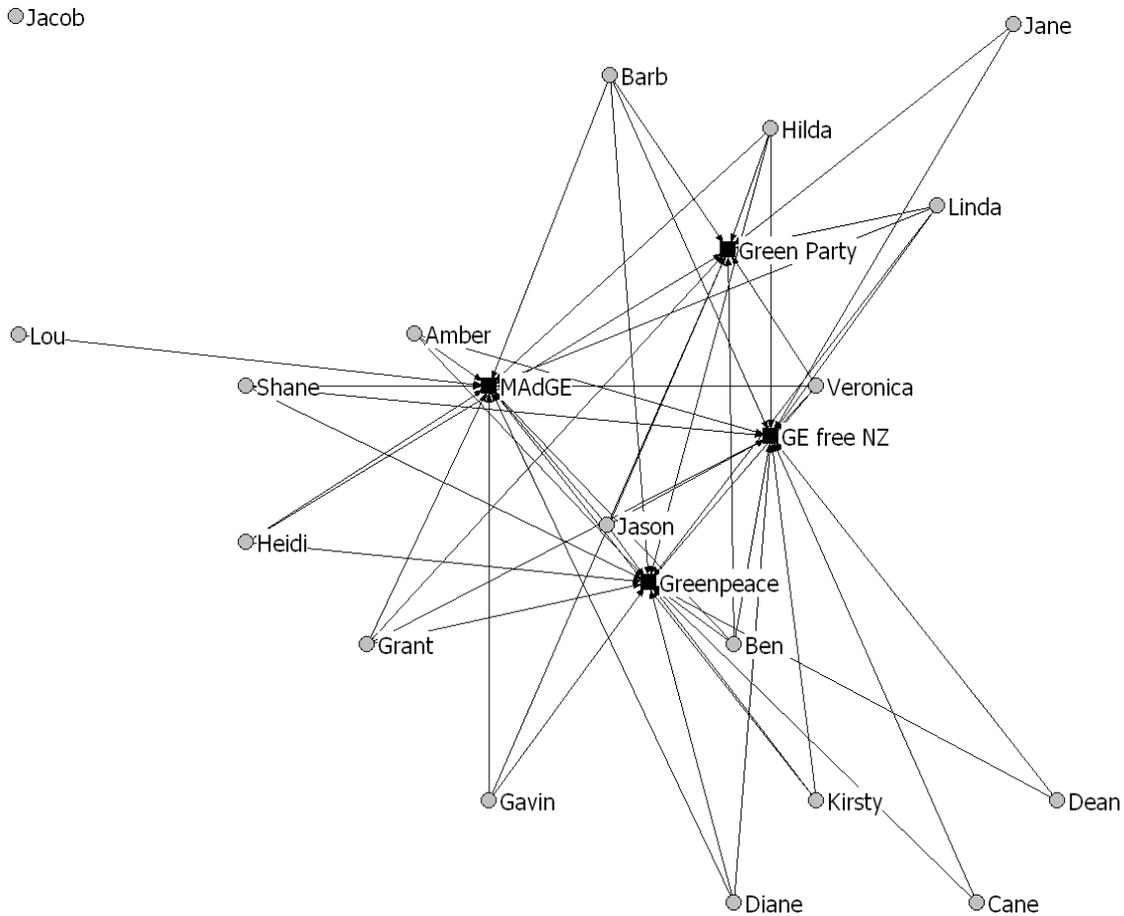
Located at the centre of Figure Two, and having the most degrees, are four groups: Greenpeace with 15 relational ties, GE Free New Zealand and Mothers Against Genetic Engineering (MAdGE) with 14, and the Green Party with 10. When considering these most central groups by degree, if only Greenpeace, GE Free NZ and MAdGE were left, the 17 group-related activists would remain networked. In fact, with just GE Free NZ and MAdGE they would remain networked. These groups are clearly important for component cohesion.

The periphery of Figure Three identifies a number of pendant groups that are tied into the network through just one relational tie with an actor: RWNZ (Royal Women New Zealand), SAFE (Save Animals From Exploitation) and the GE Free Sticker Brigade. We can see also that, aside from that central grouping mentioned above, there are small collectives of social actors who tend to sit near particular groupings of organisations. For example, Lou, Heidi, Shane and to a lesser extent Grant, are off to the side but in a cluster together among the groups PMEA (Peoples' Moratorium Enforcement Agency), WAGE (Wellington Anti-GE), AGA (Anti-Genetix Action) and the AGEFC (the Auckland GE Free Coalition).⁷¹ While the actor-group network as a whole comprises a dense network that can be maintained with ties to just two organisations (GE Free NZ and MAdGE), there is also a clear relationship between a certain peripheral group of actors and organisations.

In order to clarify the kinds of relationships between individuals and groups, we can extract a sub-graph from Figure Three that shows the networks of the four most centrally positioned and most densely tied in groups: Greenpeace, GE Free NZ, the Green Party and MAdGE, and the actors affiliated with them. Figure Four (following page) shows which actors are affiliated with this central sub-grouping, using the MDS layout.

⁷¹ The AGEFC was a coalitional group with representation from a range of organisations.

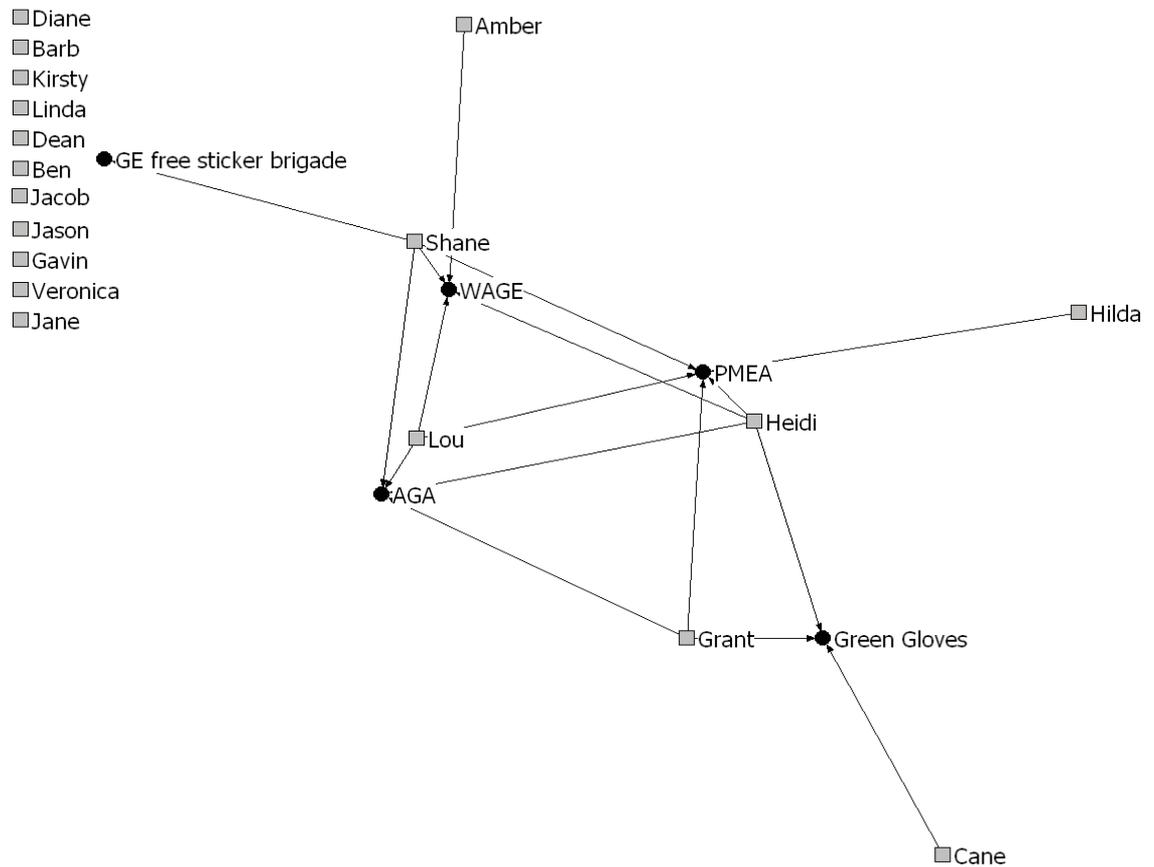
Figure 4. Four central movement group's networks (2-mode, MDS layout).



All movement actors apart from Jacob nominated an affiliation with at least one of these four most central groups. In fact, Lou is the only pendant here. Seven actors are tied into all four groups: Veronica, Linda, Ben, Grant, Jason, Barb and Hilda. The average number of ties between individuals and groups is 2.8, and 13 of the 18 individuals have an above average number (three or four) of ties with these organisations. This shows that most actors will come together through their group affiliations, with the overlapping of group memberships showing movement cohesion. Thus, this central movement network is formed by multiple, dense ties between individuals and these four groups.

If most activists are associated with a shared movement core, is there then a particular set of activists associated with a more peripheral subgroup? Figure Three indicated that this was the case with positioning the PMEAs, GE Free Sticker Brigade, WAGE, AGA and Green Gloves, along with the individuals Lou, Shane, Heidi and Grant toward the left of the graph. In the Figure Five sub-graph (below), this clustering of groups and their relational ties with actors is presented to view more clearly what is going on in terms of activist to group affiliations, in this more peripheral area of the Figure Three network. The MDS layout is used once again here in Figure Five.

Figure 5. Four peripheral movement group's networks (2-mode, MDS layout).



Over half of the actors in the GE resistance network become isolates in Figure Five. With the three pendant individuals removed (Amber, Hilda and Cane), only Grant, Shane, Heidi and Lou remain. The network associated with these peripheral groups is

far smaller than that associated with the four most densely connected network groups (MAdGE, GE Free NZ, Greenpeace and GE Free NZ). A peripheral sub-grouping of actors and groups is apparent.

When comparing the two network subgroups, Figures Four and Five, we can see that all individuals in Figure Five are in Figure Four, and that some in Figure Four are in Figure Five. There is therefore a clear differentiation by group, but this does not translate into two mutually exclusive affiliations by individuals. The groups are distinct, but are networked through individuals. This shows that there is at once segmentation as well as coordination through group affiliations.

This organisation of individuals and groups could be due to several reasons. Firstly, it could be to do with group endurance, that is, when the group emerged and how long it has been around. Groups with the larger number of affiliations may have been around much longer than those with fewer affiliations. Secondly, maybe the reason for individuals associating with certain organisations rather than others is to do with what the vision or ideology of that group is, and the activities that it engages in. There must be certain reasons why some groups appeal more than others. Both these possibilities are considered in turn below.

4.3 Movement Structural Dynamics

The above analysis provides no more than a static view of the movement. This means that certain structural details may have been obscured, in particular those to do with transformation through time. A series of graphs that replicate movement relationships and organisation at different stages tells a story about the shifting structure of this network. This analysis can also provide some answers as to why certain individuals have been involved with particular organisations.⁷²

Some of the individuals involved in GE resistance came and went as perceived antagonisms shifted. This transitioning of activists has implications for movement

⁷² The data used in these graphs is based on the individual nomination of the key group affiliations and relationships data, with only those individuals and those groups who were active during the given period indicated being presented. For example, Veronica ceased her involvement in the movement during the middle of the peak movement stage (2002), and so is not present in the post-moratorium stage. The group PMEA on the other hand did not form until the cusp of the moratorium lifting, and so does not appear in graphs until the post-moratorium stage.

groups and tactics. This section looks at a periodisation of the movement through three particular stages. As outlined in Chapter One, these stages coincide with legislative activities, which the movement both instrumentally shaped and by which it was in turn shaped. The first stage began in 1996, around the time of the introduction and passing of the Hazardous Substances and New Organisms (HSNO) Act, and lasted through to December 1999, a benchmark moment when the RCGM was announced. This first momentum-gathering and awareness-raising stage changed into the peak activity stage from December 1999, and lasted through until the moratorium on commercial GE ended in October 2003. The transition to the final stage was marked by the lifting of this moratorium and runs through to 2005, by which time movement activity had quietened down markedly.

Three figures follow. Each represents a progressive stage in the movement periodisation outlined above. The sequencing of this analysis shows how the movement structure changed through the decade beginning 1996. Each of the following three graphs is 2-mode, showing individuals along with their affiliated organisations. The MDS graph layout is used.

Figure 6. Movement individuals and groups 1996 to December 1999 (2-mode, MDS layout).

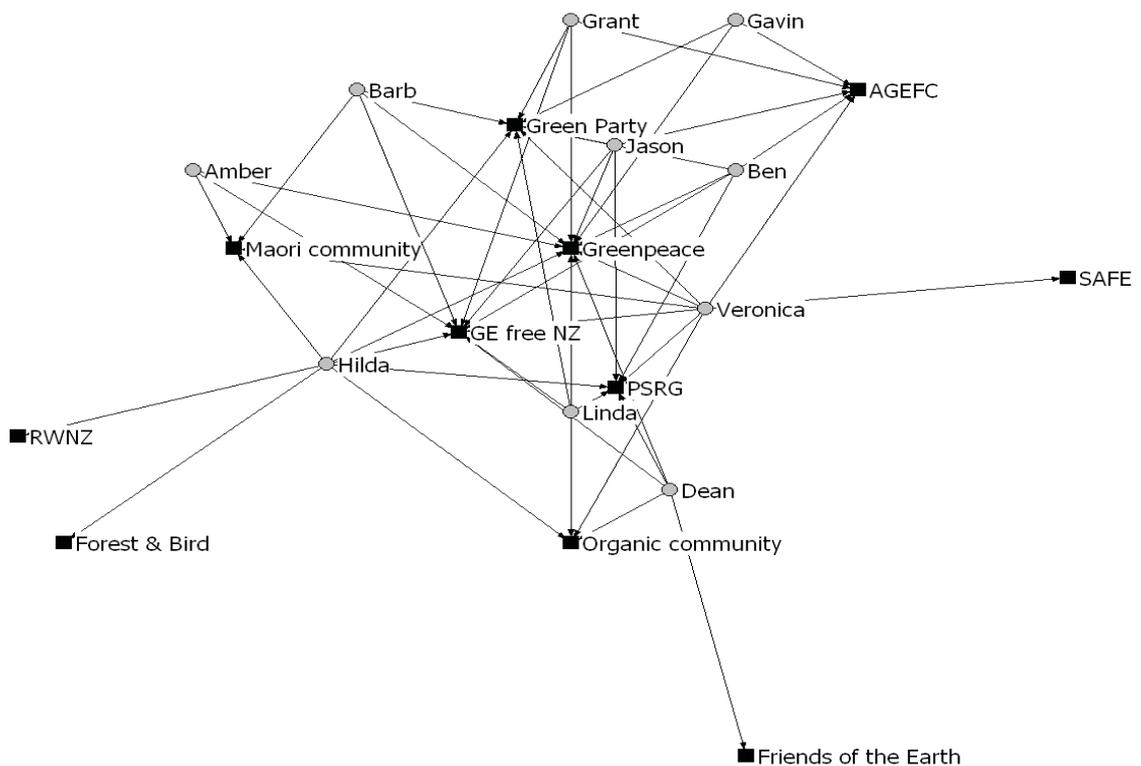


Figure 7. Movement individuals and groups December 1999 to October 2003 (2-mode, MDS layout).

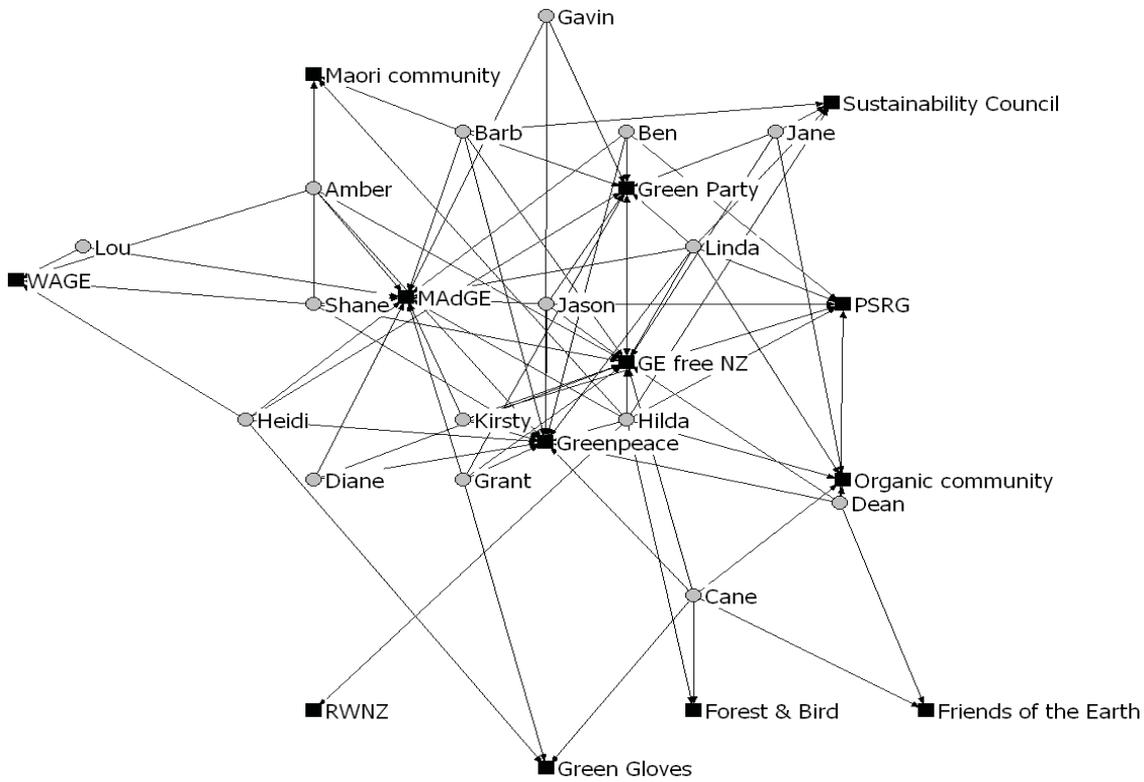
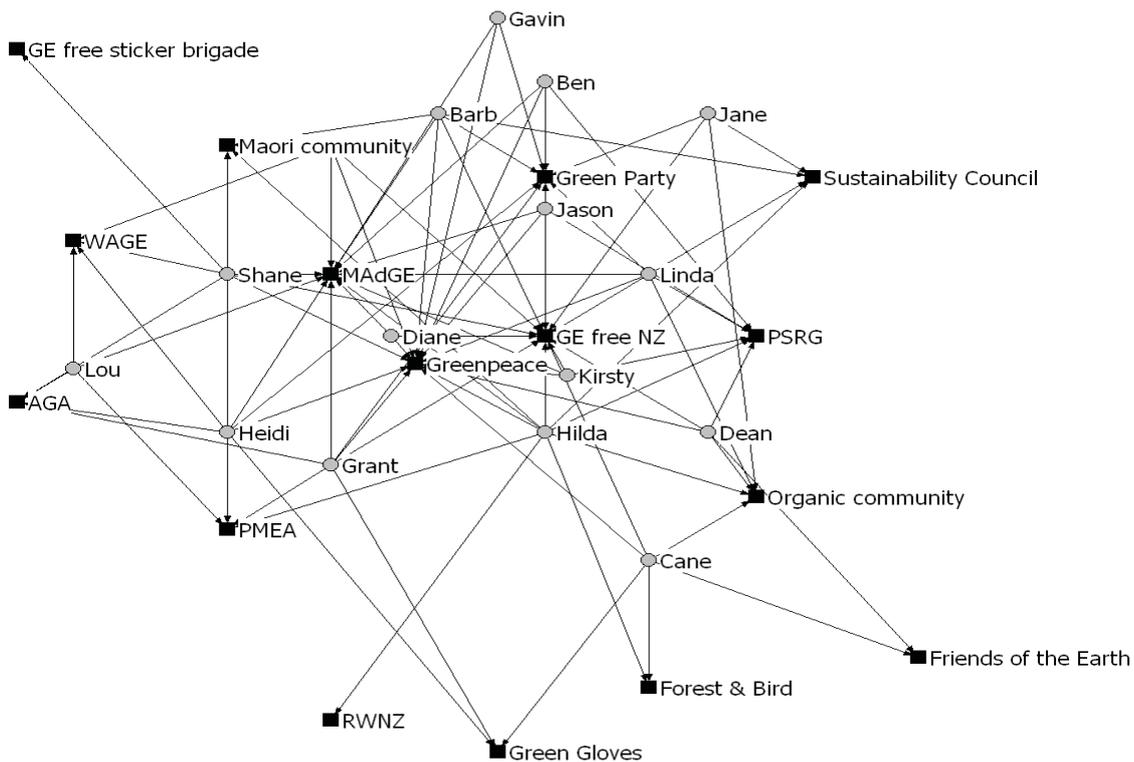


Figure 8. Movement individuals and groups October 2003 to 2005 (2-mode, MDS layout).



The above sequence of network maps reveals significant shifts in organisational structure over time. Figure Six, representing activist and group involvement from 1996 to December 1999, has fewer nodes than the subsequent graphs. Ten of the 18 activists involved in this research are present, but fewer groups are present in this early stage. Of the groups present, all but three pre-existed the movement. GE Free NZ (which at this stage was still known as RAGE), was established in July 1998 (Southward & Howard-Clarke, 2000). The PSRG (Physicians and Scientists for Responsible Genetics) was established in 1999, and the AGEFC in 1998.⁷³ These three new groups are also the only ones that developed specifically from concern about GE.

Figure Six individuals were instrumental in building the movement – they were around in the early days. Given that many of the early groups were in existence before the movement emerged, it is likely that the individuals affiliated with these organisations were key drivers in getting the movement started. These early instigators came from networks that were in place already – such as those associated with the Green Party, Greenpeace, along with the Māori and organic communities.⁷⁴

The lambda set metric is useful at this point to identify which actors provide the most connectivity for the network as a whole. Moreover, the lambda set metric shows where the most disruption would be caused to the network, should certain nodes be removed. Running the metric with Figure Six data shows that Hilda and Jason were the most significant activists for movement connectedness during the movement's formation. The network would theoretically be most vulnerable if these two social actors were removed. This positions Hilda and Jason as having played prominent roles in the movement's emergence.

⁷³ The PSRG changed its name - but not its objectives - in June 2008 to Physicians and Scientists for Global Responsibility (PSGR) (Physicians and Scientists for Global Responsibility, 2010). The PSRG is internationally affiliated with the organisation PSRAST: Physicians and Scientists for the Responsible Application of Science and Technology.

⁷⁴ The organic community promoted a pro-organic future vision for Aotearoa New Zealand that was welcomed and supported by the rest of the movement. In terms of the Māori community, Nga Wahine Tiaki o Te Ao is a significant collective of Māori women who have been involved in a variety of GE resistance related activities. Amber explained the position of the Māori community in relation to GE resistance: “always our perspective is culturally located, and when you talk about it cross-culturally it gets deconstructed and decontextualised so it's misunderstood by people who weren't sympathetic to it in the first place ... outside of the Māori cultural paradigm”.

What happens next demonstrates structural change in the movement network. Figure Seven depicts the movement in its peak activity period, during which time awareness of the GE issue was widespread in Aotearoa New Zealand, and numerous activities and campaigns were taking place. Many new groups emerged (of these, MAdGE and the Sustainability Council made the biggest impact), and many new people became involved in campaigning.⁷⁵ During this stage, all of those interviewed for this research were involved in GE resistance in some way, and all but three of the groups that they were associated with were operating. All actors involved in the momentum-building stage continued to be involved, and the most densely tied in figures continued to be densely connected. Lambda set metrics show that there are four individuals critically placed in terms of movement cohesion: Hilda, Barb, Gavin and Grant.

During the post-moratorium stage, from October 2003 to 2005, a drop-off in participant involvement occurred (see Figure Eight). Some groups had disappeared by the time this period commenced. In fact, during this post-moratorium stage there was a marked decrease in individual involvement and the disestablishment of a number of groups. This is where a peripheral sub-grouping becomes apparent, with the groups PMEA, the GE Free Sticker Brigade and AGA emerging. On the other hand, many individuals who had been hinging their hopes on the Government changing its mind and deciding to extend the moratorium, felt somewhat defeated when the moratorium was lifted and so took a backseat in movement activities.

Remaining the most central figures in the post-moratorium stage were Hilda, Jason, and Gavin (based on in-degree), and using the Lambda set metric, it is Barb, Gavin and Hilda who are most significant at this stage for movement connectedness. Hilda has shown through the lambda set metric to be critical at each stage of the movement. Freeman's in-degree centrality places Gavin, then Hilda and Jason as the most central

⁷⁵ The Sustainability Council was launched on July 3rd, 2002. Their high-profile board at the time of speaking to participants (2005) was made up of Professor Garth Cooper (biomedical scientist and entrepreneur), Dame Susan Devoy (high profile sportswoman), Annabel Langbein (high profile culinary figure), Sam Neill (actor), Professor David Williams (involved in pharmacology and neuroscience) and Simon Terry (founder and executive director of the Sustainability Council of New Zealand. See www.sustainabilitynz.org/council.asp for more information on the Board (Sustainability Council, 2002).

actors.⁷⁶ Each of these actors has been present through the movement duration. The centrally placed groups – the Green Party, GE Free NZ, and Greenpeace – have also been present from the movement outset, with MAdGE coming in and creating quite an impact in the peak movement period before disestablishing in January 2004, not far into the post-moratorium phase.⁷⁷

A relationship is evident between individuals and group affiliations, and endurance. Individuals that have more ties to different groups tend to endure longer, and if these groups include Greenpeace, the Green Party or GE Free NZ, this increases the chances of their involvement lasting. Conversely, individuals that were involved more fleetingly tended to be associated with groups that were more short-lived (for example, AGA, WAGE, GE Free Sticker Brigade and Green Gloves).⁷⁸ This is explained in large part by these groups being smaller and localised – the individuals involved *were* the group in four instances.

The movement itself has altered structurally during the 1996 to 2005 period. This was seen with changes occurring at pivotal political-legislative moments, in particular in December 1999 and October 2003. This demonstrates the capacity of this network to be self-reflexive, as well as adaptable to external opportunities and constraints.

The underpinning theme of movement diversity has continued to be evident when looking at movement structural shifts. Activists and their affiliated organisations have come and gone during important events, which have in turn influenced movement shape. Have these structural shifts corresponded with changes in how the movement operates as well? Moreover, are tactical repertoires a part of this equation?

⁷⁶ During the post-moratorium stage, Gavin had 6 relational (in-degree) ties or 40% of possible ties, Hilda and Jason had 5 (33.3% of possible ties), Barb had 4 (26.6%), and Heidi and Ben had 3 (20%). The average number of in-degree ties during this stage was 15.4%.

⁷⁷ MAdGE disestablished when its founder left the country and the group was left owing \$24,000 in court fines following their unsuccessful trial against AgResearch (Carter, 2004; Collins, 2004).

⁷⁸ AGA and the GE Free Sticker Brigade appeared shortly following the lifting of the moratorium and lasted less than a year. WAGE – Wellington Anti-GE emerged c2000 and morphed into the PMEA in October 2003. Green Gloves emerged on the 31st of July 2000, making headlines 12 weeks after their launch due to their having collected the names of 3,000 people willing to take direct action on GE crops (Petley & Wheeler, 2001).

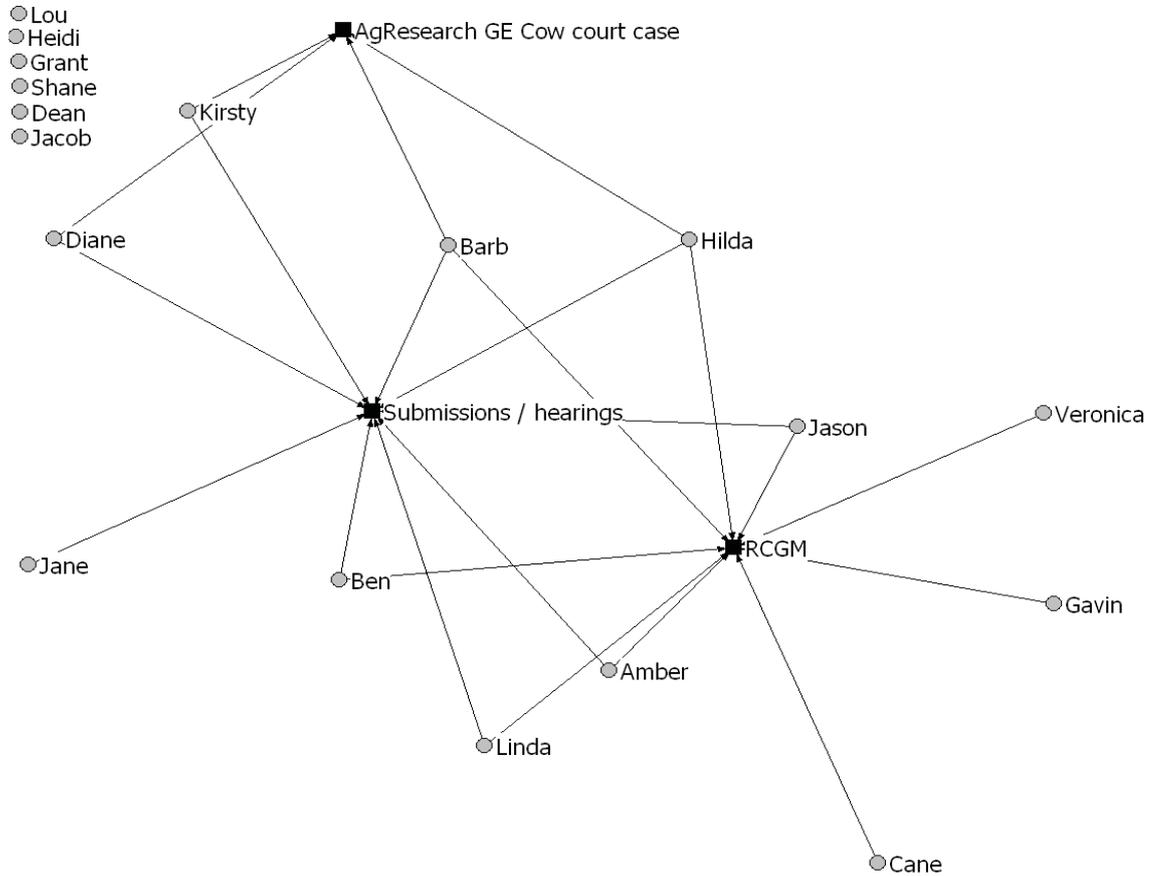
4.4 Tactical Repertoires

Looking to tactical repertoires of activity drawn on by activists can help address the question of why individuals might be aligned with particular groups. The preceding showed how the movement is structurally dynamic, having a fluid pattern of individual and group engagement. In the following I look to the strategic devices used by activists to assess whether the tactical repertoires employed were, like the movement, dynamic and fluid.

Actors each described their involvement in various activities and the kinds of activity they engaged in varied widely. These can be viewed as existing along a continuum from the more legally and democratically benign to the more radical and confrontational. The former I will refer to as 'lawful process' repertoires, and the latter as 'direct-radical' repertoires. Lawful process activities or tactics are those that are not disruptive, follow due political and judicial process and hence are legal, and do not endanger those involved. The direct-radical tactics are those that can be disruptive and antagonistic, can border on or be unlawful (such as crop sabotage), and can include possible danger such as bodily harm to those involved. Both have an objective of challenging the State and other antagonist bodies.

Two network graphs are provided to show individual participation in certain activities. Figure Nine (following page) depicts three activities that most closely match the lawful process activities described above, while Figure Ten (to follow) depicts three activities that most closely match the direct-radical activities. Both figures are 2-mode, use the MDS layout, and indicate network isolates to show which actors are more inclined toward which activities. This reveals whether there is a sub-grouping of actors that corresponds with this partitioning of activities.

Figure 9. Networks of three 'lawful process' movement activities (2-mode, MDS layout).



In Figure Nine, the networks of the three activities most closely fitting the lawful process description are reproduced: the AgResearch GE Cow Court Case (which MAdGE initiated), submissions / hearings (for various legislative proposals) and involvement in the RCGM (which largely involved writing submissions and attending hearings). A number of actors are isolates: Dean, Shane, Heidi, Lou, Grant and Jacob. Not all those involved in the movement network engaged in these particular lawful process activities. What is even more interesting however, is what happens when Figure Nine is compared with Figure Ten (following page).

Figure 10. Networks of three 'direct-radical' movement activities (2-mode, MDS layout).

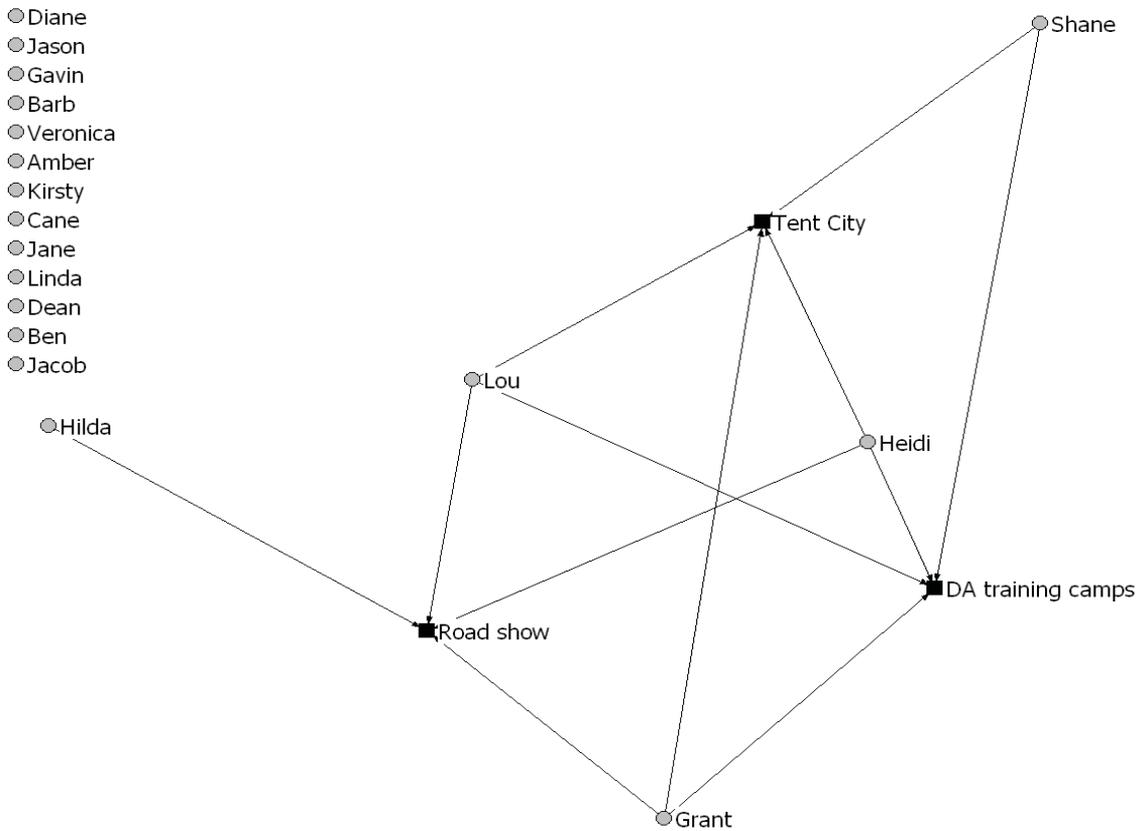


Figure Ten shows the networks of three of the most direct-radical activities. First, tent city, a protest whereby individuals camped illegally on Parliament grounds to demonstrate against the lifting of the moratorium, and which resulted in arrests. Second are the direct action training camps, whereby individuals were taught how to participate in direct activism among myriad other things (arrests were made at one of these camps). Third is the road show, a PMEA initiative which saw a group of individuals travel the length of the country, holding meetings and promoting a direct activism approach.

Those who engaged in direct action tend in the main to be those who did not engage in lawful process activities. Moreover, many more activists were involved in the latter than the former. This analysis thus shows that there are at least two different groupings when it comes to tactical repertoires. First there are the individuals associated with the direct-radical activities, who do not associate with the lawful process activities: Heidi, Lou, Grant and Shane. Secondly, there are those associated with the lawful process activities and not the direct-radical ones: Diane, Jason, Gavin, Barb, Veronica, Amber,

Kirsty, Cane, Jane, Linda and Ben (11 out of 18 actors). However, there are those that do not fit with either grouping: Hilda – who is present in both lawful process and direct-radical activity networks, and Dean and Jacob who are not present in either.

This bifurcation of tactics suggests that different people do different things. However, Hilda is associated with both grouping of tactics, while Dean and Jacob are not present in either. This suggests that a simple polarisation of legal process and direct action is not a complete way to look at tactical repertoires. To find out more, Figure Eleven introduces a wider scope of activities that includes a ‘mass mobilisation’ field of tactics, which brings in a range of activities that are designed to win support for the movement, rather than being more specifically about targeting adversaries. Figure Eleven activities have been manually positioned to reflect the tactical repertoire continuum, with lawful process activities toward the left, moving through to direct radical on the right. Nodes representing actors have been manually positioned also, to reflect the participation in activities across the continuum.

Figure 11. Tactical Repertoire Continuum (2-mode).

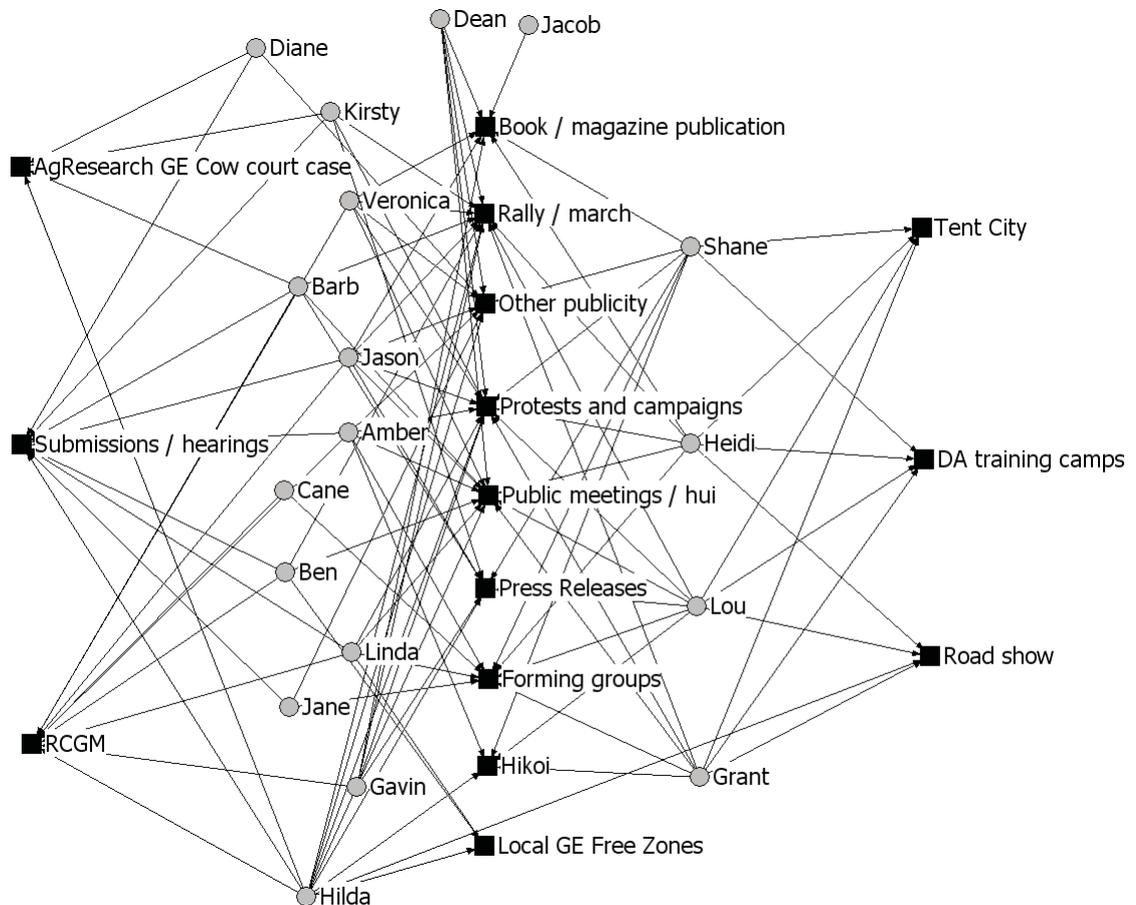


Figure Ten shows that there are more activities that fall into the mass mobilisation field toward the centre, than there are toward the left and right edges of the graph, in particular the right hand side where the three most direct-radical activities are depicted. It is also apparent that activities toward the left and centre of the network are the most popular in terms of the degree of relational ties associated with them. Dean and Jacob, who did not appear in Figures Nine or Ten, are both present here. Dean appears in association with four mass mobilisation activities, while Jacob appears in relation to one.

The association of Jacob with one particular activity creates a link that was not apparent earlier when the reason for his inclusion in this core movement network was raised. Here it is evident that his importance is related to this activity that he was involved in, which is indicated in Figure Eleven. The fact that he was neither nominated nor did he nominate anyone else as close affiliations, further points to this activity as one undertaken independently, within the wider context of the GE resistance movement.

What appeared as a rather bifurcated field in Figures Nine and Ten is not quite so clearly defined when looking at the overall network. Figure Eleven showed a much more densely connected field of relationships. The mass mobilisation activities toward the centre of the graph show that social actors have multiple connections that run between and as such network the more lawful process and direct-radical actions. The network does not fall apart because the membership tactics densely overlap. The construction of distinction and overlap allows the activists to both do different things and to do them together within a cohesive movement.

4.5 Unity and Diversity

Network analysis has revealed a number of important characteristics of the organisational structure of GE resistance in Aotearoa New Zealand. The opening snapshot view of the movement considered research participant affiliations with others in the key player network. This view indicated the presence of informal organisational structures. In particular, it signalled to existence groupings among the most densely tied in actors, and among the least. Freeman's degree centrality measure showed that Hilda,

Gavin and Barb were viewed important affiliations, with Hilda maintaining a critical role throughout as demonstrated by the lambda set metric.

The analysis of individual affiliations with specific movement organisations revealed considerable network complexity⁷⁹. The organisations resisting GE were numerous and diverse, with individuals having multiple group affiliations being the norm. Comparing the four most central groups with the peripheral cluster of groups showed that there were strong relational ties between certain actors and groups. In particular, Shane, Heidi, Grant and Lou were associated with the peripheral faction and the central figures – Hilda, Gavin and Barb – were strongly associated with the central groups.

The analysis of the movement periodisation demonstrates the movement's flexibility and reflexivity as it adapted and changed in line with its external environment. When opportunities became available they were embraced, and when the movement was constrained new approaches were taken. While the movement demonstrated flexibility through this periodisation, it also showed that individual stamina throughout was correlated with group endurance.

The diversity and flexibility of GE resistance was also evident in the analysis of the movement's political tactics. The tactical repertoires used by individual activists varied widely, with most preferring to work within or alongside legally approved (or allowed) activities. Notably, individuals were shown to associate with particular groups given their tactical preferences, and it is these tactical preferences that explain network sub-grouping. Yet while there was tactical diversity, there was also a lot of overlap in activity choices, largely through the activities located in the mass mobilisation field. Just as in group membership, the analysis of tactics reveals both differentiation and coordination.

At the outset of this chapter I described how certain individuals preferred certain terminology for describing collective GE resistance. Those preferring the label 'anti-GE' (Lou, Shane, Heidi and Grant) were those who also preferred associations with groups that used the more direct-radical tactical repertoires, while each of the central

⁷⁹ See appendix B for a brief description of the diverse array of social movement groups nominated by research participants.

figures (Hilda, Gavin and Barb) preferred ‘GE Free’.⁸⁰ The naming of the movement is thus one part of wider strategic preferences, and reflects the multiplicity of activist positioning.

Social network analysis has provided information and answers regarding the structural organisation of relational ties in the GE resistance movement. This analysis has also raised many questions that using this method of inquiry alone cannot answer, such as why did certain individuals prefer certain tactical repertoires? And why was Hilda such an important figure? I turn now to the research participants themselves to more fully understand the relational findings derived from social network analysis.

4.6 Actors Speak on Organisation and Relationships

The movement’s network structure encompasses a diverse group of activists. Certain individuals fall much more toward the network centre and others toward the periphery, with this positioning in large part a function of their tactical repertoire preferences. While diversity is a key characteristic, so too is reflexivity and flexibility, as is evident in individuals’ multiple group affiliations and tactical overlaps, and in the way the movement structure has altered at pivotal moments with the transitioning into different stages. These findings are considered in this section by referring to what key movement participants said about the organisational politics of this movement. Bringing in social actor voices enhances the understanding gained through social network analysis.

Activists discussed who comprises the movement and the size of the movement. The range of individuals involved, their relationships with others, their group affiliations, and their tactical and strategic preferences all convey network multiplicity. Even when participants spoke about their relationships and activities during conversation they would often shift positions from speaking about their individual point of view, to speaking about their affiliated group(s) point of view, to the view of the movement as a whole.

⁸⁰ Dean and Jacob – who did not appear as affiliated with the three most direct-radical or three most lawful process activities – did not prefer anti-GE or GE free. Jacob did not name a preference, while Dean associated himself with an organic vision rather than one that named ‘GE’.

Adding to movement sophistication is the fact that groups varied significantly in terms of how they were constituted: an individual or a couple of individuals is the group in some instances. At other times, groups had memberships numbering in the thousands. Individual affiliations with groups were fluid and often multiple affiliations existed, with quite different group types in some instances. This often meant a blurring of the line between individual and group:

It's hard for me to distinguish what I personally was involved with and what the organisation was involved with, as they're so linked. I determined the involvement personally, and much of the work to do with [a particular group] was out of work time technically, and I would have done it anyway – regardless of any direction from [another group she was involved with] as I believed the work needed to be done and many of the people I was working with were personal friends (Veronica).

Veronica's sentiment that it is difficult for her to distinguish personal from organisational involvement is one shared by many. This is an important structural element in the way the movement is networked and demonstrates the complicated nature of relationships. It is the informality of relationships that sustains the kind of complexity described by Veronica.

What about the size of the movement? Looking at the nominations that research participants made of key individuals gives the impression that those at the movement hub comprise a relatively small group. But how do those comprising this core grouping see the movement in general? In keeping with what was found through social network analysis, Lou states that the key players comprise a small group relative to the mass mobilisations that on a few pivotal occasions reached tens of thousands.⁸¹ She said that many of the core activists knew each other personally: "everybody knows everybody".

We all have lunch, and it's so inbred, like it's tiny ... I'd say less than 200 people, and that wouldn't just be the key people, that would be the key people and anyone who's really ever been involved in any way more than just turning up and going on a march (Lou).

Lou describes the core of the movement organisation as comprising less than 200 people with the group of key or central activists being even smaller. Diane and Shane

⁸¹ The Auckland 2001 and 2003 rallies were two of the largest ever seen in this country (estimated numbers vary widely, from 10,000 to 30,000).

also made specific reference to the small number of central figures. Diane commented on how although MAdGE has a large membership on paper, the numbers of members actively involved was relatively small. Shane and Lou both talked about how the activities of one particular group were organised in such a way to give the impression of being much bigger than it actually was:

I remember there was a day of action against Inghams chicken and [someone] went and stickered in Auckland and sent out a press release, and then drove up to somewhere in the Far North and stickered there and sent out a press release, and that's the reality of the movement (Lou).

Shane commented that the strategy described by Lou worked because it gave the impression that more people were involved than was actually the case. This in turn inspired people to go out and do the same thing, so more people did end up getting involved in this activity.

The overall movement could at times expand to thousands, described by Hilda as a “formidable force of farmers, primary producers, environmentalists and indigenous peoples working together”. However, the inner core was, according to the above accounts, quite small. The central figures involved in this research possess histories of activism experience and other skills that have contributed to this movement's journey and outcomes. Moreover, they are positioned at a critical juncture in terms of the network structure: they occupy a space where much overlap occurs with individual and group affiliations and activities. These findings suggest that only a small group of people with determination, passion and a particular set of skills are needed to activate a mass mobilisation of people.

Such a movement structure suggests the elite theory model of a small minority group who lead and rule the masses, a perspective apparent in resource mobilisation theory. Elites can be defined as “persons who, by virtue of their strategic locations in large or otherwise pivotal organisations and movements, are able to affect political outcomes regularly and substantially”, having the ability to “make real political trouble without being promptly repressed” (Higley, 2008:3). The originators of elite theory, which directly challenges classical Marxist theory, were Gaetano Mosca, Vilfredo

Pareto, and Robert Michels (Goertzel, 1976).⁸² These theorists all similarly see elites (or oligarchies to borrow Michels term) as inevitable and necessary whenever there is a large collection of people, as they need to be organised and lead the masses.

Social movement researchers have taken a strong interest in leaders – elites – in particular resource mobilisation and political opportunity structure theorists (see for example McCarthy & Zald, 1977; McAdam, 1982).⁸³ Early resource mobilisation theorists Turner and Killian (1972) saw an elite group as necessary for a movement to obtain and effectively manage power and resources. This strong 1970s emphasis on elites took a turn in the mid-1990s, when a more synthetic approach to looking at movement emergence and mobilisation was taken. Here the role of elites was considered as one of a number of important factors (see for example the work of Goodwin & Jasper, 2004; McAdam, 1996; and Polletta & Jasper, 2001). Although somewhat diminished in stature, elite leadership remains an important factor in such analyses.

A more recent account of elite characteristics is provided by Maiese (2003), who argues that elites are highly visible, in particular receiving a lot of media attention, which in turn can mean that they achieve a kind of celebrity status that legitimises their standing but also puts their position under much scrutiny. As Irons (2009:463) points out, these leaders are “power-holders who establish dominant political discourse”. Thus the role of elites has extended beyond the practical and organisational (which was emphasised by resource mobilisation and political process theorists) to incorporate culture-making as well. With elites being elevated to such a significant position in the public eye, Maiese (2003) argues that this can create a false impression of movement hierarchy. But is there a hierarchy within the network of key movement activists considered in this research? And are the social actors – like Hilda – really the movement’s elites?

⁸² These three theorists were writing in the late 1800s to early 1900s.

⁸³ As described in Chapter Two, resource mobilisation theory has both a political and entrepreneurial version, the latter of which emphasises movement organisational factors including leaders – or entrepreneurs.

For elite theory to make sense of GE resistance, the movement would need to be hierarchical. There would need to be a leading, powerful minority, and a mass following. There were organisations that had a loose hierarchical organisational form, including the four most densely connected groups. GE Free NZ, a national organisation with local branches and MAdGE, a national organisation with its head office in Auckland, each had people holding key, voluntary roles, with a large, paying membership.⁸⁴ Greenpeace, an international organisation with its main Aotearoa New Zealand branch based in Auckland, has paid professional campaigners and a large paying membership.⁸⁵ Finally there is the Green Party, who gained parliamentary representation as part of the Alliance in 1996 (in the first MMP elections), and then independently has been in Parliament since 1999.⁸⁶ As a political party, the Greens have list MPs and a paid membership support base. A formal hierarchy exists in all four of these groups in terms of there being a few key figures and many paying members. However, none of those interviewed for this thesis said that they were the movement's leading organisation, or indeed suggested that any other organisation held such a position. Furthermore, none of those involved stated that they were themselves leaders. Instead, they talked about passionate individuals who were totally committed and working hard toward movement objectives.

Hilda was a stand-out figure, a central and critical individual within this movement network core.⁸⁷ She was seen as an important affiliation for others and as a key member

⁸⁴ MAdGE were seen as good campaigners, "colourful and amusing", good with the media, and were respected for their ability to mobilise a variety of women (Dean; Grant; Hilda; Kirsty).

⁸⁵ Greenpeace were viewed as successful campaigners, media oriented and media savvy, who had resources at their disposal for use in GE campaigning (Diane; Grant; Hilda; Jason; Linda; Lou).

⁸⁶ The Green Party emerged out of the Values Party (which was launched in 1972), in 1990, before joining up with four other parties to create the Alliance Party in 1991, and then branched off to stand alone as the Green Party once again in 1997 (Green Party, 2010).

⁸⁷ Gavin and Barb were the next most central (by degree) figures in this movement network. Gavin was noted as having maintained good relationships with others and his efforts were well recognised (Heidi, Jason, Veronica, Amber, and Kirsty). Heidi, Kirsty, Linda and Diane all commented on Barb's passion and commitment to the GE issue, including how she has put her "life and soul" into the movement (Kirsty). Other prominent figures in terms of movement degree centrality were Jason, Linda, Ben and Jane. Jason was recognised primarily for his long-standing commitment to campaigning on GE (Grant, Barb, Linda and Dean); Linda was noted by Barb as having made great efforts towards the campaign; Ben was well respected, with Jason in particular commenting on this; and Jane was widely respected for her intellect and experience (Diane, Veronica, Cane and Linda).

of the movement in general. She was respected by others for her efforts, regarded as a whirlwind of energy and a driving force (Lou, Heidi, Grant, Shane, Barb, Jane and Dean). Hilda had her own particular perspective on how to do things and what needed to be done, and she basically got on and did it. She kept in contact with others about any developments, yet has steadfastly pursued goals in her own way. I do not believe that this is due to her being a leader in the sense of elite theory. Rather than the leader of a formally hierarchical organisation, Hilda is a movement ‘driver’. The notion of a driver has been used in passing by Henderson (2005) (in relation to GE campaigning in Aotearoa New Zealand – with reference to one Greenpeace campaigner in particular).⁸⁸ I argue that this term can be conceptually developed to theorise the movement as a whole. Although the terms elites and leaders often coincide with the public face of the movement, the term ‘drivers’ much more accurately characterises those who do the work of political organisation.

Klumpp’s (2010) description of the key role of movement leaders is quite similar to that associated with elites. Klumpp argues that the role of the elite includes speaking to the movement to encourage participation and shared concerns, as well as to develop ways of actively addressing them to accomplish goals. Furthermore, Klumpp argues that given the tendency of movements towards entropy, leaders are vital for maintaining unity, motivation and focus. While these functions are all vital, I have not seen any one individual involved in GE resistance doing all of these things. In my view, Klumpp attributes too many functions to a pinpointed leadership role. As Diani and Bison (2004:283) argue, “no single organized actor, no matter how powerful, can claim to represent a movement as a whole”.

Alongside network drivers are those who become the movement’s ‘public face’. These actors could be understood as filling a conventional leadership role. Those that have taken on a public role are easily recognisable and are seen to have expertise, credibility or celebrity (or all of these factors). These features all deliver interest and a sense of trust to the public. Such individuals are needed to publicise a particular kind of movement image and messages in the most palatable or enticing way; they undertake cultural, discursive work. Alannah Currie of MAdGE and Jeanette Fitzsimons of the

⁸⁸ The Greenpeace GE campaigner referred to in this instance was Annette Cotter.

Green Party are both examples of individuals who could be ascribed such a position of public movement leadership, given their high profiles and tendency toward being in the public eye.⁸⁹

Movement drivers, on the other hand, are those who activists involved in the movement see. They are not necessarily who the public see. The drivers work behind the scenes. These individuals tirelessly, with passion and dedication, keep doing the groundwork, not letting the issue die. They do not necessarily appeal to the public directly, but rather are dedicated to helping keep others informed and animated. In the GE resistance movement, the leadership roles as described by Klumpp (2010) have more often been divided between the public face figures and the behind-the-scenes movers, the drivers. In a sense, drivers can be characterised as a kind of leadership, but a leadership that coordinates rather than directs, and that mobilises informal relationships rather than organisational hierarchies.

Given the networked rather than hierarchical arrangement of this movement, with various strong and weak ties and an assortment of activists and groups, the importance of drivers is ever more critical. This research shows that the hub of the movement, and by extension the mobilisation outcomes, are only as strong as those driving it. This is something the activists themselves understand, as Jacob argues:

My view is that the way these things usually work is not by any of the conventional imaginings of what the structures are, although there's a thing called the coalition, and I know there are formal links between groups, and I think most of it happens far more informally in my experience of these things. The formal meetings where people get together, and even the formal coalitions – the ongoing formal coalitions often have very little to do with the energy and direction of the movement; sometimes they're actually a hindrance to them. It sounds sort of counter-democratic, but often I think the energy comes from a particular group or a particular individual or group of individuals just getting going on something, and [through] the example value and the role model value. Where do you drive people jumping on board? And if you called a great big hui and said "we think that we should all do such and such", you would still be discussing it when the campaign

⁸⁹ Alannah Currie is a former pop icon of the 1980s. She was a member of the internationally renowned band the Thompson Twins, along with her former husband, Tom Bailey (Carter, 2004). Jeanette Fitzsimons was a long standing member of the Values then Green Party. She was co-leader of the Green Party until 2009 (Green Party, 2010).

was over. And that's the way I saw the GE free one going ... a lot of the time the structures were essentially hollow, like there were these national sounding names without always very much going on, and there'd be different people who were putting intense energy in, and forming ideas and articulating the issues, and if they sounded right, or if they were energetic or if they had good ideas that other people wanted to follow, or if they were good at organising some aspect of it, that's in effect what happened just by the example and the energy of it.

Jacob – the sole isolate in terms of his individual and group affiliations – argues that formality and coalition type groups, where collaborative decisions on how to progress are discussed, are not necessarily how things do in fact progress. As Jacob notes, “you would still be discussing it when the campaign was over”. What is highlighted by Jacob is the importance of individuals “putting intense energy in, and forming ideas and articulating the issues”. The “example and the energy” of such individuals indicate, I believe, figures who take the role of drivers. The reason for Jacob's isolate positioning can be inferred here: he simply got on with a particular task that he believed needed to be done. But being an isolate on many counts does not mean that he went unrecognised by other key players. In this sense, Jacob played a role as a movement driver.

Across the board, there was an appreciation for those who actively pursued movement objectives. In line with this were frequent critiques made by activists of those groups that had “sterile” memberships (like GE Free NZ) – or memberships that were largely inactive (Shane) – as opposed to those that mobilised large numbers of people, such as MAdGE.

I think that people underestimate how radical middle New Zealand can get. If something gets up people's noses they will become a lot more radical than they normally are, and MAdGE is a good example of that... People who would normally never do anything against the government that would get them into trouble, the mainstream, all of a sudden were doing things that were illegal (Grant).

MAdGE's founding figure no doubt has played a significant role in the successful mobilisations that this group undertook. Currie is a vibrant figure who didn't want MAdGE to become the kind of organisation that just “plodded along spitting out press releases”. She wanted something “organic, active and dynamic” (Kirsty). She was in the public eye, but also – as Kirsty reveals – was a driving force behind the movement organisation MAdGE.

Overall, key movement activists perform a range of roles. There are no specific leaders, the movement is not hierarchical, and no unification of tactical fields emerge either. Coordinated activities take place through the maintaining of strong network relational ties that allow information exchange and collaboration. Decisions made within groups or between a few activists are relayed through these relational ties, leaving the choice of whether to collaborate or take a different course of action up to those on the receiving end of such information. This individualistic, decentralised method of exchanging information and deciding on tactics stands in stark contrast to hierarchical organisations. In hierarchical organisations, leaders (or a leader) are responsible for making decisions, which are then directed from the top-down and disseminated through the ranks. The GE resistance movement of Aotearoa New Zealand is far removed from this kind of hierarchical organisational structure.

As I have argued, the movement divides between those advocating direct-radical tactics and those preferring lawful process. How groups went about activism was a central determinant of which groups activists affiliated themselves with. The four groups having the highest density of individual affiliations – GE Free NZ, MAdGE, Greenpeace and the Green Party – all tended to veer away from direct-radical tactics. Those groups forming a grouping on the network periphery were AGA, WAGE, the GE Free Sticker Brigade, PMEa and Green Gloves. These radical groups had ties with a smaller group of participants: Shane, Heidi, Grant and Lou in particular. These individuals were referred to as the “radicals”, as they are most alike tactically and strategically (Grant, Shane).

Shane’s description of himself and four others as the “radicals” is appropriate. In social movement theory terms, this peripheral grouping constitutes the ‘radical flank’ (Goodwin & Jasper, 2003). The radical flank argued for the necessity of direct action, stating that conventional political methods (lawful process) had failed to bring about an extended or permanent moratorium on commercial GE, a sufficient labelling regime, or legislation prohibiting commercial growing of GE crops in Aotearoa New Zealand.

Movement activists had much to say about tactical repertoires and strategies. Most notably, those involved in the radical flank had a lot to say about those that preferred lawful process, while those tending more toward lawful process critiqued the radical

flank's preference for direct-radical tactics. As Goodwin and Jasper (2003) say, the radical flank is more likely to use illegal methods of activism. Moreover, they are also likely to impact the rest of the movement in a variety of ways, for good and bad, known as the 'radical flank effect' (Goodwin & Jasper, 2003). Lou referred to one such effect when she commented on how the direct-radical tactics in which she was involved made others, in this instance Hilda as a "lobbyist", look entirely reasonable. Lou explained the difference between herself and Hilda:

[Hilda] hates the direct action people. [Hilda] thinks we just completely undermine what they're trying to do; [they're] very much at the lobbying end of things. But I mean I would never denigrate what those people do, I just personally think we need both. I think we need people like us to make the lobbyists seem reasonable. And it works so well when you've got the radicals talking about ripping things up [because] it makes [Hilda] seem so reasonable and rational. And I just think that you've got to have it all. [Hilda] doesn't think so; they think that we make [them] look bad. I think we make [them] look good.

Tactical disparities are clearly evident as are tensions, but also suggested is an accommodation of difference. This excerpt demonstrates the intricacies of identity and affiliations. Lou switched between speaking from the personal to the more general. Oftentimes when activists were being critical of others, they would talk about 'they' rather than using a more personal reference such as naming a particular individual. In this way, it is possible to express a range of views, without sidelining a fellow activist. Such flexibility demonstrates a vantage point for the movement, as these activists can express their views from different positions.

Diane stated that people she was involved with kept the radical flank groups out "on a limb", as people felt that associating with such groups would "tarnish the rest of the movement". This tarnishing of the rest of the movement was described by Kirsty as something that was the result of the "anarchistic ideologies" of some individual group members. The PMEAs' direct-radical repertoire came under scrutiny from Jane:⁹⁰

⁹⁰ Those involved in the PMEAs expressed frustration at not being able to achieve as much as they would have liked, but were satisfied with some of what they did, particularly Tent City (a three day long occupation at Parliament coinciding with the lifting of the moratorium in 2003) and the direct action training camps (the first of which was held near Motueka on January 2 – 4, 2004).

So there's this whole direct action movement and it was really great. But if I were looking at this as you do as a chemist, thinking "what do we need now?", [and] if we're really talking about decision-makers and opinion, is this the new additive we need? I would have said "no". But that's very much about my own position, where I stand and what I think needs to happen.

Jane argues that politically the PMEA may not have been what the movement needed if it is the opinion of decision makers (such as the Government) that the movement wants to influence.⁹¹ However, she also says this is "where I stand" and that, despite her personal views, direct action "was really great".

The radical flank was not alone in being critiqued: they in turn commented on the strategies and tactics of other groups, most notably, those that were most centrally positioned. Grant critiqued GE Free NZ because, as an organisation, most of their members do not actually "do" anything:

I don't mean to dis' [GE Free NZ's] work because they've done an enormous amount and there's people who've been working on it for 10 years consistently. But it's really only a group of maybe half a dozen people who do something, and there are hundreds and hundreds of members who just receive newsletters that never do anything.

Similar critiques of GE Free NZ were also made by Lou and Heidi about Greenpeace. Lou and Heidi both remarked on the reluctance of Greenpeace to be involved with radical flank groups:

Greenpeace does not pull up crops, Greenpeace does not do economic damage and they don't really want to talk about anything that's not Greenpeace, and they weren't particularly interested in talking to us, and I always found it really frustrating because it seems a waste [because] Greenpeace has a lot of pull: everybody knows what Greenpeace is and what they do. It's corporate charity. They were never supportive of anything we ever did (Lou).

And from Heidi:

Greenpeace is a hierarchical organisation, and it is a professional, activist organisation. It is not effectively a grassroots movement of people and they

⁹¹ Jane's thoughts align with findings from McAdam's (1982) research, which found that more militant tactics were not as well received as those which were more moderate and non-violent.

have a particular way of working, which is not necessarily a bad way. I think that Greenpeace has done some really, really excellent things, but I think that in some ways they very much viewed what [PMEA / WAGE] wanted to do as potentially threatening to their campaign strategy, so they have been extremely wary of what we've been up to.

Though not overtly stated, an ideological clash is inferred here: a cynicism is directed at the way Greenpeace operated organisationally. Such cynicism is evident in the comments made by Lou referring to Greenpeace as a “corporate charity”, and Heidi in the way she speaks of them as a “hierarchical[,] professional, activist organisation”. Shane’s expression of their having a “monopoly on the image of being environmentally radical” is also put forward in a critical light. However, despite these trenchant comments, the radical flank nevertheless acknowledges that GE Free NZ have “done an enormous amount” (Grant), and that Greenpeace “has a lot of pull” (Lou), and while they have their own ways of doing things, this “is not necessarily a bad way” (Heidi). These radical flank activists moderate their critiques, negotiating their own views with acknowledgement of what they appreciated about these groups.

The same contentions that existed between the radical flank, GE Free NZ and Greenpeace, also existed with MAdGE. Lou stated of MAdGE that they:

tried very hard to keep themselves separate, and they always have ...they just don't want to associate. I think the MAdGE thing was 'mums with money' generally. And they were fantastic, but they sort of had their slot and they did their thing and they were quite content, and they didn't really want anybody else involved. They weren't about involvement.

Both Greenpeace and MAdGE actively distanced themselves from others who they saw as a bit too radical, by not participating in some of the direct actions undertaken by radical flank groups, and by not associating their group identity with such activities (even though certain individuals ‘as individuals’ rather than group affiliates might participate). Yet there were also individuals who were all affiliated strongly with GE Free NZ that viewed Greenpeace and MAdGE as a bit too controversial. The key point here is that there are serious contentions and robust critiques, but they don't move to a position of complete rejection, an inability to work together, or a splitting of the network into a series of discrete movements. This is not just a matter of tolerance, as

they actively praise strategically different groups alongside their critiques. As Lou commented, MAdGE didn't "want to associate", yet they "were fantastic" (Lou).

Whether groups agreed on tactics or not, had a direct impact on the way the movement was able to coordinate on campaigns. Grant relayed how groups worked well together in 2001, whereas at other times there was a lot of conflict and frustration given tactical differences. This moment of collaborative agreement on strategies says something about the movement at this (peak activity) stage: this was early days and optimism that a GE commercialisation route would not be taken was still high. As Robnett and Trammell (2004) note, the impact of the radical flank is dependent on a number of factors, including at what point they intervene in a social movement's cycle. The radical flank in this case did not emerge until the movement was already well established: it was when democratic process was deemed to have failed (that is, when the moratorium was lifted at the end of 2003) that the radical flank became more prominent. If the radical flank had become prominent earlier on, critique of them may have been stronger from those who saw the effects of their involvement in a negative light, and the tactical agreement that Grant referred to in 2001 may not have been as easily achieved.

The reflexivity demonstrated by movement participants works hand in hand with the way activists moderate their dialogue when speaking of other individuals or groups. To be able to maintain network relationships, activists frequently preceded any critique of others with friendly, affirmative remarks concerning their contribution to the movement overall, as highlighted in the preceding. Framing discourse in this way has the effect of tempering any comments that might otherwise be considered derisive.

Strategic differences, while causing conflict and frustration, were also looked at as contributing to overall movement strength:

We always found that the strength of a campaign was that everybody had a slightly different angle so they couldn't just put you all in one pigeon hole. We were actually able to take our own stance and take our own perspectives and by having that difference in some ways it was really good, like now you've got some of the guys out there more into doing direct action [who] are pushing criminal grounds to do these sorts of things, which is fine. You need these people as well to give some balance (Diane).

Such a remark from Diane is interesting given she personally did not want to be associated with the actions of the radical flank, yet also indicated appreciation of their input. This kind of statement typifies the relational subtleties of the GE resistance movement.

There is one organisation that warrants particular attention given its uneasy fit as part of a social movement: the Green Party (of Aotearoa New Zealand). With the Green Party, it was not their tactical repertoire or strategy that was viewed as particularly problematic; rather it was simply that they are a political party. While being credited with providing the movement with “political access, expertise and passion (Veronica), and having “good people” involved (Linda), others saw the Green Party members as the “usual victims” who were instantly sidelined (Dean). Individuals expressed concern that people may have seen GE as a Green Party issue, thereby marginalising the issue politically and making it easier for major parties to brush it off: “putting any campaign at the mercy of the fate of a political party is a mistake, especially when it’s a minor one and constantly marginalised” (Cane). Jane commented on the problematic nature of the Green Party members being over-emphasised as representatives of the GE debate:

I think there have been problems with it being so dominated by the Greens. That’s not necessarily the Greens’ fault, but the outcome is that it’s had a polarising affect in Parliament, and it’s only ever the Greens, and it becomes the issue that the Greens are concerned about and there for.

Cane discussed the short-sightedness of the movement in terms of acknowledging this Green Party – GE issue alignment:

We, the movement, failed to see how the support for GE Free wouldn’t be translated into Green Votes. It could have been many people still didn’t understand MMP and were still voting Labour ... and also, that the Green’s other policies prevented the huge number of GE free supporters from voting on that issue alone.

It seems that no matter how the Green Party was viewed by activists, the simple fact that they are a political party is problematic in movement politics. On one hand, the Green Party provided significant support and assisted in putting the issue of GE squarely on the political agenda (in particular during the 2002 general elections). Yet at the same time, key movement activists – a number of whom were affiliated with the Green Party – had difficulty reconciling a political party with social movement politics.

A political party does not easily square with the diversity of this movement network. Movement politics involves a wide range of strategies, tactical repertoires and group organisational structures. Some have large, paying memberships, others are smaller, localised, and are much more focused on direct action. Different types of groups require different levels and types of involvement from the activists that associate with them. The appearance of the radical flank caused some contention, but the inclusion of the Green Party as a political party was most contentious. This was particularly the case given that they are a minority party in Aotearoa New Zealand whose ultimate purpose is to maintain a presence in Parliament so that their ideology can be pressed politically. Such ultimate purpose, and the ideological unity it requires, does not sit easily with the many different ideas and strategies that make up GE resistance activism.

In sum, diversity and difference were not just a side-effect of movement collaborations, but an essential component. Crucially, diversity created rather than prevented movement collaboration. As Ben commented:

you've got the various factions, people with different points of view half the time arguing and not agreeing exactly on the way it's to be done or whatever, but mucking through because there is enough common cause for them to get there; totally disorganised I would say. That's absolutely typical of grassroots movements. You don't manage to get people regimented and saying the same sort of thing all at once or anything like that at all. It's sort of chaos in a way, and it just sort of gets there.

Ben argues that “mucking through” a “sort of chaos” is how grassroots movements, such as GE resistance, operate. Different and new ideas contributed to the overall strength of the movement. The networking of these individuals may not have produced commonality, but it allowed network communication and coordinated strategising.

4.7 Conclusion

The structural diversity of the GE resistance movement of Aotearoa New Zealand is apparent in a range of ways: from naming the movement, to the multiplicity of individuals and groups involved, to the tactics used. The often deep differences between individuals and their approaches are clearly stated by the central activists themselves.

Although the media has widely used the term anti-GE, this was seen by most movement activists as negative and not something they wanted to be associated with, even though there were individuals associated with the radical flank groups that were perfectly happy with the term. GE free was much preferred given the positive associations, including the parallels made with the successful nuclear free movement. Other variations of the movement's name were also offered.

Movement divisions are also apparent in individual affiliations. Certain individuals are important figures. However, these individuals are not the sorts of leaders specified by elite theory. Roles taken on by individuals ranged the spectrum from being largely flexible to quite specialised; there was no normal or usual role. Rather than referring to elite leaders, this chapter has argued for the concept of network 'drivers'. Driver describes someone with the motivation and determination to make things happen. Hilda in particular provides a good example of the driver role: she was the most central (by network degree) individual involved in this research. Although she had a low profile outside of the inner network, she was recognised by core movement actors for her energy, enthusiasm, and refusal to let the issue die. She was not necessarily in agreement with her allies tactically and strategically. She did not embrace, nor did she reject others with whom she disagreed with on such matters. Hilda was regarded with the utmost respect because of the work that she has been doing, and continues to do.

Each of those involved in this key player network contributed in some way to movement mobilisation and maintenance activities. Those considered more peripheral were no exception: they all worked toward goals in their own ways and from a variety of perspectives. For example, Amber preferred to work with Māori on issues most pertinent to Māori, and helped bring their concerns to the wider network. Likewise, Dean was strongly aligned with the organic community, which has its own network, but contributed much to the wider movement from this position. Shane, Lou, Grant and Heidi's involvement in the radical flank added a different strategic dimension, at a time when many of those involved were feeling disheartened at the lifting of the moratorium on commercial GE. The intensified interjection of the radical flank at this pivotal moment represents just one instance of how the movement was reflexive in relation to the external, political environment in which it operated.

The involvement of many of the peripheral actors has contributed to movement reflexivity and adaptability. Social actors on the periphery have tended to be much more transitory. They have been less densely tied in to the network either because they have their own interests or community to work alongside, or because their strategic emphasis does not fit well with others that are more ‘conformist’ in their approach. The most central figures are fairly homogenous with their affiliations and tactics, and tend to have shown more endurance in their involvement. However, to be on the periphery of a non-hierarchical organisation does not mean that one is unimportant.

Groups positioned in the most central networking roles were MAdGE, GE Free New Zealand, Greenpeace and the Green Party. MAdGE and GE Free New Zealand each had individuals working steadily behind the scenes, driving the organisations. Greenpeace dedicated resources to GE, yet in terms of their critical positioning here, their status and reputation effectively preceded their involvement in the GE issue; it was expected that they would get involved. The Green Party’s involvement was most contentious given that they are a political party, yet similarly to Greenpeace, it was expected that they would take a position on (resisting) GE.

A range of other groups and communities all contributed to the diversity and flamboyance of the GE resistance movement. The Sustainability Council and PSRG were primarily involved in education and information dispersion. The Māori and organic communities contributed views emanating from within their own networks. The AGEFC helped with campaign organisation and coordination. Groups that were most weakly tied in also cast their own particular influence, introducing new ideas and creating new network ties.⁹²

Tactical diversity is the main organiser of movement diversity overall. As Grant explained, how well actors have got on at various points has been in large part influenced by finding tactical agreement – or not. Tactical differences have determined the kinds of groups that individuals have created or chosen to associate themselves with. But where does the movement, with all its diversity, find the “enough common cause”

⁹² Groups like RWNZ, Friends of the Earth, SAFE and Forest and Bird, as discussed earlier, are presented in this network given that particular individuals have had alliances with these groups. That is, these groups are not as directly or immediately associable with the GE resistance social movement but are nevertheless drawn into it a bit by the work of activists.

that Ben referred to earlier. The common cause is clearly about GE resistance, and participants demonstrated moderated discourse in order to be able to both reject and accept differences between each other. The practical operation of a common cause is evident in the densely overlapping network of ties between individuals and organisations, and tactics that make up the GE resistance movement as a whole.

As this chapter has shown, the network structure of this movement has been conducive to a multifaceted approach and to its endurance. In the face of continuing uncertainty the movement persevered: it is difficult to impede as it is reflexive, adaptable and necessarily able to act spontaneously. This network structure has allowed for a multitude of players with their accompanying multiplicity of tactics, strategies and ideologies to act as a reasonably united field of mobilisation, even though the innermost hub of the movement is characterised by diversity and disagreement.

The practical coordination evident in the network directs attention to the cultural content of the ties that bind it together. A sense of solidarity was hinted at throughout this chapter, yet it is difficult on network terms alone to determine what exactly that sense of solidarity rests on. As argued in chapter two, in contemporary times solidarity and a sense of collective identity can no longer be simply read off social location, such as class. Identity is actively chosen with meanings constructed in accordance with an individual's measured concerns. Being concerned about GE technology is enough to bring individuals together in moments of action and for groups to be established that have their own particular set of critiques. But these groups and individuals are discordant enough in seemingly every other way that collective identity built around concerns about GE alone does not seem like enough to build and sustain a movement over such a period of time.

The social network analysis drawn on here can only tell part of the story. I refer again here to comments from Dean that opened this chapter: "you want a lot of people nearly contradicting each other, but fundamentally singing the same tune because the opposition can't handle that". Somehow or other, all involved are "singing the same tune". The network that this chapter has analysed both gives expression to and relies upon the "tune". The following chapter looks to framing as way to explore what it is that provides the movement with this sense of collective identity and cultural cohesion.

I look to whether the tolerance of difference demonstrated by activists plays a role in how this movement has achieved collective identity.

Chapter Five

Collective Identity: Value Politics

The Same Tune

You have to be able to change and move with whatever's happening, and if people come up with an idea you've got to be able to support that even though it's probably not what you specifically do. You can't be too dogmatic about anything basically and you've got to accept that everything is in the process of moving and everyone's influences and opinions can help change that (Diane).

Diane talks about the need to be able to work together, supporting each other, even though this might mean doing things that you would not personally have chosen to do. She speaks of diversity in voices and opinions, and recognises the need for negotiation in light of a greater good in the progression of the GE resistance movement. This is a fluid way of looking at the world and working together. Diane is demonstrating something about movement culture, and how its collective identity might operate. These ideas of culture and identity are the focus of this chapter. In particular on the latter, as identity is critical to social movement materialisation, mobilisation and continuation (Ayers, 2001; Polletta & Jasper, 2001).

As a concept, collective identity is not of high priority for social movement researchers from the collective behaviour, resource mobilisation and political process approaches. Rather than identity, these theorists looked to structural characteristics for answers regarding movement adherence. Collective identity, defined by Polletta and Jasper (2001:285) as “an individual's cognitive, moral and emotional connection with a broader community, category, practice or institution”, has instead been taken up as an interest more by those concerned with cultural characteristics, who seek alternative explanations that lend weight to meaning as well as organisational structure. To address the matter of collective identity, this chapter uses the concept of framing. Identity is often recognised as an important aspect of framing (Benford & Snow, 2000; Gamson, 1992; Jasper, 1997; Melucci, 1989). Framing is “meaning work – the struggle over the production of mobilizing and countermobilizing ideas and meanings” (Benford &

Snow, 2000:613). There are two main kinds of frames considered in this research: collective action frames and master frames.

Collective action frames “function simultaneously as modes of attribution and articulation” (Snow & Benford, 1992:137). They are used to highlight what is wrong or unjust about a particular issue, who or what is at fault or to blame, and what can be done to resolve the problem or situation. Frames have a definite agenda, being selective in what information is used and how it is communicated. Collective action frames provide interpretations, but they are at the same time designed to have practical applications: movement recruitment and mobilisation. Master frames play a similar role to collective action frames as they articulate movement concerns and encourage mobilisation. However, there are some significant differences. While collective action frames are particular to a movement, master frames are not. Master frames are the “broadest structures of meaning in social movements that define grievances in terms of oppression, injustice, or exploitation and call for liberation, fairness, or equity” (Buechler, 2000:42). They are akin to cultural discourses that are widely understood across societies. Taken together, these two types of frames provide alternatives to the discourse of antagonists who seek to shut the movement down. An important element of both types of frames involves the facilitation of collective identity.

Collective identity formation occurs through the process of framing (Hunt, Benford & Snow, 1994; Snow & McAdam, 2000, as cited in Benford & Snow, 2000). Hunt et al. (1994:185) state that “framing processes link individuals and groups ideologically [and] proffer, buttress, and embellish identities that range from collaborative to conflictual”. Framing marks and bounds a movement, and “its activities in space and time [which is] central to the construction and maintenance of SMO [social movement organisation] actors’ collective and personal identities” (Hunt et al., 1994:185). This chapter reviews the various ways that collective identity is achieved through framing.

I begin this chapter by considering identity in a very basic, binary sense, as a way of situating movement protagonists as opposed to the antagonists – the ‘we’ and the ‘they’. Collective action frames are considered next. The presentation of these frames builds on the discussion of identity, with activists expressing injustices related to GE technology and their thoughts about how their grievances should be addressed. Four

collective action frames are identified: GE involves many issues, GE is unnatural, GE is risky, and GE as the ownership of life. Following the analysis of their collective action frames, the movement's master frames are detailed (Buechler, 2000:42). There are three master frames: liberal democracy, harmony with nature, and 'clean and green' – a national identity frame.⁹³ On completion of these analyses it will be clear that movement collective identity has a number of unusual characteristics that make it powerful.

5.1 Us and Them

Hunt et al. (1994:186) state that there are three "identity fields" apparent when considering social movements. First there are the protagonists, akin to the GE resistance movement 'we', who "advocate or sympathize with movement values, beliefs, goals and practices, or are the beneficiaries of movement action" (Hunt et al., 1994:186). Second are those that stand in opposition to the protagonists – the antagonists – or movement 'they'. The third identity field is that of "audience", the "neutral or uncommitted observers", who while not explicitly discussed here, can be understood as those that both the former two identity fields – protagonists and antagonists – each seek to influence (Hunt et al., 1994:186).

Individuals situate themselves and others according to their position on a given matter, thereby engaging in identity formation. As Melucci (1989; 1996) and Gamson (1992) argue, for this identity to be collective it is necessary for four components to exist: negotiations, levels of consciousness, shared definitions and boundaries. Negotiations involve discussion among activists regarding how they want the movement to be presented to others: the audience (Ayers, 2001; Hunt et al., 1994). Levels of consciousness is linked with negotiations, and refers to a level of self-awareness about a movement's activities and the propositions that it puts forwards (Ayers, 2001). Shared definitions are the understandings that activists have about grievances and injustices that a movement is seeking to address (Ayers, 2001). Lastly, boundaries are what

⁹³ For work that uses similar master frames see Abramovitz (2004), Hochstetler (1997), Kong and Lim (2008), Noonan (1995) and Olesen (2005) for examples of democracy or democratisation master frames; and Potter (2004) for harmony with nature / environmental master frames.

differentiate a social movement from other interests through the position or positions that it espouses (Ayers, 2001). So how do activists view themselves?

Movement participants involved in GE resistance constructed their collectivity in multiple ways (as group affiliates and as Aotearoa New Zealanders for example), just as they identified a multitude of antagonists that require demobilising (Snow & Benford, 1992; Snow, 2004). ‘We’ is found to refer to a collective identity situated on many levels, including the entire *movement* of resistance to GE: “we, the grassroots movement” (Grant). Activists would also use ‘we’ to refer to specific groups that they were affiliated with: “we were basically advocating direct action ... if genetically engineered plants go in the ground we will rip them up; we promise we will do this” (Lou, *my emphasis*). ‘We’ is also used to refer to citizens of Aotearoa New Zealand or of communities within this country: “They’re messing with the wrong people because this is *our* region, this is where we live and work and these are *our* community values and we have a vision for the future” (Hilda, *my emphasis*). Even broader than these conceptualisations is ‘we’ as human beings: “it’s fundamental to *our* sustainability and *our* endeavours on this planet that we get agriculture right because it’s about how we produce *our* food, it’s about how we live” (Gavin, *my emphasis*). This series of protagonist identity alignments serve three purposes: identifying who activists most closely identify with strategically and ideologically, associating the individual with the movement, and third, extending identification with the movement and concern about GE to all Aotearoa New Zealanders and even all of humanity.

The grievances that activists associate with GE technology are as multifarious as the activists. There are many different issues, many different ways of expressing concerns about these issues, and many ways of strategically and tactically approaching these issues (as the previous chapter showed). There are a number of bodies that were pinpointed as movement antagonists or targets – the ‘they’.

Antagonists identified included the Aotearoa New Zealand Government apparatus, which includes Crown Research Institutes (CRIs) and the regulatory body ERMA (Environmental Risk Management Authority).⁹⁴ The pro-GE lobby (principally the Life Sciences Network), along with the multinational biotechnology companies and

⁹⁴ CRIs are government owned businesses that have various scientific purposes (MoRST, 2010).

other bodies that use GE in their products, were also implicated by activists as movement targets. As Schurman (2004:245) notes, the field of possible movement antagonists has expanded: “the historical context for social movement organising has changed, and movements are increasingly aiming at non-state targets, including corporations and transnational institutions”. In this research we can see an array of movement targets, which range from those that are closer to home like the State, to powerful global biotechnology multinational companies. Each of the antagonists identified were targeted slightly differently, with activists varying in terms of who they saw as the most pertinent bodies to oppose and the most effective way to oppose them.

The Aotearoa New Zealand State was seen as a target that warranted wide-ranging critique. The State was not doing enough to prevent GMOs entering the environment and food of this country: it was critiqued for having let field trials of GE take place without general public knowledge, for insufficient containment of such trials, and for not instating a moratorium on commercial GE for longer. Jason’s comments summarise succinctly the main critiques targeted at Government and associated organisations. Essentially, he argues, they tried to suppress the public discussion of GE in its entirety: “They didn’t want you to know about the issue, they didn’t want people to then debate the issue” (Jason).

One State-appointed body that was repeatedly mentioned was ERMA, which was viewed as not having performed well with respect to its risk management role.⁹⁵ An example where ERMA (and MAF – the Ministry of Agriculture and Forestry) was critiqued is provided by Barb, who stated that they have been “erring really, really badly” in relation to the concerns she relayed about possible re-uptake of paratuberculosis in Waikato.⁹⁶ Barb described in detail how she believes there is a risk of a paratuberculosis outbreak in Aotearoa New Zealand. This is given the inefficient quarantining of 500 acres of grazing pasture in the Waikato that had previously been

⁹⁵ ERMA was established in 1996, under the Hazardous Substances and New Organisms (HSNO) Act 1996 (ERMA, 2010).

⁹⁶ Further information on paratuberculosis and links with Johne’s Disease and Crohn’s Disease is available at NZFSA (2009), PARA (2003) and Paratuberculosis.Net. (2006).

used for a GE sheep field trial.⁹⁷ She is concerned that if this happens, there is a risk of paratuberculosis leading to Johne's disease in cows, and Crohn's Disease in humans:

on the 31st of March 2004 they started grazing the dairy cows of the Waikato area on that land [which had previously been used for GE sheep trials]. ... So by grazing this land before [any real quarantining had occurred], probably while some of the feces was still ripe, they were actually possibly getting re-uptake because the paratuberculosis gets into the grass, and it gets eaten in the grass... The sadness of it is [that] paratuberculosis or Johne's Disease takes between five to seven years to show up. So if by the year 2010 we start getting this kind of rise in Johne's Disease and wasting diseases, Crohn's Disease, all these kinds of diseases, we've got to look and say "has this been carried on and hosted within these animals?" (Barb).

Barb is extremely critical of the handling of this situation by ERMA and MAF:

ERMA did not at any time put that land into quarantine. In fact ERMA did not know that MAF had actually removed the quarantine status. MAF had never notified ERMA of the change to status. In fact, it was removed as a containment facility I think on 31st of March. And it was sold to somebody else on the 18th of April, and he had been grazing his animals since around about the 10th of March on there.

Barb infers irresponsibility in the actions of ERMA and MAF to attend to and contain risk.⁹⁸ A further group who were mentioned by several activists as part of the blameworthy State was the Bioethics Council, which was regarded as an ineffectual and manipulative entity:

this Bioethics Council is basically not worth the paper it's written on ... they've been absolutely appalling. They've been trying to manipulate people into saying certain things, and this is what happens with all these Government quangos that come around and have consultations ... They have to pay money to try and get people [to their meetings], and then try and feed them all this information and basically get them to make the answers they

⁹⁷ The GE Free NZ website has details of this field trial of 3000 sheep that suffered a range of health problems: [http://issues.co.nz/GEFreeNZ/Background+ Info](http://issues.co.nz/GEFreeNZ/Background+Info). Copies of relevant applications from AgResearch are on the ERMA website: <http://www.ermanz.govt.nz/>

⁹⁸ There are a number of CRIs, but MAF and AgResearch tended to feature most prominently amid movement participant discourse.

want so that they can put out the research that they want at the end of it (Linda).⁹⁹

Linda argued that other similar organisations, including IBAC (Independent Biotechnology Advisory Committee), operate the same way, and similarly have an agenda that is ultimately about the commercialisation of GE.

Also identified as a movement target were those companies that use GMOs in their products. The range of companies identified by the movement was wide, with brands that were perceived by activists to have strong Aotearoa New Zealand associations for citizens being key initial targets, such as *Milo* (by *Nestle*) and *Vogels*. There are two main ways in which producers have been targeted. On the one hand, there is consumer activism, which is agent driven and involves actively identifying and boycotting GE foods. On the other hand, companies are targeted directly by lobbying and questioning them about the GE content in their products. Gavin explains the principle behind consumer activism:

the basic principle is that if people aren't buying it, then who's going to grow it? If there's not a market for it then the farmers aren't going to want to grow it.

Consumer demand – or lack thereof – is key here. The rationale for targeting GE producers, whether directly or indirectly is that if there is no demand, the producers will not produce it.

A further body identified as part of the antagonist field was the pro-GE lobby, namely the *Life Sciences Network*.¹⁰⁰ The Life Sciences Network is akin to being the counter-GE resistance movement in that its role has been to disseminate reasons for

⁹⁹ The Bioethics Council was set up and supported by the Government in 2002 in response to the RCGM report and recommendations, and was disestablished on March 11, 2009 (MfE, 2010). The purpose of this Council was to “Enhance New Zealand's understanding of the cultural, ethical and spiritual aspects of biotechnology [and] Ensure that the use of biotechnology has regard for New Zealanders' values” (Office for the Voluntary and Community Sector, 2010, ¶3).

¹⁰⁰ Life Sciences Network Chairperson William Rolleston describes the network's purpose being to “deal with ... issues where fear and over-reaction arise” (Collins, 2004:1). Nicky Hager (2008, ¶ 17) describes how the Life Sciences Network was established, and its purpose: “Communications Trumps [a Wellington based PR firm] called a meeting ... to plan the formation of a new pro-GE lobby, the Life Sciences Network. Its first strategy paper was prepared by the PR firm *Consultus New Zealand*, branding the GE debate as “characterised by emotion not science” and setting as their goal to make the Life Sciences Network the pre-eminent and credible advocate on the side of science”.

why commercial GE should be pursued here in Aotearoa New Zealand. One of the ways the pro-GE lobby tried to do this is through supplying information that challenges that put forward by the GE resistance movement and that instead supports biotechnology researchers, companies, and other stakeholders, including Government CRIs.

The pro-genetic engineering lobby has done a lot to try and confuse people, 'cause they love to refer to genetic engineering as genetic modification, which if you think about it, genetic modification sounds really loose and quite broad and, just by virtue of farmers saving seed or using yeast or making wine, that could technically be genetic modification (Hilda).

Linda argued that “they’re no wiser than we are and they certainly haven’t got any more of a scientific background than we have”. The reason for the Life Sciences Network being identified as a movement antagonist is plain.

Movement participants’ primary strategy for countering the pro-GE lobby is through a battle played out in words. Activists have all in some way played a role in what they would view as the dissemination of facts about the controversial aspects of GE. Many believe that if only people were informed enough, then the bulk of the work would be done as people would not be buying into the discourse that touts the wonders of GE for humanity. Others however became disenchanted during their activism, as they saw that no matter how much information dissemination countering pro-GE discourse there was, there would be challenges. Firstly, it was argued some people simply do not care or are not in a position to care about GE. Secondly, even with a well-educated public this is an imbalanced battlefield to be waging a war of words on, as the Life Sciences Network has a lot of resources supporting it.

A point of interest appears when it comes to the identification of biotechnology companies as targets, and hence the articulation of blame toward them. Even though many movement participants identified biotechnology companies as foes, most of the participants in this research did not engage in any way that directly involved targeting such companies. Those that did target these companies tended to be from the radical flank, such as Shane:

Forget about lobbying the Government, I’d just put complete economic pressure on the biotech organisations so that they’d think they wouldn’t be

making money - they'd be losing money. There wouldn't be any point and they'd just go "no point". And then the international company would just go "shit, New Zealand is not the place to go, we'll go somewhere else".

Understandably, targeting biotechnology companies is a difficult thing to do as they are for the most part multinational corporations, with vast resources at their disposal.

Multinational biotechnology corporations were identified as movement antagonists because these are the organisations responsible for developing, trialling, patenting and selling their genetically modified products, in particular GE seed. While government bodies and universities (for example) in different parts of the world also get involved in these same activities, it is the 'gene giants' who are responsible for the vast majority of GE food and cotton crops being grown around the world.¹⁰¹ It is the monopolisation of the food chain and patenting of basic crops that activists viewed most scathingly when it came to the biotechnology multinationals.

In summary, the identification of antagonists varied in relation to the tactical preferences of the activist concerned. For example, those preferring legal process methods were far more likely to target the State. The Government and associated bodies were deemed antagonists given they had not followed through with what this core of movement activists wanted in terms of amending and tightening legislation and regulation around GMOs. Certain companies were targeted by protagonists for the simple reason that they use GMOs in their products, and therefore are supporting the biotechnology industry and passing these GE products onto consumers. The pro-GE lobby, the Life Sciences Network, who have strong allegiances with the State, endorse GE. The Life Sciences Network's strategy is one of educating through information dissemination that publicises why GE should be accepted and encouraged. Lastly, the biotechnology multinational corporations, while a more difficult target to challenge, were considered antagonists as they are behind much of the research, development and therefore dispersion of GE products.

There is a demarcation between the movement 'us' or protagonists, and the movement 'them' or antagonists. Yet the boundaries around what makes each of these

¹⁰¹ The main five 'gene giant' companies as at 2009 were BASF, Bayer, DuPont, Monsanto and Syngenta (Wetter & Shand, 2009).

two groupings *a group* is blurred: not all companies using GE are part of the movement antagonists, nor are all the arms of Government – or even all of those political parties that were in Parliament during the peak stage of the movement. Moreover, the Government itself was not viewed strictly as an antagonist, as seen in the comment from Linda that it was specific areas of “Government thinking” that are problematic rather than the ‘Government’ itself. Linda stated the movement wanted to just get Government “to understand the enormity of the whole issue”. Jon went so far as to assert that there was actually a lot of “support for GE free within Labour, but no one talks about it”.¹⁰² In other words, social activists conceptualised an ‘us’ and ‘them’, but it was biotechnology multinationals, those companies using GE, and the Pro-GE lobby (in particular) that were more firmly in the ‘they’ category. By comparison, there is much merging and complication surrounding the State as part of the antagonist ‘they’. This fluidity in identity formation is also evident when looking to the movement’s collective action frames.

5.2 Collective Action Frames

Benford and Snow (2000:613) argue that movement social actors “are viewed as signifying agents actively engaged in the production and maintenance of meaning for constituents, antagonists, and bystanders or observers”. Collective action framing involves matters of (collective) identification, the articulation of movement grievances and proposed remedies or strategies for how to address them.

The injustice or grievance aspect of collective action frames is described by Kornblum (2008:221) as including a “sense of moral indignation or outrage against a perceived injustice and the people who are said to be responsible for the condition”. Kornblum (2008) goes on to discuss Gamson’s technique for identifying articulations of injustices in movement participant discourse, by listening for phrases that condemn something as wrong or unfair. This is akin to how injustices were recognised in this research, which resulted in four collective action frames being identified: GE involves many issues, GE is unnatural, GE is risky, and GE is essentially the ownership of life. Articulating injustice in collective action frames assists in “symbolically link[ing]

¹⁰² Labour was in Government from 1999 to 2008 (fifth Labour Government term).

individuals to a collective cause”, which provides a platform for these activists to mobilise support for GE awareness and activism (Adair, 1996:347).

The wide ranging character of GE is a common theme in participant discourse:

the amazing aspect of the GE issue was how many areas it touched on in terms of – for someone like myself – coming from the perspective of the environmentalist: the genetic engineering of life forms, the manipulation of life at a molecular level, which you can see as the final frontier of the industrialisation of nature (Gavin).

Nearly all movement participants, including Gavin, emphasised how GE involves a wide range of issues – the first of four collective action frames. Gavin continued to talk about what it was that attracted him to the GE issue in the first place:

At a philosophical level it completely attracted me ... there are really fundamental questions. People get very emotional about the ethics of it [and] the religious aspect; people talk about our planet and playing god and stuff like this. For me all those aspects are fascinating – are we playing god? It just touches on so many questions: the place of science in our society, the social mechanisms for ensuring science doesn’t run amok. So in that way it’s incredibly complex, and an incredibly emotional question, because you get some very vehement responses on both sides because people see it as being a lightning rod for their particular perspective on the world. I saw it as galvanising all those aspects (Gavin).

Gavin talks about GE as challenging individuals’ perspectives on the world, which highlights the personal nature of its implications. Drawn into this are questions pertaining to ethics, religion, science, society and emotions. Similar comments were made by other activists, including Grant:

[GE] touches on a whole range of social issues. It’s not just environmental or food, it’s also the whole issue of ownership of the food chain, the patenting issue, all that sort of stuff.

Grant refers to some of the many areas affected by GE: social issues, food, environment and politics. Added to these concerns, were “issues of globalisation, global social justice and sustainability, and a direction for humanity [which are] *all* converging in [GE] technology” (Jason).

Given the numerous issues GE raises, some participants believed complete rejection of GE was warranted. Heidi reflected on how her views shifted over time with the more she found out:

There has been this perennial discussion within the GE movement about containment, in other words keep it in the lab ... and certainly my views about that were radically shifted in that period of time to thinking that GE technology itself really needed to be called into question, and that I could not really endorse or support a campaign that advocated GE within a self contained environment because I believed that the entire technology was very suspect.

She went on to describe the assortment of issues that movement activists in Aotearoa New Zealand were concerned about:

There were people that were very concerned about the environmental impacts of cross pollination and gene transfer; there were people that were very concerned about corporate control, the loss of democracy; people very, very concerned about things like whakapapa, and much more sort of esoteric kinds of links to who we are as human beings (Heidi).

With such an array of concerns, why then was this mobilisation effort pitched primarily around GE food and the environment?

It was the “white” industrial applications of biotechnology rather than the “red” medical applications that were targeted by the GE resistance movement. Herring (2008:464) made reference to this separation in her work:

Opposition activists understood this bifurcation of interests between food and other applications. It was not in their interest to mobilize opposition against drugs that involve rDNA technology.

Herring is referring here to European activists but her statement equally applies in Aotearoa New Zealand. Activists were both empathetic and strategic in recognising how they could best mobilise recruits while minimising the possibility of marginalisation at the same time. The strategy of targeting GE in food and the environment was purposeful, at least for some:

we weren't necessarily pinned down solely about food and environment, we were also concerned about the wider issues: corporate control, GE in drugs, and all the issues of laboratory containment, and whether or not there was

such a thing as containment ultimately. So I mean those sorts of things were actually sidelined on purpose I feel quite early on, because of the emotive issues of people playing on the GE cures for illness, and yeah sure, who wouldn't want to take GE insulin if it was going to save your life? (Linda)

Grant too commented on the purposeful exclusion from campaigning of medical issues:

there are the other things [like] medical applications where we haven't really focussed... For a long time it was deliberately excluded from the campaign in order to make it simpler, in order to get more people on board. It was a lot harder to argue with people who think that the cure for Cystic Fibrosis is in gene therapy, and so we've never really campaigned hard on that, and that's going to be very difficult to do. You get the argument that you are sort of killing people by not allowing it and it's sort of morally very difficult to argue against it (Grant).

While Linda and Grant both recognise a strategic purpose in emphasising some grievances but not others, they also recognise moral conflict. This moral and strategic awareness is coupled with an acknowledgment of the wide-ranging issues and implications of GE technology, with tentacles extending into many areas – social, environmental, structural, political, cultural and moral. This tendency for considerable variation in the interpretation of GE grievances is also visible in the remaining three collective action frames.

The second collective action framing positions GE as unnatural, as something that is in opposition to nature, as a contaminant. Jason's interests in GE were engaged when he saw that the biotechnology developers were trying to convince people that genetic technology was not different to anything done before, despite the fact that GMOs were deemed novel (or not natural) organisms subject to patenting:

it was the falseness of the argument that persuaded me, that they claimed this was something that was no different, and everybody knows we've done it before, and yet it was transgenic. And my limited knowledge at that time of genetics made me think, well, moving genes between species is a very interesting issue. Where do you draw the line?

Jason highlights a "falseness of the argument" that poses GMOs as novel organisms and yet at the same time, as not significantly different or new.

The GE is unnatural frame is enhanced by subscription to the view that the Earth and everything within it is interconnected. The (un)natural manipulation of one element can have effects that emanate outwards to affect other elements in the world. This way of thinking is akin to Gaia theory, which proposes an intimate, connected planetary system:

living organisms and their inorganic surroundings have evolved together as a single living system that greatly affects the chemistry and conditions of Earth's surface. Some scientists believe that this "Gaian system" self-regulates global temperature, atmospheric content, ocean salinity, and other factors in an "automatic" manner (Ogle, 2010, ¶3).

When manipulation occurs at the genetic level, the repercussions could be profound: "very small amounts can actually alter, quite severely, things" (Barb). Barb has concerns about crossing species barriers genetically, and a view of the world as interconnected, where the smallest manipulation can have large consequences.

Concern with the moving of genes between species was raised time and time again by movement participants. Moving genes was deemed unnatural:

what we're opposed to, it's very specific [is] moving genes around between different species that could never conventionally breed; it could never happen in nature. Rat genes don't move to lettuces and lettuce genes don't move into horses (Hilda).

Nature will do what nature does in its own time, in its own way, argues Hilda. Humans should not interfere with this.

These arguments about GE as unnatural (and therefore undesirable) involved the term 'contaminant' being used with some frequency. GE in food equals contaminated food. This issue was made worse given the lack of testing and the adverse results found in GE food testing. Linda talked at some length about her concerns over the lack of testing of GMOs:

the whole thing that happened with GE crops was that the companies said "look, let's bring in this new thing generally regarded as safe", and they applied that to GE crops rather than testing them, because they said "well nothing's really different", they haven't changed that much. They've only put in a Roundup Ready gene or whatever the hell it was that they put in, and so it's still the same with food. It's still got the same nutritional value

but they don't know that; unless they've done the testing for 18 years they would never know that. But they didn't want to wait for 18 years; they wanted to contaminate the whole planet.

Moreover, the results of GE testing and research have at times been down-played or hidden. Hilda provides one such example where adverse outcomes were "suppressed":

the latest fiasco with Monsanto with this particular variety of a GE corn, where they did this feeding trial on rats, and there were adverse affects on the rat's health and the size of their reproductive organs and their blood. That was suppressed and finally drew some kind of a court order in Germany that was released, and independent scientists they looked at those results and they're like "how the hell did any food authority in the world approve this for human consumption when these are the test results?" And this is based upon Monsanto running the test, clearly using elderly animals that don't show abnormalities as well as using young animals. Food Standards Australia New Zealand approved that particular GE maize for human consumption. So, our trust and faith in the system that's supposed to be looking after us and protecting our interest has gone right out the window (Hilda).¹⁰³

It is difficult to know how to address matters relating to a lack of sufficient testing and the suppression of testing results when the findings are not favourable, other than through disseminating such information as widely as possible. This is what people like Hilda have done. One further option is found through highlighting food contamination – by promoting a GE labelling regime.

A labelling regime for GE food has been implemented in Aotearoa New Zealand, but activists have said it has not gone far enough. Linda described frustrations around insufficient labelling. Those wanting to get GE food into this country have taken up increasingly devious methods, which the Government has tacitly supported with their lenient version of a labelling regime:

they cannot get the food in, people don't want the food, and they're trying by all the other methods that they can like not labelling the country of origin from food imports, by having the Food Safety Authority Australia and New Zealand labelling which means nothing, i.e. one percent of allowable contamination, and GE oils and sugars and starch is not labelled at all. So

¹⁰³ Further details about the trial that Hilda is referring to can be found on Ecobob (2008).

they've found ways of allowing most of the crops that are being produced in mass in America in without any labelling. So people aren't concerned because they don't understand that they are basically supporting the production of GE crops... And when it's not labelled, 'cause it's labelled vegetable oil, I mean how do you know whether it's GE canola or what the hell it is? You can't tell. So there are all kinds of methods that they've been using to make sure that the public haven't got a clue (Linda).

A comprehensive labelling regime means that consumers are informed about GE content and consequently can choose whether they wish to buy GE food or not. As Linda argues above though, it is still very difficult to determine which food contains GMOs and which do not. Both Jason and Shane state that directly targeting companies using GMOs is the best approach. Jason suggests phoning companies up and asking them about GE content in their products:

when people were first told GE foods were being imported the suggestion was it might be over here, it might be over there, it might be everywhere. People asked is it in this product: call them up and ask them to remove it (Jason).

Meanwhile Shane's approach was more direct when it came to targeting companies:

we chose Inghams ... because it was a company, and companies have got a bottom line – they have to make money, and governments do as well but we thought that we would target a company, not only because Greenpeace was already targeting it, but because we knew that we could do actions in some way that would have an economic effect on their company. And basically it's money: you can lobby as much as you want and you can affect their image, but they'll only listen to you as much as that means they will lose money.¹⁰⁴

Diane advocated a consumer activism approach in which individuals purchase food items with an awareness of the country of origin. In this instance, it means avoiding foods coming out of North America:

if they [North Americans] want to eat it and drench their food chain then that's fine but we can actually avoid that here and the same with all the

¹⁰⁴ Targeting Inghams involved, for example, noisy protests targeting Kentucky Fried Chicken who at the time were sourcing Inghams chicken, which was fed on GE soy feed (A-IMC, 2004; NW RAGE, 2005).

contamination of the corn that's been coming ... just don't just go to these countries if there's going to be a risk. If you don't want to go through all this process and the expense, 'cause they [NZ Government] keep saying it's expensive to test for GE, well simply just avoid the country and then you won't have any problems and the assessment will be a lot easier (Diane).

A further problem – and difference of opinion – with labelling GE foods was pointed out by Grant, who argued that even if there was sufficient labelling (and even if the place of origin of a product was known) choice is not an option for everyone:

this food stuff is very nice for middle class people who can afford to buy organics; the vast majority don't have that choice and they just go to a supermarket and buy whatever is cheapest and that's gonna be the stuff that's been fiddled with. So that's why labelling isn't really a good option because who on earth reads the label? You need to have a ban on GE derived food.

Grant argues that if people do not want food that has “been fiddled with”, then GE food should be banned. Grant also mentions organics foods, as the ideal alternative: if GE is unnatural and equated with risk, organic methods are the natural option.

At the time of the Royal Commission, the organic industry was experiencing massive growth, in part a result of the debate occurring with GE in this country (MfE, 2001a/2001b). However, the economic success was not the prime reason that movement participants embraced the organic alternative: “it's not just about an economic alternative for the current farming system, it's a complete paradigm shift, and that's why GE doesn't work” (Dean). Dean went on to talk about how people seem to want to reach out to nature, but do not seem to really know how. For Dean, doing things organically is the key:

I mean people are reaching out for nature, but they're doing it in a very industrial kind of controlled way, and so they don't know what organics is, but they know somehow if you pour all this poison on the food it somehow is going to affect me and my family. So people are reaching out back to nature in the most peculiar kind of ways [such as] through the conservation movement, through buying organic food, but not actually by doing it. And organics is actually a practice: it's not a knowledge based system. So you can't become proficient at organics through knowledge. It's practice.

A more natural lifestyle is what organic practices promise. The push for organics as the answer has come through from the organic community and has received widespread support by those advocating GE resistance:

We, the organic community was the answer ... we just said look, it's far more strategic for us to be "we're the answer", and so [we wanted] the anti-GE movement to be "go organic" as the answer (Dean).

The welcoming of an organic vision was a position that was shared by research participants, though how they might go about actively supporting this vision differed. As aforementioned, Grant raised concerns that many people could not afford organics, yet he himself still supported the organic vision. Pursuing the organic route was seen as the natural alternative that averts the risks associated with GE.

[GE] is a time bomb. It's an accident waiting to happen, and the more we piss about with playing around with E. Coli and god knows what else, which is what is happening, then the more likely we are to create what people are most frightened of (Linda).¹⁰⁵

Linda refers to GE as "an accident waiting to happen". She went on to say that the more developments, experiments and trials that there are, the more likelihood there is that there will be accidents. A technology viewed in such a way is a risky technology, which constitutes a further collective action frame.

Beck (1992) has influentially argued that contemporary, post-industrial society is a *risk society*. Risk has become a powerful factor in our modern lives, given the four different ways that risk in the modern world differs to risk in the past (Beck, 1992). Beck (1992) states that risk no longer affect any one particular social group; it is instead non-discriminatory and pervasive. It is also now much more difficult to determine and prove who is responsible for a given risk. Third, although there can be a minimisation of risk, there can never be complete safety. Finally, the implications of risk can be so momentous that it is impossible to compensate resultant grievances. Each of these

¹⁰⁵ There are several strands of E.Coli - or Escherichia Coli - which is a bacterium that lives in human and animal intestines, but which can cause disease if spread outside of the intestine (Lee, 2010). The Green Party of Aotearoa New Zealand provide a list of GE products available for sale in Aotearoa New Zealand, which shows that genes from E.Coli are used in some of these goods, for example in soya bean and canola, corn, potato, sugar beet and cotton (Green Party, 2003).

attributes of contemporary risk was referred to in some way by activists in relation to GE technology.

The irreversibility of GE applications was an often cited concern that links in with the risk frame. Shane describes GE as “potentially one of the most dangerous of all manifestations of capitalism because it’s potentially irreversible [at least] certain aspects of it [are]” (Shane). Furthermore, we do not know enough about GE:

What about the unknowns? We don’t know enough. What about the soil bacteria? There’s so much we don’t know about. What’s going to happen to this genetic material when it is excreted from cows and ends up on the field and that sort of thing? (Kirsty).¹⁰⁶

Not knowing what might come from GE is a concern. This lack of knowledge is reinforced by the lack of transparent reporting on GE science.

Misinformation and misleading debates have contributed to the mistrust of those involved with GE, which adds to the perception of risk. Hilda describes an example of how information can be manipulated to suit the situation:

It’s hugely significant that the ability to patent living things is now there and the thing that I always find really amusing is how on the one hand, the genetically engineered crops are so different and so unique and so cutting edge that we can patent them, and if they move around we can bill you even though you don’t want this contamination. So they say that on the one hand, [and] on the other hand when it comes to the food, as soon as you process the fields of GE canola, the fields of GE maize or whatever into food, then it’s referred to as “substantially equivalent”. The GE food is so similar it doesn’t need labelling. So, it’s like you know, pull the other one, please.

This argument emphasises concern about the safety of GE. It questions how GE can be novel on one hand, yet the same as conventional food on the other. Just as GE food was seen as contaminated food, GE in the environment is viewed as a contaminant, and therefore as a risk.

Dean stated that he saw contamination as a purposeful strategy undertaken by biotechnology companies:

¹⁰⁶ Kirsty is referring to the AgResearch GE cow trials in Aotearoa New Zealand.

I think they're just busy getting on contaminating the world. I think that's the strategy. They tried to take it on head on, like force the door open, but I think that just grew too expensive and too difficult [because of] too much resistance.

Regardless of whether there is a "purposeful strategy", environmental contamination is seen as a threat to biodiversity. There was a need expressed by some movement participants for more accountability if or when any accidents occur: "We're trying to get some accountability with the new technology as it comes into our societies, which at the moment, from a polluter pays perspective, nobody seems to be picking up the bills here" (Diane).

It was common for movement participants to draw on overseas examples of genetic contamination, using these as exemplars for what could happen in this country:

the biggest threats in terms of GE are biodiversity threats, such as the contamination of Mexican corn. That's a real threat to global food security and global biodiversity in terms of food crops, and that's the biggest risk; whether it's rice in Malaysia, whether it's soy, whether it's wheat. 'Cause in diversity is stability, and in terms of the biology of our food supply, and in terms of the ecology of the Earth as well, biodiversity is crucial (Gavin).

There has always been plant matter that has spread with ease, such as self-seeding weeds, and the spread of GE plants is viewed in much the same way but worse, given it is not only a plant contaminant but a genetic contaminant. GE environmental contamination could end up being disastrous. Linda described how fast GE canola has spread through Canada:

at the Royal Commission time [Canadian farms] were starting to become contaminated with [GE] canola, and some of the expert witnesses were quite concerned about that. So I'm trying to bring out the fact that it had only taken 20 years and the whole place, from breaking virgin land, was contaminated.

Linda uses the Canada example with canola as a warning for what could happen in this country. Contamination arguments correlate to arguments about the containment of GMOs:

it's still a very crude science, and the results are so unpredictable, and why stick it out in the environment where it can do all sorts of things and you

can't predict and you can't control [it]? If you are going to do the research, do it where you can contain it... (Kirsty).

The issue of how much containment is acceptable is a “dividing line” for the movement according to Kirsty. There are those who completely reject GE, and others (who in this research are the majority) that are accepting of some GE experimentation and research so long as it is adequately contained. After visiting a containment facility for a field trial, Kirsty became concerned about containment measures:

there was no disinfectant for our shoes and we were walking into this room that has cow tissue and blood products all over the floor – it's where they actually do the kind of post-mortem if you like – and that had open doors out onto the main yard which was covered in cow dung, and then there was a fence, and then there were the cows. So there was just *no* real containment.

The scene Kirsty describes is one where GE cows were in a field, just as any other cows might be in a field. Kirsty continued:

So we walk in there in our work shoes, everyday shoes, and we walk out into the cow dung and we're standing there having a chat to these AgResearch managers. “They're pretty normal looking cows aren't they?” they'd say, and then we're saying “but what about containing the genetic material, I mean they're shedding DNA all the time aren't they?”. “Oh, we're not too worried about that”. Suddenly this bird hops on the back of a cow and has a little nibble on the cow at whatever, insects, and we said “well you can't control the birds coming in here, what about the rabbits? What about...?”. Every kind of wildlife hitch hiker was in there and taking the stuff out and you cannot tell me that after all the research they've done on horizontal gene transfer that there was not going to be some horizontal genes transfer. We don't know where it's going to end up. So the risk is low, but it's there.

In this excerpt concerns about horizontal gene transfer are raised as another potential way for risky GE contamination to occur. In addition, Kirsty's shift in view from GE in containment as acceptable to it not being acceptable shows how individuals' positions are not necessarily fixed, which is reflected in the changeability of the movement overall.

Concerns about GE risk were also prominent when it came to medical applications. The concerns raised were around cross-species experimentation, pharmaceutical crops

and bio-pharming, ill-fated medical experiments and accidents.¹⁰⁷ As indicated above, participants' relayed examples of various experiments that have resulted in ominous health side-effects, emphasising how at times attempts have been made to cover up or downplay these side-effects.

Ill-health effects are also emphasised in terms of food: in this way a more immediate link is made between humans and GE health risks. Also identified specifically as a health risk were possible issues associated with antibiotic resistance:

it's about inserting antibiotic marker genes into the mainstream food supply, it's not a good idea... We already have a problem with antibiotic resistance. We have no idea of what the issues are, that's why the need for caution, and because they found instability in the genetic constructs they used, we need to see what the implications of that are (Jason).

Talking about risks associated with food and environment has been relatively straight forward in terms of collective action framing. As discussed earlier however, medical risk is more difficult to mobilise movement support around. The main idea that emerged around risk was concern with there being too many unknowns and room for accidents to happen.

The onus for dealing with GE risk was placed mainly on State organisations that should provide stronger regulations. However, consumer activism through careful product selection was also expounded. Those that had little faith in the Government saw direct action – crop sabotage – as a worthwhile option.¹⁰⁸ In this way, those responsible for developing these technologies that tamper with plant, animal and microorganism genetics would be directly targeted.

Concerns were often raised about how GE equates to the ownership of life, which comprises the final collective action frame. In this collective frame, all of the reasons given by GE technology protagonists for pursuing GE are deemed irrelevant, because the real reason that GE is being promoted by these bodies is profit and power:

¹⁰⁷ Bio-pharming is where pharmaceutical compounds (commonly proteins) are grown in genetically engineered plants or produced in animal tissue (Byrne, 2008; Kaye-Blake, Saunders & de Aragão Pereira, 2008).

¹⁰⁸ Examples of crop sabotage in Aotearoa New Zealand include the Wild Greens who destroyed GE potatoes in 1999 (Meylan, 1999), and the sabotage of 19 GE pine trees in 2008 (Lang, 2008).

[GE technology has] got very little to do with human health or ecological health or biological health, because you're dealing with a greed machine basically; an oligopoly kind of mechanism that's hell bent on power basically (Dean).

Dean expresses what most movement activists referred to at some point: that GE is essentially a technology used by corporations to make money by controlling life at the molecular level. Grant shared the same ideas as Dean: “to me it was an example of a technology that didn't really give anything to the people or the environment, but was a rather oppressive technology, a dangerous one, that has a huge amount of unknown risks and very little benefits”. GE science was viewed as oppressive and driven by the commodification and ownership of life.

Veronica described her active involvement in GE resistance as primarily hinging around the issues of ownership: “I was also very interested in the patents side of things, tied up with biopiracy, ownership of the global commons and a new level of exploitation at a genome level”.¹⁰⁹ Amber spoke of similar concerns, referring to GE technology as “manipulation at the genetic level”. Intellectual property, DNA ownership and biopiracy all came into play as big issues that movement participants were concerned about:

I first became aware of the issues mainly because of the concerns that Māori communities had around intellectual property, and around the biopiracy or the thieving or the stealing of, or misappropriation of Māori intellectual property and knowledge for the benefit of multinationals, and of course GE is a big part of that through bio-prospecting (Amber).¹¹⁰

¹⁰⁹ Biopiracy refers to the practice of scientists seeking to sequence and patent the DNA of plants that have been used by indigenous peoples for various purposes for millennia.

¹¹⁰ Bio-prospecting is linked with biopiracy, and refers more to the seeking out of – or prospecting for – plant and other goods that may have beneficial properties that could be patented. The Ministry of Economic Development (2007, ¶2) provide this definition of bioprospecting: “the collection of biological material and the analysis of its material properties, or its molecular, biochemical and genetic content, for the purpose of developing a commercial product”.

Amber remarked that Māori had been concerned about these kinds of issues for a long time prior to there being any broader interest in GE technology as the Wai262 claim shows.¹¹¹

Wai262 relates to issues of biopiracy, Intellectual Property and the Treaty of Waitangi. Amber relayed how she views concerns about GE from a Māori perspective, as being strongly related to power struggles, conflicting worldviews, and ownership of life by way of DNA and intellectual property. Dean raised similar concerns:

I am certainly aware of the whole issue around food, and intellectual property as it pertains to indigenous people, and exploration of what indigenous means and ownership and how this is unfolding... I mean the same companies are now privatising, buying up water companies, moving into food, and they're quite clear what they want, which is total control of the food cycle.

Ownership – patents and profits – are not just the domain of biotechnology companies. Dean notes that companies involved in biotechnology, or life sciences, are the same companies who are seeking control of water through privatisation. Issues tied up in ownership lead on to questions about the place of science and scientists in society, about where scientific epistemologies fit in the world:

For me this is the big injustice that I've seen taking place: domination of global biopharmaceutical and science based companies, imposing world views and epistemologies on people that don't subscribe to them (Amber).

Amber argues that the standpoint of those involved in global biopharmaceutical and science companies is in conflict with the stance of Māori (and of other indigenous peoples).

The central claim of this collective action frame is that those working with GE technology development are not doing so out of a philanthropic desire to help people or the environment, but to create profit through developing patents, and through bio-piracy and intellectual property for their own benefit: “GE is nothing if not all of that corporate ownership of life effectively” (Heidi). In a similar vein, Shane referred to GE as just part of the wider neo-liberal agenda of privatisation:

¹¹¹ Chapter One outlined the basic premise of the Wai262 claim.

It's market environmentalism. GE is the neo-liberal idea of privatising everything; going into the area of life and that everything can be sold through the market.

Ben relayed the same kinds of views as Amber, Dean, Heidi and Shane, but with one difference. Ben states that people have come to realise what is going on with ownership, and are consequently beginning to turn their backs on GE food:

I think it's just been a simple case of the public slowly coming around and being persuaded that it's not in their best interests to have their food supply organised by the big companies and their genetic engineering products. And I think that there's just this whole swing of public mood against excessive technology, which I think that this is, and I think that's what the public has generally come to see. And people say "well what the hell do we want it for anyway?", and generally ended up against it.

With such malevolent motives driving the development and progression of genetic technology, it could not possibly have constructive outcomes.

Given concerns over GE as the ownership of life, several movement activists believed that a complete jettison of GE is the only approach to take. Sitting alongside this rejection was the notion of a sustainable, organic based system. As aforementioned, there was widespread support in the movement for this, though with variation on how it could be achieved. Dean proposed that it begins simply with planting your own organic home garden:

probably one of the most radical things you can do is have an organic home garden. The most radical thing that you can do in your daily life that empowers yourself and your community around you and your children and families is actually don't lock into the industrial food system and fuel financially (Dean).

Dean argues that if you are growing your own organic food then you are not buying patented GE food and hence supporting the multinational biotechnology industry.

In summary, collective action framing has been an important task for key movement participants, a task which has involved some very strategic thinking. These frames highlighted how GE technology is multifaceted, raises moral dilemmas and involves myriad problematics. Despite such diversity, three basic levels of consensus emerged: an emphasis on food and environment matters over others, organic practices as

preferable, and an overall concurrence on the general theme of these frames. Even though activists signalled a range of positions and prioritisations, all research participants (apart from Jacob with reference to GE being about the ownership of life) raised concerns relevant to each of the named collective action frames. This concurrence, albeit with considerable variations, is in line with the argument of Hunt et al. (1994), that these frames are important for collective identity as they can account for a wide range of actors' ideological views. It is clear that collective identity is a kind of permanent negotiation rather than a solid, steadfast and unitary view. This same kind of negotiating is at work in the analysis of the movement's master frames.

5.3 Master Frames

An important relationship exists between collective action frames and master frames: collective action frames that are closely related to a master frame are expected to be more potent (Olesen, 2006:181). Master frames are frames that social actors draw on, interpret and manipulate (Snow & Benford, 1988). They are already available in the world, are expansive, and operate as a paradigm across a number of social movements (Snow & Benford, 1992). These master frames are described by Olesen (2006:181) as being like "reservoirs" from which activists can draw.

Della Porta, Andretta, Mosca and Reiter (2006:63) argue that master frames or "ideas" play a key role in the "construction of collective identity and identification with a movement". They note that such collective identity is based on multiplicity and fluidity and is plural rather than something uniform. Identity manifests in master frames in much the same way as in collective action frames, yet the scope for inclusion in a shared collective identity is broader given that master frames are cultural 'reservoirs' that precede a given movement and consist of commonly understood discourses. Three master frames are at work in the GE resistance movement: liberal democracy, harmony with nature, and 'clean and green' – a national identity frame.

Aotearoa New Zealand is a liberal democracy (McRobie, 2003; Mulgan & Aimer, 2004). Liberal democracy provides numerous understandings that are drawn on by movement activists. The idea of what a democracy means for its citizens is outlined by Mizruchi and Bey (2005:310):

In a democracy, citizens possess an array of rights and privileges. Among these benefits is that all citizens are viewed as equal in the eyes of the law. No one is intrinsically endowed with a disproportionate set of political privileges. All citizens have a right to pursue their political objectives, as long as they do so in a legally sanctioned manner.

Liberal democracy emphasises individualism, or the rights and protection of individual liberty. Individual citizens are regarded as possessing morality and rationality and therefore are perfectly able to determine political choices, including the election of political representatives (Farnsworth, 2010). The notion of the liberal individual is one that comes through repeatedly in this master frame.

Recognition of democracy (and democratisation) as a master frame has been widely noted in social movement literature (see for example Almedia & Johnston, 2006; Hochstetler, 1997; Kong & Lim, 2008; Olesen, 2006; Roberts, 1998; Westby, 2005). Moreover, the call for democracy is powerful:

The hegemony of “democracy” as the only acceptable form of governance is as pervasive a part of contemporary neoliberal ideology as “basic human rights”. However substantively undemocratic the operation of the global neoliberal regime may be in practice, invocations of the principle of democratic governance are politically powerful (Evans, 2005:663).

Movement activists recognised the power of deploying a liberal democracy frame that vouches for basic human rights. From 1999 onwards, this frame took on great significance for the movement.

Activists questioned just how democratic the practices of this country’s Government, CRIs and the regulatory body ERMA have been when it comes to GE.

We wrote to ERMA, we sent them photographs and tabled our concerns, and went through every stage of the democratic process thinking all the while [that] people are going to take notice and people are going to help; that would be the right thing to do in the interest of biosecurity and good science. It’s bad enough when you have the ignorance that leads to making mistakes and leads to things being inadequately contained because you haven’t thought of everything. But even worse is when there’s evidence and support that things have gone wrong and you don’t put energy into fixing it and into scrutinising it properly, you put energy into evasiveness and covering it up, and I just thought you bastards (Hilda).

The call for democracy by movement participants has been a rallying cry heard through all manner of activist trials and tribulations. As Hilda expressed here, she expected that some kind of “democratic process” would follow regarding her concerns about a GE field trial, but instead she states that what she was met with was “evasiveness and covering it up”. Not only is a call for democracy powerful, but democratic principles have been used as a theme underscoring much of the movement frame alignment work.

The idea that the Government has failed to respond appropriately – democratically – by not listening to all peoples’ concerns and taking such concerns seriously reverberated throughout activist discourse. The Government’s vested interest in GE technology was viewed as being responsible for their lack of democracy:

Well I think the Government has hoodwinked the public big time about the whole issue, and I think they’ll go on hoodwinking the public because they’re on the side of science and technology, because their Crown Research Institutes that they supply half the money for are all involved in it (Linda).

Linda relays a melancholy tone here as she sees Government ‘hoodwinking’ the public given their own commercial interests in pursuing the technology.

Jason suggested that if the Government had not behaved in an undemocratic fashion, there may not have been a GE resistance movement in the first place:

It’s a genuine grassroots movement that has emerged purely because of the desire to suppress it. Look at it this way: early on one of the campaigns running in Europe and in New Zealand for a very brief time was a five year freeze... If they’d said “yes sure, we can see you’re a bit concerned, we won’t introduce it, we’ll research it properly, we’ll have independent authorities researching it, we’ll make sure that patents don’t infringe on third world countries and so on” ... then we would have nothing to do. We’d be left sitting there going “what are you complaining about?”. But they’ve fought us at every step to regulation, and they continue to fight the public will.

Recognition of, and responding appropriately to the “public will” rather than suppressing it, is what democracy requires. Following on from Jason’s sentiments, to be seen to be acting democratically the Government should not have allowed GE technology in the country, particularly into the environment and into food without

people knowing. Barb describes how nobody knew what was going on with GE in the 1990s, and that essentially no testing and little regulation was in place:

When ERMA was coming in, that was when everybody was starting to go “hang on, we don’t know anything about this. We’re about to put it in to our community, we’re about to commercially grow it, and nobody knows how it’s going to act”. And in a way, that was when New Zealand woke up to the GE issue. However, it had been going on in universities and nobody believed that there was no testing done; nobody believed it’d be any different from hybridisation. So nobody was running tests, nobody was looking at the soil, nobody was looking at the health of the animals or anything like that.

Barb refers to how GE technology was not debated by the people when it was first introduced; many people did not even know about it. Once information started to become more widely available, mass resistance to GE emerged in this country. If the Government of Aotearoa New Zealand had taken more leadership on the issue of GE, perhaps the mass mobilisation of resistance would not have emerged.

The rights of Aotearoa New Zealand citizens to be informed, for their Government to be open and transparent, and for fair political process to be in place are concerns that came through consistently. Hilda discussed how her concerns did not really “crystallise” until she found out that a GE field trial had been underway for quite some time near where she lived. When she tried to find out more about it and asked questions, she found that she was not responded to as she expected to be, with “openness and transparency”. This reflects, once again, a commitment to democratic principles.

A Royal Commission of Inquiry is the highest form of democratic inquiry that can take place in this country, yet the RCGM was seen by activists as having been the ultimate undermining of democracy. It was an “outrageous betrayal of the public” (Jason) and a “fait accompli” (Heidi). The RCGM was by far the most commonly cited example of how democratic process has failed the people. There was scepticism about the RCGM right from the start. Jane argued the process was always going to “be flawed”:

Any one [process] is going to be somehow imperfect that you choose to try and create a forum for a whole country to sort of work through... The more I think about it, the more inappropriate I see that [Royal Commission] model as a way of actually doing that properly: it was very top-down. It was I

think very easily subject to capture by organisations that have already all of the resources to participate in a formal process like that. I don't think the report at the end was a particularly good piece of analysis, and I think it reflected the problems with the process, and it reflected that there weren't enough resources that were going into test properly the kinds of evidence that was coming before the Commission. I didn't find the Commission sufficiently questioning actually a lot the information they got.

Veronica commented similarly to Jane, saying that there was no "level playing field from the beginning":

it was obvious that [the RCGM] wasn't a level playing field from the beginning as we didn't have the people or the resources to cross-examine everyone, and the Commission accepted their [pro-GE witness] testimony as the truth if no one was there to challenge it. We, the movement, had very little money to hire lawyers. Most of the hours done by our lawyer were *pro bono* and we simply didn't have the people to sit in the hearings all the time. On the other side, most of the industry had pooled their money and had legal presence the whole time. Of course the whole Commission was orientated towards approving GE: its mandate was never to deny GE but to explore how to make it more palatable for the population.

Similarly to Heidi and Jane, Veronica also viewed the RCGM outcome as a fait accompli.

By the time the RCGM process was finished, and the Report and Recommendations put forward, there were feelings of having been betrayed by the whole procedure. Amber equated this with a lack of democracy in the process:

everybody felt so completely fucked off and let down by the Royal Commission. We were completely done over to think that there was any democracy in that process ... there are not enough words to describe how pissed off I feel about that. And the amount of energy that people put into that and the time they gave up to participate in that, it was just a farce.

These quotes from Jane, Veronica, Ben and Amber have highlighted how the partiality of the RCGM process was a major problem. People felt that their submissions to the RCGM were ignored. Veronica argued that the submission forms themselves were "complicated and difficult to understand on purpose, to alienate people from participating".

The rights of individuals to voice their opinion, to be heard, to be treated fairly, and to take part in decision making, are ideas that are all integrally tied up in the liberal democracy master frame. Activists' understandings in this respect were clearly apparent in arguments made for the right to make choices as consumers, and more broadly the political right to have a say about the future of Aotearoa New Zealand. Consumer choice campaigning was most notably taken up by MAdGE and Greenpeace, who promoted the individual right to informed decision making and choice through brand avoidance.¹¹² Strategies were centrally focused on individuals' right to choose to participate, to make their own decisions, and to be listened to and taken seriously as concerned individuals in a democratic nation.

Grant argued that the secretiveness, lack of consultation, and unfair treatment of Aotearoa New Zealanders made people feel "really angry". Anger and frustration proved to be a powerful impetus for mobilisation.¹¹³

it's just the anger, just how incredibly unfair it is, and just how that then makes you feel as a person in the world in terms of the power; that these decisions are being made that impact on our lives and there's nothing we can do. I think that's what motivates a lot of activists; the sort of feeling of just incredible sadness and anger and desperation and powerlessness (Lou).

Gavin relayed similar views to Lou regarding the anger that was felt by movement activists. He stated that outrage can be intensified by a sense of powerlessness:

outrage has all sorts of things that increase it such as a perception of powerlessness, a sense that there's these faceless forces that are impacting them, the sense of the unknown. It's those things that galvanise people to take action; it's that sense of outrage at something, which doesn't necessarily express itself as anger and outrage (Gavin).

It is precisely these feelings of powerlessness that engages people to participate in social action. Grant, Gavin and Lou all expressed how emotions play a powerful role in spurring activism.

¹¹² Lee, Motion and Conroy (2009) discuss anti-consumption practice which they term brand avoidance, noting three different types: experiential, identity and moral. MAdGE (and others) successfully campaigned on moral avoidance of certain products based on GMO content.

¹¹³ Klandermans, de Weerd, Sabucedo & Costa (1999) discuss how anger is a motivator for involvement in social movements.

Most movement participants continued lobbying the Government to start acting more responsibly and democratically after the RCGM. Others, however, were so frustrated that they turned their backs on legal-political processes. These individuals decided to take matters into their own hands, literally, by using direct action: “our message was distinctly almost anti-political, it was *avoid* the politics, we’re *tired* of the politics; the talking hasn’t gotten us anywhere” (Heidi). It was largely the radical flank groups that took this approach.

Liberal democracy is representative democracy, and while the radical flank shunned the democratic process, each of the activists concerned with this approach regardless engaged in mass mobilisation (democratic) tactics. Moreover, their direct action was representational because activists were encouraging others to follow suit, in doing so seeking to set a precedent. Rather than departing from the liberal democracy frame, the radical flank sought to push the boundaries while remaining firmly situated within this frame. In this way, the radical flank maintained their associations with other more cautious activists.

Inciting a liberal democracy master frame has been powerful in terms of mobilising agents: Aotearoa New Zealanders understand that living in a democracy means they have the right to voice their opinions and be involved in political decision making through various channels. When activists start talking about a miscarriage of democracy, the RCGM being a joke, and the Government having failed the people, engaging the interests of people in this country on GE becomes less difficult. Stating that people have been hard done by and ignored – that democracy was not being served – has proven successful as a mobilisation strategy.¹¹⁴

Harmony with nature is another significant master frame, which proposes that the realm of nature has intrinsic value (König, 2009c). Each of the collective action frames

¹¹⁴ There was some speculation among movement participants that the Aotearoa New Zealand Government was between a rock and a hard place, given the power that (international) corporations have to influence Governments of small countries in particular, such as Aotearoa New Zealand. There is evidence to support such speculation, given research has indicated that as economic globalisation has increased, national governments have a decreased ability to regulate what happens within their own business sectors; therefore “business elites” will have an increased power in individual capitalist countries (Mizuchi & Bey, 2005:329).

are especially apparent in this master frame, adding to its potency and popular appeal.¹¹⁵ The ideas of GE as risky and unnatural threaten the notion of harmony with nature. GE being about the ownership of life infers that nature should not be owned, specifically that genes should not be patentable. That GE involves many issues fits with the ideas put forward by some about the interconnections implicit in nature. Jason provides a good example of this idea:

Every bit of evidence in the last 30 to 50 years of science – good science – shows that you have to work with the environment. You can't smash it. The whole planet is a complex microbial community with multiple elements, so complexity says, you can't do that. So yeah it's more a balance; it's basically the ongoing battle of alienation from nature and recognition of our part and though different from, still reliant on nature. You know, respect for rather than disruption of natural systems; diversity rather than monoculture.

Jason articulates the kinds of concerns and themes that are pertinent to the harmony with nature master frame: “work with the environment”, “the whole planet is a complex microbial community”, “respect for...natural systems, diversity”. Put simply, this movement had a strong environmental protection and conservation agenda – an agenda that Henderson (2005:127) noted in her work on GE resistance in this country: “the campaign endorsed environmental values and favoured policies that protected New Zealand's unique flora and fauna”. This master framing emerged early on (in the 1990s), given that it was Māori and environmentalists in particular who, prior to movement emergence, were voicing concern about GE.

Jason went on to discuss how people have an increased understanding of the complexity of the Earth (nature) and its inhabitants. This links into the argument that the manipulation of nature at the genetic level has widespread implications, given the interconnectivity of humans and their environs. This kind of worldview recurs in activist comments. Diane said GE is “inherently wrong” and Amber related manipulation at the level of genes to meddling with whakapapa. Ben talked about how GE is altering nature in ways that were never intended:

¹¹⁵ See for example Potter's (2004) discussion about the significance of environment and ecology for master framing.

I guess it was way back in the mid-‘70s when genetic engineering first came up ... there’s something new going on here and there’s the capacity to change nature in ways that we’ve always thought would be left to nature to control. So human beings had the potential through genetic engineering to do things that were better left to nature; I guess that was the instinct. And as I said, there was some quite well articulated news as to what could go wrong if people started interfering with the natural processes of genetic information flow and inheritance.

Jane talked about interconnectivity also, but in a more specific way. She was particularly concerned about GE experimentation with animals given that she has an understanding of a contract of “fair life” between animals and humans:

[There] was a sense that this was an intensification of intensive farming, and that the relationships between human and animals were deteriorating with this. I had grown up on the notion of a contract between humans and animals – even though the animals couldn’t sign on – but the contract being fair life for helping us stay around here with food and clothing and so on. It really shocked me actually this idea of the kinds of intervention that were proposed and a sense of this was something that needed to be deliberated by society quite seriously before we took to this technology too quickly. I really felt this was a threshold; this was actually in some ways both an intensification of something old existing in terms of attitudes, but new in terms of possibilities of driving through on the basis of some bad or potentially bad or questionable relationships to nature and so on.

Again there is the idea implicit here that everything on Earth is interlinked. The emphasis is on how GE threatens to disrupt these connections by altering things in a way that is not in tune with nature and the natural course of biology.

There is a strong sense of a moral identity for humanity as a whole in the harmony with nature frame. This identity is found in connection with other humans as a part *of* nature (in contrast to the idea of humans as apart *from* nature). Yet at the same time, if we consider some of the ideals that Aotearoa New Zealand is associated with – such as being ‘clean and green’ – there is also an association here with this country in particular. The harmony with nature master frame operates on two kinds of levels: it has global potency and appeal which brings all of humanity together with nature, as well as localised connections concerning the image or branding of this country.

The final master frame, 'clean and green' national identity, expresses the most overt linkage with Aotearoa New Zealand. There are two important identity processes at work here. There is the clean and green aspect, and the national identity component. In regards to the latter, Greenfeld (1999:39) describes the function of nationalism and how it can operate as a master frame:

Nationalism is the cultural framework of modernity; it is its main cultural mechanism of integration, and therefore, construction. It is the order-creating cognitive system which invests with meaning, and as a result shapes, our social reality, or the cognitive medium, the prism through which modern society sees this reality.

Implied in nationalism is a sense of belonging to a particular nation with its associated social and cultural values. In this country, nationalism has been recently and powerfully shaped in association with the notion of clean and green.

As Bell (1996) and Dew (1999) argue, notions of paradise and a land of plenty comprise an imagery that has roots in the colonial era of Aotearoa New Zealand. Wide empty spaces and a sparse population gave the impression of this country as clean (Pawson, 1997). Thus, the idea of clean is associated with nostalgic impressions of the past. The idea of green however is a much more recent narration dating back just three decades. It was in the 1980s that this country was first branded as 'clean and green'.

Green is associated with environmental sustainability (Yellow, 2009). 'Clean and green' was coined as a source of pride for citizens of this country at a time when there was unrest over nuclear policy in the mid-1980s (Coyle & Fairweather, 2005; Pawson, 1997). The nuclear unrest also coincided with the sinking of the Greenpeace ship *Rainbow Warrior* in Auckland when it was on its way to protest against French nuclear testing in the Muroroa Atoll (Christchurch City Council, 2010; Coyle & Fairweather, 2005). Gavin described the origins of the 'clean and green' ideal, before going on to discuss how this was seen as a favourable notion to ally the GE resistance movement with:

The origin of New Zealand's clean, green reputation is the bombing of the *Rainbow Warrior*. And I think the BERL Report – the economics report they did on the impact of GE crops in New Zealand economically – went back to try and work out, where did we start perceiving ourselves as clean and green, and when did the world start perceiving us as clean and green?

It's around that nuclear policy and that nuclear position, and the Rainbow Warrior.¹¹⁶

Gavin provides a parallel between nuclear free and GE free, and hence draws the clean and green image from the former to the latter.

Clean and green registers an ideal notion – a “place myth” – that has over the last three decades invoked a sense of national pride (Coyle & Fairweather, 2005:148). As a “national identifier”, Pawson (1997:17) argues that “‘clean, green’ incorporates both nostalgic and anticipatory elements”. Diane expresses her pride in Aotearoa New Zealand, in doing so demonstrating the idealism of clean and green:

this country seems to so logically just need to be kept a pure haven, no matter what cost. Out of all the places in the world this should be one place no matter what happens that should be preserved really because it's such a perfect little bubble.

A “pure haven”, a “perfect little bubble”, and “this should be one place no matter what” suggest there is something very unique about Aotearoa New Zealand. Not only does clean and green incorporate both nostalgia and future, but also a particular geographical space and cultural identity, ‘what is’ and ‘what should be’, complacency and aspiration, along with economic and cultural value. It is open, flexible and versatile – it allows space for engagement given its multiple meanings and value associations.

Pawson (1997:17) argues that clean and green has become “New Zealand’s national brand image”. It has become economically valuable as a “marketing tool that extended to broader environmental issues” (Coyle & Fairweather, 2005:148). Jason explained the relationship between ‘clean and green’ as being about both economics and culture:

big companies like Fonterra and greedy people here are thinking money, money, money, not brand, image, culture, community values. I mean there's money in protecting New Zealand from GE, there's a huge amount of money to be made from protecting what New Zealanders think it should be, and that's clean and green, even if it's not perfectly so.¹¹⁷

¹¹⁶ BERL is *Business and Economic Research Limited*; I could not locate the report Gavin refers to.

¹¹⁷ Fonterra is a company cooperatively owned by 11,000 Aotearoa New Zealand dairy farmers. As part of Fonterra's operations, they own ViaLactia Biosciences, a company that is involved in research and development involving GE technologies (Fonterra, 2010).

Jason argues that GE is a threat to the clean and green ideal – the two do not go hand in hand. He also speaks of the importance of this “brand”, this “image” for citizens of Aotearoa New Zealand. Because it is important for citizens he argues, it should also be important for bodies like *Fonterra* who proclaim to be “taking the lead” with innovative new biotechnology.

‘Clean and green’ and national identity have become infused with one another and widely recognised. This connection is repeatedly identified in Government documents for its dollar value association with the environment, estimated to be worth hundreds of millions of dollars (MfE, 2001b / 2003). Dew (1999:53) describes how the ‘clean and green’ imagery draws together cultural aspiration and economic realities:

the symbol of clean and green New Zealand provides a very strong cultural resonance which strengthens chains of cultural meaning and provides a strong impetus for action. This symbol is grounded in the nation’s self-image and its economic dependency.

With the ‘clean and green’ brand so highly valued by Government (among others) and being deemed an important economic and cultural asset, it is no wonder activists concerned about GE have drawn on this notion also. When the economic value and cultural integrity of this country are argued by activists to be threatened by GE, it is near impossible for their adversaries to ignore. Adversaries are forced onto the playing field, making it a space of conflict in which both protagonists and antagonists are seeking the moral high-ground.

Clean and green national identity is a powerful master frame in terms of movement collective identity as it conjures up a strong feeling of national pride, and has a history that is multifaceted. The history of this national identity icon has been developed over several decades, incorporating both nostalgia and visionary thinking. Along with sentiments of cultural wellbeing and belonging, clean and green has economic significance. As such, it is a prevalent, commonly understood discourse engaged in by not only movement activists, but by antagonists and the wider public as well. It has strong resonance and offers a sense of connection and belonging to Aotearoa New Zealand.

Taken together, the master frames of liberal democracy, harmony with nature and clean and green national identity cover a broad spectrum of ideas. These frames are not unique to this movement. They pre-existed the movement and are discourses that are shared by its antagonists. Certain master frames were also elevated during different movement stages. During the 1990s there was a strong emphasis on harmony with nature in particular, which makes sense in terms of there being a strong push from environmentalists and Māori leading up to mass mobilisation, and given the identity association with Aotearoa New Zealand. It was not really until from 1999 that liberal democracy became a solidly deployed master frame. Like the two aforementioned master frames, it has since remained strong. The democracy framing itself was internally dynamic and flexible. Leading up to and during the RCGM, the focus was on transparency, fair process and the right to participate. Once it became clear that the moratorium on commercial GE would be lifted, democracy master framing took on new meaning, largely through the radical flank coming more to the fore. The radical flank groups were arguing that democracy had failed the people of this country. While pushing the boundaries of the liberal democracy master frame, the radical flanks nonetheless have remained wedded to it.

Liberal democracy is an easily obtainable frame for movements in modern democratic countries like Aotearoa New Zealand. It also provides a welcoming domain for the individualistic tendencies expressed by activists. Harmony with nature has global appeal as it invokes images of people and planet involved in an interconnected biological system where nature is a source of great power that needs to be respected. Identity claims in association with Aotearoa New Zealand as clean and green were directly stated by many movement activists, while others referenced characteristics that associated with the clean and green ideal. This national identity frame is not just about nationalism and patriotism to one's birth place and history. Clean, green national identity is a construction of what it means to be associated with an idyllic image of this country and therefore is widely available for uptake. With it comprising, paradoxically, both nostalgia and future oriented imaginings, it is culturally engaging. These frames each have potency in their capacity to resonate with a wide array of individuals and have contributed significantly to the movement's collective identity.

5.4 Conclusion

Collective identity is critical to the GE resistance movement. It permeates framing work. It must be recognised however, that there is no singular, unitary identity that is manifest in the same way throughout this movement. This chapter has shown a range of different and often diverse ways in which collective identity has been constructed.

In a most rudimentary way, collective identity is glimpsed as activists have identified a movement 'we' and a 'they'. There were varying levels of protagonists, from the general to the specific, in terms of how they positioned themselves within the movement and in opposition to antagonists. The Life Sciences Network and biotechnology multinationals were clearly antagonistic forces to challenge and target, while producers using GMOs and the State apparatus were often viewed not so much as enemies, but forces that just needed to be persuaded toward the movement's way of thinking. Both antagonist and protagonist identities were multi-layered. What appeared on the surface to be a clear demarcation between antagonists and protagonists was not in actuality so sharply defined.

To think of the movement as having a specific, unique way of thinking, as might be assumed when looking to collective action framing, risks making too many sharp distinctions and ignoring the significance of complexity. Although there were common understandings in the identification of collective action frames, there was a wide variation of positions and values within them. There is no uniform concurrence on the exact details within a given frame and how to deal with various grievances. However, what these multiple rationales have achieved is an increased credence for GE technology injustice or grievance articulation simply given the variety of approaches, as well as a basic level of shared understanding of concerns even with the variations present.

The more broad and elaborate master frames have provided the movement with significant resonance and potency to express grievances in terms of commonly understood cultural discourses. These frames did not silence or disguise differences and divisions. While there was agreement across the spectrum of core movement activists on the basic characteristics of these master frames, as with the collective action frames

this did not however correspond to any singular notion of collective identity. Social actors were singing different songs, but were doing so to the same tune.

Collective action frames and master frames tell us something important about movement collective identity. There is a very broad conceptualisation that encompasses considerable variation and complexity. There is also an emotional factor involved, as Melucci (1994; 1996) has argued. Activists frequently referred to emotional arguments and debates, and to feeling intense responses such as anger, frustration and elation, depending on the situation. Emotional buy-in plays a critical role in social movement cohesion through invoking a desire to be active, while there are emotional pay-offs for those participating in the movement. In short, emotions contribute to collective identity formation.

The GE resistance movement's collective identity has proven to be neither essentialist nor universalistic. There is no such thing as a collective identity based on a complete unification of actors. As Holland, Fox and Daro (2008, ¶1) state, collective identity is "decentred" and there are "difficulties and contentiousness [in] producing movement identity amidst multiple discourses and practices". Collective identity is a multi-faceted area that is shaped both within the movement and by external forces. It is, as Melucci (1994) has argued, constantly negotiated and shifting. This negotiation occurs not just between activists, but between the movement and its antagonists as well.

At times it is possible to recognise instances where collective identity is unified. Such instances are found, for example, in the general consensus over key collective action frames. It is apparent too in the broad shape of the master frames and the emotional engagement of actors. Yet collective identity is more aspiration than established fact; somehow it remains just out of reach. There is little that is singular about any aspect of the GE resistance movement's identity. Yet this elusive notion is one that remains a necessary aspiration for social movement action. There needs to be some means to influence a sense of belonging so that movements can materialise in the first place, mobilise recruits and act. Collective identity never congeals or pools in one set form, but rather continually moves and inspires all that it touches.

In Chapter Six, the findings of this and the previous chapter are brought together. This thesis is summarised and key conclusions are outlined. Opportunities for further

research as well as research limitations are discussed, before offering reflection on both my experience of GE resistance in Aotearoa New Zealand, and of the possible future of this movement.

Chapter Six

GE Resistance Politics-making: Fluid and Negotiable

If you think back to where it was then, before the Royal Commission, you had people thinking about growing genetically modified potatoes and carrots on outskirts of national parks and things for the possums; I mean that sort of thing wouldn't happen now. So I think we've come a long way really when you think about it: we have actually prevented most of the major pollution. All the people that have worked on the actions over the years, and all the groups that have worked on the actions over the years, I think actually we've been quite successful (Linda).

The GE resistance movement has made an impact on the social, cultural and political landscape of Aotearoa New Zealand; as Linda says, "we've come a long way". Veronica concurs, arguing that the movement has affected the way that GE issues have progressed in this country. Like Linda, she states that the movement has been "successful":

The people power that this created with the other things that were happening with the GE free movement, like GE free zones and the terrible GE trials of cattle and sheep, got people out on the street in the biggest numbers since the Springbok tour/nuclear free days. It was incredible, and very inspiring. I do believe the movement has been successful because although the government didn't adopt the policies that we wanted them to, the pressure on business especially from public opinion essentially closed the door to GE through removal of GE from products and not committing funding to field trials. New Zealand is no longer seen as a good testing place for GE (Veronica).

Activists involved in this research for the most part agreed with the sentiments expressed by Veronica and Linda. The notion that the movement was a success was confirmed by activists despite their perception that the Government did not adopt the policies they desired, in particular 'GE free' legislation. Gavin also spoke of how there were frustrations with some outcomes, but ultimately he believes the movement triumphed:

For me one of the more frustrating aspects of the GE Free campaign is that we lost the battle over the moratorium, but I think we've won the war against GE. We wanted the moratorium in writing, bang, here it is... and we didn't get that, but we got a de facto in many ways.

Even though the battle to extend the moratorium was lost, Gavin proclaimed that the “war against GE” was won. Has this movement been as successful as these core actors proclaim?

Activists’ perceptions of success are based on the variety of ways that the GE resistance movement drove campaigns and initiatives that prevented public acceptance and commercial availability of GE in Aotearoa New Zealand. Such initiatives ranged from influencing local councils to symbolically declare their regions ‘GE free’ zones and lobbying companies to stop using GE in their products, to playing an instrumental role in helping to bring about and participating in the RCGM process.¹¹⁸ These activities and numerous others all took place with the assistance of the movement. However, three of the movement’s main aims were not met: GE free legislation, an extended moratorium on commercial GE, and a comprehensive labelling regime. Although these goals were not realised, there have been no applications to commercially grow GE crops in this country. This point is significant, as commercial release was seen by those in the movement as an imminent development once the moratorium was lifted. What remains to be detailed is where the GE resistance movement stands now, nearly a decade after the RCGM. This is a question that I will return to.

This chapter briefly reviews the path taken in developing the theoretical and methodological apparatus used in the thesis. A summary of the empirical findings follows, focussing in particular on the two key thesis concepts – networks and collective identity. Research limitations and suggestions for further research are also discussed. I conclude by reflecting on my experience with the GE resistance movement, and how this contributed to my role as researcher, before considering the current status of the movement and future prospects.

¹¹⁸ Waiheke Island and Nelson were among the first areas to declare themselves GE free zones. *Goodman Fielder*, one of the biggest food companies in Aotearoa New Zealand, agreed to stop using GE canola in their products (including their iconic *Vogels* bread) in 2003 (NZPA, 2003, November 25).

6.1 Methodological and Theoretical Conclusions

The objective of this thesis is an understanding of the structural and cultural characteristics of politics-making by the GE resistance movement of Aotearoa New Zealand. To develop improved theoretical and methodological tools for this research, I began by considering existing understandings and techniques, asking what tools would be best used to interpret this contemporary movement. This review resulted in the decision to employ a dual approach: social network analysis and framing. Chapters Two and Three described how these approaches were arrived at and applied. The empirical work of the thesis was undertaken in Chapters Four and Five. Chapter Four drew on social network analysis to understand movement structural characteristics, and Chapter Five utilised framing to understand movement culture and collective identity.

The methodology and theoretical apparatus of this thesis are tightly woven together. In Chapter Two I referred to Emirbayer and Goodwin's (1994) structuralist constructionism as an ideal starting point for social movement research. To reiterate, structuralist constructionism takes into account agency, culture and social structure, though the approach falls short in terms of understanding the "theoretical interconnections" between these three areas (Emirbayer & Goodwin, 1994:1426). This shortcoming, argue Emirbayer and Goodwin (1994:1426), is created through inadequate attention to the "structuring influences of cultural and political discourses upon historical actors". There needs to be more incorporation of the *structural nature of the cultural*. This has been achieved in this research by using the techniques of social network analysis and framing side-by-side.

Social network analysis and framing both consist of theory and method. When taken together, they address the shortcomings found in drawing on a singular approach that is biased toward either structure or culture. Each of these approaches emphasise different characteristics of social movements: the former focuses on the structural, organisation and relationship aspects, the latter on the cultural, value and identity aspects. These different emphases, and the possession of tools that are well equipped to explore each of them, give network analysis and framing their distinctive strengths. By using the two together, their shortcomings can be minimalised. The weakness of one approach is the strength of the other. For example, social network analysis can indicate

relationships but cannot explore in any detail what is going on in such relationships, whereas framing is a qualitative, detail-rich technique that is well suited for this task. Alternately, while framing is good at bringing forward cultural characteristics, it is not a technique that is able to provide the same kinds of structural understandings that social network analysis is designed to deliver. Together, they show how structure operates within culture, and how in turn, culture operates within structure.

The concept of master frame has proved to be particularly useful because it opens up interpretive opportunities beyond the movement itself. In this respect, framing is useful for shedding light on how the movement interacts with and is embedded in its external environment, and for its contribution to cultural understandings, for which it is more widely recognised. Approaches like resource mobilisation and political opportunity structures are focused on the opportunities and constraints that social movements are subject to given their external environments. Master frames, because they exist externally to a given social movement, if skillfully chosen and deployed, are highly effective for understanding the environmental indicators that influence a movement. Contextual factors relayed through master frames, including the democratic political character of this country, and the strong emphasis on environmental wellbeing, enabled better understanding of GE resistance.¹¹⁹ Master frames enabled a broader understanding of collective identity, showing how the movement presented itself as part of Aotearoa New Zealand culture.

In sum, when used in a complementary fashion, social network analysis and framing are effective tools for social movement investigation. They address pitfalls found in the use of singular approaches by balancing the emphases on culture and structure. These techniques are complementary – they allow the fluidity of both structural and cultural movement characteristics to be recognised and analysed.

¹¹⁹ If the mixed-member proportional (MMP) system was not in place in the 1999 elections, it is almost certain that the Green Party would not have had seats in Parliament, and would not have formed part of the Labour-led Government. If the Green Party had not been in this position, it is possible the RCGM and the commercial moratorium would not have been implemented (at least at that time), given that the Green Party were a strong movement ally, and that co-leader Jeanette Fitzsimons was the individual who presented the petition to Parliament that called for the implementation of the RCGM, moratorium and labelling regime. This political environment can be seen as a movement political opportunity.

6.2 Structure, Organisation and Networks

Social network analysis revealed key features of the structure of the GE resistance movement. The inner core of movement activists operate in a structural environment that is in no way hierarchical or formally organised; it is a network. The ties between central network drivers demonstrated how there is much diversity between activists, yet despite many differences, they were able to maintain relationships that enabled a powerful resistance movement to exist. The multiplicity and the differences between often quite individualistic social actors amount to a powerful networked movement that is very difficult to oppose.

A valuable contribution of social network analysis is its ability to disentangle what at first looks like a disorganised collection of individuals and groups. Network metrics and graph imagery allow intricacies to be simplified by emphasising particular relationships and organisational features. These analyses showed that there was a very densely tied sub-group of individuals who tended to rank the highest on centrality measures (for example Hilda and Gavin), and who also had relational ties with a densely connected group of organisations (including GE Free NZ, Greenpeace, the Green Party and MAdGE). There was also a more peripheral grouping of individuals (Lou, Shane, Hilda and Grant) and groups (for example the GE Free Sticker Brigade, AGA and WAGE) who comprised the radical flank. Even with this basic demarcation between individuals and groups, the network comprised a single component, though there was one isolate – Jacob. This was a densely connected network of core movement activists. The relational ties have been critical in maintaining network connections, particularly given the wide range of different positions that exist among these activists.

The adaptability of the network structure was seen when the movement was viewed in stages. The movement changed shape as it responded to key legislative events around GE. This staging demonstrated structural flexibility with the capacity of the movement to adapt its direction in relation to events in the external environment. In particular, staging was able to capture key periods of transition, such as following the announcement of the RCGM and the lifting of the moratorium. These key moments corresponded to when the peak movement stage began in December 1999, and the moment at which the radical flank became much more pronounced toward the end of

the peak stage in October 2003. These shifts demonstrate movement strength. It is difficult to defeat or weaken a movement that is so readily adaptable and reflexive.

All those participating in this research were selected based on nomination as key social actors. It is thus no surprise that they all played a significant role as network drivers, and thus in instituting change. This did not mean that these individuals were all necessarily known public figures at all. Nor does it mean they are political leaders in a conventional sense. It means that they had motivation, passion and determination, and acted in whichever way they perceived would be of benefit to the movement. There was both sharing of movement tasks, and considered specialisation, with certain people being inclined toward certain roles. Moreover, there was not one particular group of 'entrepreneurs' who collectively dictated what the movement overall should be doing. The network was much more diverse, much more reflexive and organic in the way that individuals pursued a complex mix of tasks that was both divided and drew them together.

Diversity was apparent in the way that actors had multiple, fluid relationships with several different movement organisations. Some groups emerged prior to the mass mobilisation and continue to have a presence today, with a prime example being GE Free NZ. Other groups like Green Gloves and AGA were more fleeting and emerged with specific campaigns in mind. During the December 1999 to October 2003 peak period, the Sustainability Council and MAdGE appeared, both of which brought celebrity involvement more to the fore. At the same time they also made substantial contributions toward movement objectives. This shifting multiplicity of groups is another reflection of the diverse array of activists and interests that comprised the GE resistance movement as a whole.

The various organisations to which actors belonged were reflections of their personal tactical and ideological preferences. The most densely tied actors and groups tended to prefer lawful process repertoires, while the peripheral radical flank favoured direct-radical tactics. This basic demarcation with respect to tactics proved to be a critical indicator of group affiliation. As Diani (2000:165) rightly argues, "the choice between a grassroots organisation or a bureaucratic lobby appears more and more frequently dependent upon tactical calculations by social movement actors". While confirming the

link between actor organisation preferences and tactical choices, Diani (2000) also notes that which groups are considered a social movement organisation can be difficult to determine. This is given that the range “is so wide and differentiated as to prevent any clear restriction of its boundaries” (Diani, 2000:165). While the choice of groups available to activists was broad, one group did stand out as being particularly problematic: the Green Party.

For the activists, the Green Party was easily the most controversial movement group. Even though the Greens played a pivotal role in having the RCGM instituted and had opposition to GE as a key general election campaign platform in 2002, they were viewed as problematic. This is because they are a political party, and a marginal one at that. Diani (2000:167) comments that the inclusion of a political party in a social movement often causes difficulties:

The inclusion of political parties within social movements will surely raise many eyebrows and requires some qualification. ...under certain and specific conditions some political party may feel itself as part of a movement and be recognised as such both by other actors in the movement and by the general public. This is likely to be the exception rather than the rule, and to be largely restricted to parties originated by social movements, such as Green Parties.

Movement activists’ discussion of the Green Party often included such ‘qualifications’. The Greens were simultaneously welcomed and yet distanced, appreciated and critiqued.

The variety of organisations and groups involved in the movement made it strong. Individuals, no matter what their particular views, could find, or in some instances created, an organisation that allowed them to express their particular tactical and strategic preferences. This made for a highly diversified movement in terms of ideology and tactical stance.

In practice, a variety of emphases and activities were able to exist and operate concurrently in the GE resistance movement. The structural analysis in this research underscored the importance of the network form when dealing with diverse social actors. Social networks are a necessity if there is to be any kind of alignment for collective action. The GE resistance movement has been flexible and malleable,

drawing in social actors who are able to negotiate their own paths within a web of possibilities. Even when activists did not see eye-to-eye tactically, the relational ties meant that at minimum they were able to share information and keep abreast of what others were doing. At best, they coordinated on national campaigns. Put slightly differently, this analysis demonstrates the mobilisation of an individualism in which actors pursue their own particular agendas through choosing who they want to align with, based on how they want to achieve goals. In this networked individualism, each social actor sees itself as the ego, and the movement begins with the ego and extends out to the network (Wellman, 2001). This ego-centric structure works. It collectively mobilises individualism and diversity, and so makes for a very robust organisational structure.

6.3 Culture and Collective Identity

Social network analysis revealed the power of strong relational ties. Framing analysis proved to be an invaluable tool for looking at the culture of these ties. Collective action frames showed that similarity and variation can coexist, while master frames shed light on how the movement is embedded within its context. These master and collective action frames showed that the GE resistance movement has a collective identity that is at once internally complex and robust. Collective identity requires a basic understanding of who the movement ‘we’ is. Accordingly, the oppositional parties – the antagonists or movement ‘they’ – also needed to be identified and positioned. Analysis revealed, however, that this simplistic we/they binary was in fact permeable and yielded only a crude picture of how the movement saw itself and its adversaries.

The simplistic binary, regardless of its crudity, was nevertheless useful in setting the stage for delving into the more intricate field of movement injustices or grievances as articulated through collective action framing. With regard to a collective movement agenda, the diversity of positions and responses to GE among the activists made a coordinated agenda seem improbable. While there were four collective action frames articulated, there was wide variation on how activists articulated their grievances and attributed blame and responsibility within each frame.

The specificity of the collective action frames captured the details of the subjective rationales for the GE resistance movement. In looking to how activists communicated ideas about what is wrong, why it is wrong, who needs to sort it out and how, the similarities and variations in understandings were revealed. The similarities were found in the collective action frame itself, for example, in the framing of 'GE as risky'. Variations were also apparent, but were located within the frame. For example, views put forward ranged from GE as risky because the science underpinning it is not well understood, to GE is risky because it has not been tested thoroughly. These variations are as significant as the movement's ability to find some basis for commonality in the naming of collective action frames. The variations meant that a spectrum of concerns and perspectives were put forward rather than singular and therefore easily opposed argument. Moreover, positions within and representations of collective action frames were malleable and thus able to incorporate new information as it became available.

The master frames that activists drew on also provided a critical piece in the puzzle of movement collective identity. Master frames are broad and reflect the external environment. This means they are informative regarding the nature of the society in which the GE resistance movement operates. In other words, master frames analyses provided contextual detail and showed how the movement mobilised support from the broader public. These master frames have consequently been critical to successful mobilisation of a wide array of Aotearoa New Zealand citizens, as evident in the large protest rallies and marches that have been held across the country.

Activists drew on three master frames: liberal democracy, harmony with nature, and a 'clean, green' national identity. All these frames have strong associations with Aotearoa New Zealand, with 'clean and green' being specific to this country. These frames have been skilfully engaged by movement actors to appeal to potential recruits, by engaging with dominant cultural discourses. D'Anjou and Van Male (1998:207) talk of the challenging task that activists take on when working with master frames:

Social movement actors ... must accomplish a contradictory task. They must frame their challenges in interpretive packages that are contrary to the dominant culture while at the same time struggle to make these contrary views part of the dominant culture.

This is what GE resistance actors have done. Activists drew on already dominant discourses and interpreted them in such a way that their position was seen to be the most resonant. In other words, they took a commonly understood view and claimed it as their own. In doing this, movement protagonists were presenting themselves as caring about values, ideas and identity that are central to those commonly understood by Aotearoa New Zealanders. At the same time, they were engaging adversaries by appealing to the same public audience for support. For example, activists agreed that we are a democratic nation that cares about sustainability (or harmony with nature), and that the ‘clean and green’ image of Aotearoa New Zealand is vitally important. But, the point of difference is in how activists have woven GE into these master frames. To use ‘clean and green’ national identity as an example, activists have argued that GE does not contribute to this image for Aotearoa New Zealand; GE is instead positioned in stark contrast to it. Alternately, adversaries have argued that GE could in some ways enhance this image through minimising environmental impact from pollution (Coyle & Fairweather, 2004). Neither argument can be straightforwardly accepted or outright rejected, which means that the debate about GE is kept alive.

The ‘clean and green’ master frame in particular reveals much of the character of the movement collective identity. Both are multifaceted. They both rely on strong value associations, have elements that are felt as well as practical, and both require ongoing reconstruction to remain powerful and retain their efficiency. Significantly, while both collective identity and ‘clean and green’ are specific, they are also open. In their flexibility and negotiability, they provide an open invitation for others – civil society, the audience – to engage and share in the identity associations. This means that although clean and green is tied to a geographical space, it is a space that can be shared by those who do not happen to live here. This openness is undoubtedly a critical factor for the inclusion of a substantial number of the movement core drivers who are migrants to this country (see Chapter Three). ‘Clean and green’ is thus a powerful frame that allows identity to be achieved rather than simply given.

Through the work on master frames, activists have managed to relay culturally resonant discourses that captured the attention of all parties to the movement identity field, while differentiating themselves from antagonists. This kind of play on cultural understandings is strategically effective and builds collective identity. Thus, collective

identity is complex to define. It is a verb rather than a noun; it is something that is continually negotiated and achieved. This negotiated identity is apparent in the movements' relational ties, in its moments of collective action and in the defining of 'us' and 'them'. Collective identity cannot be fixed in time and cannot be equated with a simply unified body acting out a singular concern. It is always in the making and multi-dimensional.

6.4 Future Research

Three areas stand out as worthy of further exploration: collective identity, social movement diversity and boundaries. These areas can be further investigated by using the analytical framework developed in this thesis and continuing its attempts to overcome shortfalls of prior social movement approaches. There are two ways that such an investigation can be furthered: by extension of this research project within Aotearoa New Zealand, and by looking beyond national borders.

The criteria for the participant research sample and the snowball technique used resulted in 18 participants. Yet this group, while comprising a network of core movement drivers, is a small number of individuals compared to the movement in its entirety. When considering that there were 92,000 individuals that signed the petition presented to Parliament in 1999, nearly 11,000 submissions put forward to the RCGM, and an estimated 10 to 30,000 individuals attending the 2001 and 2003 GE free rallies in Auckland, there are other individuals who have played roles in driving the GE resistance movement. While I captured individuals at the very hub of this movement, these are not the only ones. It would therefore be a productive research undertaking to extend the snowballing technique further (by including singular nominations for example) and continue questioning each person in turn as to who they saw as key movement drivers. This would provide an even bigger picture of the movement and the wider structural dynamics at work.

Social network analysis and framing could also be pushed beyond the national level of this thesis. GE resistance actors' concerns include issues pertaining to differential access to resources and hence power. GE can be viewed as a biotechnological technique that comprises a relationship between the creators and holders of intellectual property and patents, and everyday consumers and producers. That is, between the

biotechnology multinationals and their allies, and global civil society, a “plurality of transnational publics” (Olesen, 2005:420). As discussed in Chapter Two, Bandy (2004) argued that social movements are shifting toward being transnational networks, which in turn are shaping a transnational (or global) civil society. Bandy (2004:410) describes these transnational networks as opposing “polarizing inequalities, unaccountable corporate power, and declining social and environmental health of free trade”. This transnational civil society is, argues Bandy (2004), aided by the sharing of frameworks around issues, grievances and actions. Although referring to the anti-globalisation movement, the kinds of oppositions that Bandy points out are also emphasised by GE resistance movement activists in this country. Thus, a global range of concerns is evident.

Mapping a transnational movement terrain would be achievable with social network analysis, while understanding identity and grievances can be achieved with framing. Manuel Castells (1996; 1997; 1998) has emphasised a structural shift toward a network society in which social movements become more transnational, and mobilisation occurs around new forms of solidarity. He furthermore argues that space and place have special significance for social movements in the modern era, as evident in the GE resistance movement in Aotearoa New Zealand. It would be interesting to see then how the GE resistance movement is networked globally and organised, and how much convergence of collective action and master frames there is at this level. How might the need to navigate geographical borders effect movement structure? Would there still be the concurrence over the basic premises of collective action frames? Given the movement in Aotearoa New Zealand drew strongly on ‘clean and green’ national identity framing, it would be interesting to know how such emphases would be negotiated by other actors. How would these master frames be articulated to a global audience? These questions all challenge notions of collective identity and radically effect movement diversity and boundaries.

Work has been undertaken on how local or national and global framings of an issue can be aligned or at least rendered complementary (see for example Kong & Lim, 2008). A much larger field of research has looked at transnational or global master frames (see for example Olesen, 2006; Potter, 2004; Sökefeld, 2006). In the area of social network analysis however, while there is research available on social movements

in localised or even national areas, this technique to my knowledge has not been applied on a global scale. While there would be challenges involved in undertaking this dual approach to a global-level project, it would be a worthwhile venture. Especially if research were the basis of a longitudinal study on the structural and cultural changes to social movements. A whole new arena of knowledge could also be opened up in relation to collective identity and movement networks through such exploration.

6.5 Research Limitations

While this research points the way to new exploratory possibilities, there are two main limitations of this research. These limitations have to do with research boundaries and the identification of social movement frames.

This research purposefully targeted key movement activists in Aotearoa New Zealand-based GE resistance, yet these 18 activists alone do not depict the entirety of the movement core. To recap, in Chapter Three I described the sampling method that was used to locate the research participants. I used an approach that combined my own prior knowledge of movement activists, and searched the internet and other media material for names that recurred in association with GE activism. From the 14 names initially identified, I then selected two individuals as a starting point for interviews. Beginning with these two individuals, I asked each whom they saw as important people for the movement. In this way, I hoped that names not necessarily represented in the mass media with any frequency (or at all) would be identified. I was searching for key players, and not necessarily those who present a public face. The final sample of research participants numbered 18, with those nominated only once excluded. Five individuals were nominated multiple times but were not available or declined participation in this research. Here is where sampling and boundary issues arise, in particular for social network analysis.

While I am satisfied that an inner core of movement activists was selected, ideally I would have interviewed the five individuals who were nominated but chose not to participate. This would have added further depth and detail to both the social network analysis and framing work, although I believe that the overall findings would remain the same. I am confident this is the case based on my knowledge of who these five individuals are, as relayed through information publicly available about them, and

through the information relayed by research participants. Even so, if this kind of issue can be avoided, then it should be.

The research undertaken in this thesis suggests that there is one matter concerning timing that needs to be considered with regards to network sampling. Carrying out the fieldwork in mid to late 2005, after the peak movement period, has influenced who I have been able to interview. As such, undertaking social movement research while there is much activity occurring would be optimal. People would be more intimately involved in activities and wanting to express their concerns. The issue would be more topical and more emotionally charged. The timing of undertaking research is something that I believe requires serious consideration when commencing inquiry that is activity or event related.

The second research limitation that I want to address concerns framing analysis. As discussed in Chapter Three, no one particular tool has been developed for identifying frames. As a method of analysis, framing would benefit from further development. My approach to identifying frames was not based on a singular approach. I began with the organisation of data using Ritchie et al.'s (2003) framework system. The intensive process involved in using this system for coding and categorisation leads to an intimate knowledge of the data. It is this familiarity with the data through a trial and error process that leads to the construction of various indices with sub-themes. In this instance, I organised the data around themes that I believe corresponded to the kinds of frames drawn on by movement participants.

Although I described how this analysis was used in as much detail as possible, in some respects I feel I have fallen into the same well recognised 'trap' as other researchers who have used framing (Maher, 2001; König, 2009b). This trap is the inability to describe a clear, methodological process which can be replicated. While I resolved this methodological quandary by using Ritchie et al.'s (2003) framework approach, this is not something that can be simply outlined as a step-by-step method to follow.

König (2009b) has considered several approaches, both qualitative and quantitative, that can be used for identifying frames. I used one of the approaches that König (2009b) suggests for identifying who social actors conceived of as the movement 'we'

(the protagonists) and the movement ‘they’ (antagonists). This involved looking to plural first and third person references, and assessing who was being referred to in association with each reference. While this was a useful starting point, it proved simplistic given that there is much internal multiplicity as well as external overlap of actors.

To more adequately identify and explain framing methods, I believe that a combination of approaches works best. The intensive familiarity with research data required by the framework approach is invaluable for identifying patterns and themes. Furthermore, methodological procedures should be described by the researcher using as much clarity and detail as possible. This may simply mean that the importance of engagement and familiarity with research data needs to be strenuously emphasised. This is one place where the significance of researcher engagement is most apparent, and indeed necessary.

6.5 Reflections and Futures

I was in Aotearoa New Zealand during the GE campaigning and was paying particular attention to this issue out of personal and political interest. This interest took me so far as to be involved in some of the movement campaigns and protest rallies. I became a very conscientious consumer, refusing to buy goods containing (or that might contain) GMOs, instead buying organic products or growing and making goods myself where possible. I also wrote letters to local body government candidates asking about their position on GE, and took part in various other campaign events. As personal interest moved into academic interest, I began collecting newspaper clippings and recording television media events. Personal interest and involvement have been vital elements in my ability to relate to research participants, and more broadly have been useful for my understanding of the GE resistance movement. There is a grounding of understanding in experience and involvement with the object of inquiry. I believe it would be very difficult to understand the movement in quite the same way without somehow sharing in its experiences.

Alberto Melucci and Alain Touraine have both commented that it is necessary for the researcher to be a part of the field they are researching, in order to really understand it (Goldsmith, 2000). Even though my experiences are from the periphery of the

movement (in relation to the people interviewed in this research), I certainly agree with Melucci and Touraine that a researcher, particularly if seeking to capture the values and emotional work involved in this kind of activity, should be more than an observer. First hand involvement means experiencing events in a way that observers cannot. For example, the emotional intensity involved in protest events when among a crowd of thousands is not something that is felt in the same way by an onlooker. The emotional intensity experienced in such events has an important function, impelling and motivating participants towards further movement activity.

While I have been involved in this movement, along with tens of thousands of others in Aotearoa New Zealand, the vast majority of these people have now ceased any activism in this area. The movement appears to have slowly declined. At the outset of this chapter, I questioned what the current status of the GE resistance movement of Aotearoa New Zealand might be. I will conclude with some reflection on this question now. It is useful to look first at how social movement life cycles have been defined, and what is deemed to constitute movement decline or abeyance.

An abeyance period is variously defined in movement literature. Sawyers and Meyer (1999:187) argue that a movement in abeyance disengages “from active challenge to the state on policy matters to focus instead on preserving enduring values and identity”. This can also mean that a “fragmentation of a broad movement coalition” occurs (Sawyers & Meyer, 1999:187). An abeyance period is however different to movement decline, which is seen as the coming to a conclusive end point. Christians (2009) argues that there are four social movement stages: emergence, coalescence, bureaucratisation and decline. He further notes five reasons for why movements decline. A movement may decline because it has been successful, because of organisational failure, co-optation, repression, or due to its incorporation within mainstream society (Christians, 2009).

Currently the GE resistance movement is experiencing a vast reduction in public mobilisations and campaigns, a substantial decline of reporting of movement injustices and grievances in the mass media, and the withdrawal of key actors without replacement. Do these developments signal abeyance or decline? The GE resistance movement does not fit neatly with any of Christians’ (2009) examples of decline.

Recall Diani's (2006:141) definition of a social movement, with which this thesis began:

A social movement is a network of informal interactions between a plurality of individuals, groups and/or organizations, engaged in a political or cultural conflict, on the basis of a shared collective identity.

The informality and plurality of a movement noted here by Diani, make it difficult to determine whether or not it is in decline or instead its activity has simply become less visible to the public eye. If, like Tilly (1978) or Tarrow (1994), one defines a social movement as a "series of challenges to the state", then a social movement is functioning when it is visibly making challenges (Sawyers & Meyer, 1999:188). If, however, one's understanding is that movements have varying levels of public activism – or visibility – then it can well be argued that rather than having declined when they are not visible, they are in an abeyance period (Sawyers & Meyer, 1999). I hold the latter to be true. There is plenty that goes on behind the scenes when a movement is not publicly visible. Keeping abreast of research developments in the field of GE and sharing this information with others, and lobbying companies directly through calling them and questioning the GE content of their products, are examples relayed to me by activists about what they do while not 'publicly' active in any way.

When I interviewed activists in 2005, only four people said they were actively involved in the movement. However, the vast majority of individuals retained an interest in GE, sustained mainly through things like keeping abreast of developments along with the sharing and dissemination of this information. In terms of where the movement was heading and whether it was over or not, there was disagreement. Comments relayed by activists included that Aotearoa New Zealand was slowly but surely "moving toward the waterfall" when it comes to GE (Dean). Others like Kirsty said that the "networks are still all in place" for action in the future. The most common response was that people will get active again when the time is right, such as when a GE crop is commercially approved. Here movement fluidity is once again apparent.

In the five years that have passed since my interviews, there has been one commercial GE application, but it was not a crop. It was for a horse vaccine: a GE virus deemed to contain negligible risk. There was some opposition to the introduction of this commercial GMO (by the Soil and Health Association and GE Aware Nelson for

example), but this application and critical commentary surrounding it appear to have gone largely unnoticed (The Nelson Mail, 2008, September 25). If the views of those driving GE resistance in this country are to be accepted, then it seems we have not seen the end of the movement yet. Rather, they argue, the greatest challenge is yet to come.

The GE resistance movement has been persistent. Its structural characteristics are conducive to adapting, maintaining and revitalising network ties, even though such ties may have declined in density in recent years. There has been such a diversity of activists and organisations involved that it is difficult to imagine a time in the near future where all of these individuals and groups will cease their interest and involvement in GE. The cultural characteristics of the movement also comprise diversity and flexibility of response. This movement has been well adept at not just accommodating but responding to and pushing for change.

There can be no definitive analysis of whether the movement is over, or where and how it might look in the future. It is evident that the GE resistance movement of Aotearoa New Zealand has the qualities and the facility to push for and produce certain outcomes. The movement retains this capacity. Whether there will be an upsurge in activity upon the first (successful) application to commercially grow a GE crop is something that can only remain to be seen. The movement of resistance to GE in Aotearoa New Zealand remains an open book.

References

- Abercrombie, N., Hill, S. & Turner, B. S. (1994). *Dictionary of Sociology*, 3rd Ed. England: Penguin Books.
- Abramovitz, M. (2004). Social Movements and Social Change. In J. Blau (Ed.), *The Dynamics of Social Welfare Policy* (pp184-231). UK: Oxford University Press.
- Adair, S. (1996). Overcoming a collective action frame in the remaking of an antinuclear opposition. *Sociological Forum*, 11 (2), 347-375.
- Alexander, M. (2007). *Visualizing social structure: bridging the gap between contemporary social theory and social network analysis*. Paper presented at the TASA / SAANZ conference, 4-7 December, 2007, in Auckland, New Zealand. Unpublished.
- Almedia, P. & Johnston, H. (2006). Neoliberal globalization and popular movements in Latin America. In P. Almedia and H. Johnston (Eds.), *Latin American Social Movements. Globalization, Democratization and Transnational Networks* (pp3-18). Maryland, USA: Rowman & Littlefield.
- Aotearoa – Independent Media Centre (A-IMC). (2004, June 1). *Day of action against Ingham: protest round up*. Retrieved June 13, 2010 from <http://www.indymedia.org.nz/article/72079/day-action-against-ingham-protest-round>
- Ayers, M. D. (2001). *CollectiveIdentity.org: collective identity in online and offline feminist activist groups*. Unpublished master's thesis, Virginia Polytechnic Institute and State University, Virginia, USA.
- Baldassari, D. & Diani, M. (2007). The integrative power of civic networks. *American Journal of Sociology*, 113 (3), 735-780.
- Bandy, J. (2004). Paradoxes of transnational civil societies under neoliberalism: the coalition for justice in the Maquiladoras. *Social Problems*, 51 (3), 410-431.
- Beck, U. (1992). *Risk Society: Towards a New Modernity*. London: Sage.
- Bell, C. (1996). *Inventing New Zealand: Everyday Myths of Pakeha Identity*. Auckland, NZ: Penguin.
- Benford, R. D. (1997). An insider's critique of the social movement framing perspective. *Sociological Inquiry*, 67 (4), 409-430.
- Benford, R. D. & Snow, D. A. (2000). Framing processes and social movements: an overview and assessment. *Annual Review of Sociology*, 26, 611-639.

- Biology Online. (2006). *Biotechnology*. Retrieved September 7, 2010 from <http://www.biology-online.org/dictionary/Biotechnology>
- Biology Online. (2008). *Genetic Engineering*. Retrieved September 7, 2010 from http://www.biology-online.org/dictionary/Genetic_engineering
- Biotech Institute. (2010). *What is Biotechnology?* Retrieved August 21, 2010 from http://www.biotechinstitute.org/what_is/
- Biotechnology Industry Organisation (BIO). (2007a). Biotechnology industry facts. *Biotechnology Industry Organisation*. Retrieved February 3, 2007 from www.bio.org/speeches/pubs/er/statistics.asp
- Biotechnology Industry Organisation (BIO). (2007b). Biotechnology: a collection of techniques. *Biotechnology Industry Organisation*. Retrieved February 3, 2007 from www.bio.org/speeches/pubs/er/technology_collection.asp
- Biotechnology Industry Organisation (BIO). (2007c). Timeline. *Biotechnology Industry Organisation*. Retrieved February 3, 2007 from www.bio.org/speeches/pubs/er/timeline.asp
- Biotechnology Industry Organisation (BIO). (2010). Biotechnology makes agricultural production more Earth-Friendly. *Biotechnology Industry Organisation*. Retrieved August 20, 2010 from http://www.bio.org/news/pressreleases/newsitem.asp?id=2010_0422_01
- Blank, R. (1990). Political issues in biotechnology setting the framework. *Journal of Social and Biological Structures*, 13 (4), 417-422.
- Blumer, H. (1951). Social movements. In A. M. Lee (Ed.), *New Outline of the Principles of Sociology*, 2nd ed, revised (pp199-220). USA: Barnes & Noble.
- Boggs, C. (1986). *Social Movements and Political Power*. USA: Temple University Press.
- Boraman, T. (2006). *Struggles Against Neoliberalism in Aotearoa/New Zealand in the 1990s*. Retrieved August 20, 2010 from http://www.anarkismo.net/newswire.php?story_id=2277
- Borgatti, S. P. (2007). *2-mode Concepts in Social Network Analysis*. Retrieved September 30, 2010 from <http://www.steveborgatti.com/papers/2modeconcepts.pdf>
- Borgatti, S.P., Everett, M. G & Freeman, L. C. (1999). *UCINET 6.0 Version 1.00*. Natick: Analytic Technologies.

- Bren, L. (2003). Genetic engineering: the future of foods? *FDA Consumer*, 37 (6), 28-34.
- Bridge, G., McManus, P. & Marsden, T. (2003). The next new thing? Biotechnology and its discontents. *Geoforum*, 34 (2), 165-174.
- Briney, A. (2010). Green Revolution. History and Overview of the Green Revolution. Retrieved November 22, 2010 from <http://geography.about.com/od/globalproblemsandissues/a/greenrevolution.htm>
- Buechler, S. M. (2000). *Social Movements in Advanced Capitalism: the Political Economy and Cultural Construction of Social Activism*. UK: Oxford University Press.
- Burgmann, V. (2003). *Power, Profit & Protest. Australian Social Movements and Globalisation*. Australia: Allen & Unwin.
- Buttel, F. H. (2005). The environmental and post-environmental politics of genetically modified crops and food. *Environmental Politics*, 14 (3), 309-323.
- Byrne, P. (1997). *Social Movements in Britain. Theory and Practice in British Politics*. London, England: Routledge.
- Byrne, P. (2008). *Bio-pharming*. Retrieved August 17, 2009 from <http://www.ext.colostate.edu/pubs/CROPS/00307.html>
- Campbell, K. E., Marsden, P. V. & Hulbert, J. S. (1986). Social resources and socioeconomic status. *Social Networks*, 8 (1), 97-117.
- Carpenter, K., Zec, H. & Starbuck, R. (2006). *The Opposition to Genetically Engineered Agriculture: A Social Movement in Vermont*. Unpublished thesis, Worcester Polytechnic Institute, Massachusetts, USA.
- Carter, B. (2004, January 31). Breakup ends Currie's role in MAdGE. *New Zealand Herald*. Retrieved May 29, 2010, from http://www.nzherald.co.nz/genetic-engineering/news/article.cfm?c_id=220&objectid=3546712
- Castells, M. (1996). *The Rise of the Network Society. The Information Age: Economy, Society and Culture Vol. I*. USA/UK: Blackwell.
- Castells, M. (1997). *The Power of Identity. The Information Age: Economy, Society and Culture Vol. II*. US/UK: Blackwell.
- Castells, M. (1998). *End of Millennium. The Information Age: Economy, Society and Culture Vol. III*. US/UK: Blackwell.

- Chareonwongsak, K. (2002). Globalization and technology: how will they change society? *Technology in Society*, 24. 191-206.
- Chesters, G. & Welsh, I. (2002). Reflexive framing and ecology of action: engaging with the movement 'for humanity against neoliberalism'. *XV World Congress of Sociology*. Australia: unpublished.
- Chesters, G. & Welsh, I. (2004). Rebel colours: 'framing' in global social movements. *The Sociological Review*. UK/USA: Blackwell Publishing Ltd.
- Christchurch City Council. (2010). Rainbow Warrior bombing. *Christchurch City Libraries*. Retrieved September 3, 2010 from <http://christchurchcitylibraries.com/kids/nzdisasters/rainbowwarrior.asp>
- Christians, J. (2009). Four Stages of Social Movements. *Research Starters*. Retrieved August 23, 2010 from <http://www.ebscohost.com/uploads/thisTopic-dbTopic-1248.pdf>
- Clark, E. A. (2001). *The Implications of the Percy Schmeiser Decision*. Retrieved September 10, 2010 from <http://www.mindfully.org/GE/GE2/Schmeiser-Implications-Clark.htm>
- Cohen, E. (2001). Ethics of stem cell research. *CNN.com/* Retrieved February 2, 2007 from <http://archives.cnn.com/2001/HEALTH/07/17/cohen.otsc>
- Collins, S. (2004, May 7). Pro-GM lobby institute closes. *New Zealand Herald*. Retrieved May 29, 2010, from http://www.nzherald.co.nz/genetic-engineering/news/article.cfm?c_id=220&objectid=3564915
- Commoner, B. (2002). The spurious foundation of genetic engineering. *Common Dreams News Center*. Retrieved July 18, 2002 from www.commondreams.org/views02/0209-01.htm
- Convention on Biological Diversity. (2010). *Parties to the Protocol*. Retrieved August 21, 2010 from <http://bch.cbd.int/protocol/parties/>
- Counsell, D. (2003). A review of bioinformatics education in the UK. *Briefings in Bioinformatics*. Retrieved August 18th, 2010 from <http://bib.oxfordjournals.org/cgi/content/short/4/1/7>
- Coyle, F. & Fairweather, J. (2005). Challenging a place myth: New Zealand's clean green image meets the biotechnology revolution. *Area*, 57 (2), 148-158.
- D'Anjou, L & Van Male, J. (1998). Between Old and New: Social Movements and Cultural Change. *Mobilization: An International Journal*, 3 (2), 207-226.

- Day, D. E. (1962). Life-space and social action. *The Journal of Educational Sociology*, 36 (4), 145-153.
- Day, R. J. F. (2004). From hegemony to affinity. *Cultural Studies*, 18 (5). 716-748.
- Della Porta, D., Andretta, M., Mosca, L. & Reiter, H. (2006). *Globalization from Below: Transnational Activists and Protest Networks*. USA: University of Minnesota Press.
- Della Porta, D. & Diani, M. (1999). *Social Movements: an Introduction*. UK: Blackwell.
- Della Porta, D. & Diani, M. (2006). *Social Movements*, 2nd Ed. USA: Blackwell.
- De Melo-Martin, I. (2002). On cloning human beings. *Bioethics*, 16 (3), 246-265.
- Denscombe, M. (1998). *Good Research Guide*. UK: Open University Press.
- Dew, K. (1999). National identity and controversy: New Zealand's clean green image and pentachlorophenol. *Health & Place*, 5, 45-57.
- Diani, M. (1992). The concept of social movement. *The Sociological Review*, 40 (1), 1-25.
- Diani, M. (1995). *Green Networks: A Structural Analysis of the Italian Environmental Movement*. Scotland: Edinburgh University Press.
- Diani, M. (2000). The Concept of Social Movement. In K. Nash (Ed.), *Readings in Contemporary Political Sociology* (pp155-176). USA/UK: Blackwell.
- Diani, M. (2001). Social capital as social movement outcome. In B. Edwards, M. W. Foley & M. Diani (Eds.), *Beyond Tocqueville. Civil Society and the Social Capital Debate in Comparative Perspective* (pp207-218). US: University Press of New England.
- Diani, M. (2002). Network analysis. In B. Klandermans & S. Staggenborg (Eds.), *Methods of Social Movement Research* (pp173-200). US: University of Minnesota Press.
- Diani, M. (2003a). Leaders or brokers? M. Diani & D. McAdam (Eds.), *Social Movements and Networks* (pp105-122). UK: Oxford University Press.
- Diani, M. (2003b). Introduction: social movements, contentious actions, and social networks: 'from metaphor to substance'? In D. McAdam (Ed.), *Social Movements and Networks: Relational Approaches to Collective Action* (pp1-18). UK: Oxford University Press.

- Diani, M. (2004). Networks and participation. In D. A. Snow, S. A. Soule & H. Kriesi (Eds.), *The Blackwell Companion to Social Movements* (pp339-359). Australia: Blackwell Publishing.
- Diani, M. (2006). *Contentious interactions or contentious networks? Networks, events, and identities in collective action on global issues*. Conference paper at Contentious Politics and Social Movements in the 21st Century. Athens: Tehmelio, 24-26 May 2006. Retrieved on August 9, 2009 from www.politikinet.gr/conference2006/VI_Theoretica_%20Interpelations.html
- Diani, M. (2010). *Network Analysis and Social Movements*. Summary of talk at the conference "Network Analysis and History. Approaches, tools, problems", Université de Lausanne, 25 – 27 February 2010. Retrieved on February 21, 2010 from <http://www3.unil.ch/wpmu/reseaux2010/files/2009/10/Mario-Diani.pdf>
- Diani, M. & Bison, I. (2004). Organizations, coalitions and movements. *Theory and Society*, 33, 281-309.
- Doelle, H. W. (1999). Preceptions and conceptions of biotechnology. *Electronic Journal of Biotechnology (EJB)*, 2 (3). Retrieved August 12, 2004 from www.ejbiotechnology.info/content/vol2/issue3/editorial.html
- Drakeford, M. (1997). *Social Movements and Their Supporters: the Green Shirts in England*. England: MacMillan Press.
- Ecobob. (2008). *GE Food: Problems and Risks*. Retrieved August 1st, 2010 from <http://www.ecobob.co.nz/EcoArticle/1748/850/GE-Food-Problems-and-Risks.aspx>
- Egeraat, C. V. & Durran, D. (2010). Social network analysis of the Irish biotech industry: implications for digital ecosystems. *National Institute for Regional and Spatial Analysis* (55), 1-9.
- Eichelbaum, T., Allan, J., Fleming, J. & Randerson, R. (2001). *Report of the Royal Commission on Genetic Modification*. Wellington, NZ: Department of Internal Affairs.
- Eisinger, P. (1973). The conditions of protest behavior in American cities. *American Political Science Review*, 81, 11-28.
- Ellison, G. & Martin, G. (2000). Policing, collective action and social movement theory: the case of the Northern Ireland civil rights campaign. *British Journal of Sociology*, 51 (4), 681-700.
- Emirbayer, M. & Goodwin, J. (1994). Network analysis, culture, and the problem of agency. *The American Journal of Sociology*, 99 (6), 1411-1454.

- Environmental Risk Management Authority (ERMA). (2010). *ERMA: The Authority*. Retrieved August 1st, 2010 from <http://www.ermanz.govt.nz/about/authority.html>
- Evans, P. (2005). Counterhegemonic globalization. Transnational social movements in the contemporary global political economy. In T. Janoski, R. R. Alford, A. M. Hicks & M. A. Schwartz (Eds.), *The Handbook of Political Sociology* (pp655-670). USA: Cambridge University Press.
- Fári, M. G., Bud, R. & Kralovány, P. U. (2001). History of the term biotechnology: K. Ereky & his contribution. *REDBIO 2001*. Conference Paper. Unpublished.
- Farnsworth, M. (2010). Liberal democracy. *Australianpolitics.com*. Retrieved August 28, 2010 from www.australianpolitics.com/democracy/liberal-democracy.shtm
- Food Standards Australia New Zealand (FSANZ). (2004). GM labelling review report. *Food Standards Australia New Zealand*. Retrieved February 7, 2009 from www.foodstandards.gov.au/newsroom/publications/gmlabellingreviewrep2460.cfm
- Fonterra. (2010). *Taking the Lead*. Retrieved August 14, 2010 from <http://www.fonterra.com/wps/wcm/connect/fonterra.com/fonterra.com/Our+Business/Innovation+and+Technology/Taking+the+Lead/>
- Fraser, H. (2004). Doing narrative research: analysing personal stories line by line. *Qualitative Social Work*, 3 (2), 179-291.
- Freeman, L. C. (2004). *The Development of Social Network Analysis. A Study in the Sociology of Science*. Canada: Empirical Press.
- Friends of the Earth International. (2005). *Genetically Modified Crops. A Decade of Failure [1994 – 2004]*. Retrieved August 19, 2010 from http://www.foei.org/en/resources/publications/food-sovereignty/2000-2007/gm_decade1.pdf/at_download/file
- Gamson, W. (1992). The social psychology of collective action. In A. D. Morris & C. M. Mueller (Eds.), *Frontiers in Social Movement Theory* (pp53-76). USA: Yale University Press.
- Gamson, W. A. & Wolfsfeld, G. (1993). Movements and media as interacting systems. *The Annals of the American Academy of Political and Social Science*, 528 (1), 114-125.
- Gibbs, N. (1996). *Genetically Modified Organisms and Maori Cultural and Ethical Issues*. Wellington, NZ: Ministry for the Environment.
- Giddens, A. (1996). *Sociology*, 2nd Ed. UK: Polity.
- Giugni, M. G. (1998). Structure and culture in social movement theory. *Sociological Forum*, 13 (2), 365-375.

- Goertzel, T. (1976). *Theoretical Models in Political Sociology*. Retrieved June 3, 2010, from <http://crab.rutgers.edu/~goertzel/polsoctheories.htm>
- Goffman, E. (1959). *The Presentation of Self in Everyday Life*. NY, USA: Doubleday.
- Goffman, E. (1974). *Frame Analysis: An Essay on the Organization of Experience*. New York, USA: Harper and Row.
- Goldsmith, M. (2000). On Not Knowing One's Place, In S. R. Jaarsma & M Rohatynskyj (Eds.). *Ethnographic Artifacts: challenges to a reflexive anthropology* (Pp43-60). Hawai'i, USA: University of Hawai'i Press.
- Goldstone, J. A. (2004). More social movements or fewer? Beyond political opportunity structures to relational fields. *Theory & Society*, 33, 333-365.
- Goodwin, J. & Jasper, J. M. (2003). *The Social Movements Reader*. US / UK / Australia / Germany: Blackwell.
- Goodwin, J. & Jasper, J. M. (Eds.). (2004). *Rethinking Social Movements: Structure, Meaning, and Emotion*. Maryland, USA: Rowman and Littlefield.
- Granovetter, M. S. (1973). The strength of weak ties. *American Journal of Sociology*, 78, 1360-1380.
- Greenfeld, L. (1999). Is nation unavoidable? Is nation unavoidable today? In H. Kriesi, K. Armigeon, H. Siegrist & A. Wimmer (Eds.), *Nation and National Identity: The European Experience in Perspective* (pp37-53). Switzerland: Rüegger.
- Green Party. (2003). *Imported GE Commodities Approved for Sale in New Zealand*. Retrieved August 1st, 2010 from <http://www.greens.org.nz/factsheets/imported-ge-commodities-approved-sale-new-zealand>
- Green Party. (2010). *The History of The Green Party*. Retrieved June 6, 2010 from <http://www.greens.org.nz/page/history-green-party>
- Gurney, J. N. & Tierney, K. J. (1982). Relative deprivation and social movements: a critical look at twenty years of theory and research. *The Sociological Quarterly*, 23, 33-47.
- Habermas, J. (1987). *The Theory of Communicative Action. The Critique of Functionalist Reason*. Vol. II. US: Beacon Press.
- Hager, N. (2008). *Imagining a World Where the PR People Had Won*. Paper presented at the Sociological Association of Aotearoa New Zealand conference, November 26, 2008. Retrieved June 2, 2010, from <http://www.nickyhager.info/imagining-a-world-where-the-pr-people-had-won-sociological-association-of-aotearoa-new-zealand-conference-university-of/>

- Halliday, L. (2003). The genetic engineering network and new social movement theory. *Research Initiative on International Activism*. Retrieved December 29, 2009 from www.international.activism.uts.edu.au/conferences/2003socialmovements/.../socmoves2003.pdf
- Hanneman, R. A. & Riddle, M. (2005). *Introduction to Social Network Methods*. Retrieved February 20, 2010 from <http://faculty.ucr.edu/~hanneman/nettext/index.html>
- Hart, S. (1996). The cultural dimension of social movements. A theoretical assessment and literature review. *Sociology of Religion*, 57 (1), 87-100.
- Hawe, P., Webster, C. & Shiell, A. (2004). A glossary of terms for navigating the field of social network analysis. *Journal of Epidemiology and Community Health*, 58, 971-975.
- Henahan, S. (1996). *Mad Cow Disease. The BSE Epidemic in Great Britain*. Retrieved September 9, 2010 from <http://www.accessexcellence.org/WN/NM/madcow96.php>
- Henderson, A. (2005). Activism in “paradise”: identity management in a public relations campaign against genetic engineering. *Journal of Public Relations Research*, 17 (2), 117-137.
- Herring, R. J. (2008). Opposition to transgenic technologies: ideology, interests and collective action frames. *Science and Society*, 9, 458-463.
- Higley, J. (2008). *Elite Theory in Political Sociology*. Retrieved June 3, 2010, from <http://montreal2008.ipso.org/site/images/PAPERS/section1/RC%202%20-%20Higley-%201.3.pdf>
- Hilson, C. (2002). New social movements: the role of legal opportunity. *Journal of European Public Policy*, 9 (2), 238-255.
- Hindmarsh, R. (2000). The problems of genetic engineering. *Peace Review*, 12 (4), 541-547.
- Hindmarsh, R., Lawrence, G. & Norton, J. (Eds.). (1998). *Altered Genes. Reconstructing Nature: The Debate*. NSW, Aust: Allen and Unwin.
- Hobbs, M. (2001, November 27). *Genetic Modification Summit: The Government's Response to the Recommendations of the Report from the Royal Commission on Genetic Modification*. Retrieved August 20, 2010 from <http://www.beehive.govt.nz/speech/genetic+modification+summit+government%E2%80%99s+response+recommendations+report+royal+commission+gen>

- Hochstetler, K. (1997). *Democratizing Pressures from Below? Social Movements in New Brazilian Democracy*. Paper presented at the Latin American Studies Association XX International Congress. Guadalajara, Mexico. April 17 – 19. Retrieved August 19, 2009 from www.lasa.international.pitt.edu/LASA97/hochstetler.pdf
- Holland, D., Fox, G. & Daro, V. (2008). Social movements and collective identity: a decentered, dialogic view. *Anthropological Quarterly*. Retrieved August 18, 2010 from <http://www.britannica.com/bps/additionalcontent/18/31280288/Social-Movements-and-Collective-Identity-A-Decentered-Dialogic-View>
- Hourigan, N. (2001). New social movement theory and minority language television campaigns. *European Journal of Communication*, 16 (1), 77-100.
- Hoy, D. C. (2005). *Critical Resistance. From Poststructuralism to Post-Critique*. US / England: MIT Press.
- Hunt, S. A., Benford, R. D. & Snow, D. A. (1994). Identity fields: framing processes and the social construction of movement identities. In E. Laraña, H. Johnston & J. R. Gusfield (Eds.), *New Social Movements. From Ideology to Identity* (pp185-233). Philadelphia, USA: Temple University Press.
- Hutchings, J. (2001). Molecular kaitiakitanga. *Splice, May/June*, 7 (4), 10-11.
- Hutchings, J. (2004a). Tradition and test tubes. Maori and GM. In R. Hindmarsh & G. Lawrence (Eds.), *Recoding Nature: Critical Perspectives on Genetic Engineering* (pp179-191). NSW, Aus: University of New South Wales Press.
- Hutchings, J. (2004b). Claiming our ethical space – A mana wahine conceptual framework for discussing genetic modification. *He Pukenga Kōrero Raumati (Summer)*, 8 (1), 17-25.
- Indigenous Peoples Council on Biocolonisation. (IPCB). (1993). *The Mataatua Declaration on Cultural and Intellectual Property Rights of Indigenous Peoples*. Retrieved January 28, 2006 from <http://www.ipcb.org/resolutions/htmls/mataatua.html>
- Inglehart, R. (1990). Values, ideology, and cognitive mobilization in new social movements. In M. Waters (Ed.), *Modernity: Critical Concepts. Vol. IV. After Modernity* (pp373-396). UK: Routledge.
- Inglehart, R. (2009). *Inglehart-Welzel Cultural Map of the World*. Retrieved July 3, 2009 from http://www.worldvaluessurvey.org/wvs/articles/folder_published/article_base_54
- International Service for the Acquisition of Agri-biotech Applications (ISAAA). (2010). *ISAAA Brief 41-2009: Executive Summary. Global Status of*

- Commercialized Biotech/GM Crops: 2009. The First Fourteen Years, 1996-2009.* Retrieved August 18, 2010 from <http://www.isaaa.org/resources/publications/briefs/41/executivesummary/default.asp>
- Irons, J. (2009). Political elites and the culture of social movements. *Sociology Compass*, 3 (3), 459-474.
- Jamison, A. (2001). *The Making of Green Knowledge*. UK: Cambridge University Press
- Jasper, J. M. (1997). *The Art of Moral Protest*. Chicago, USA: University of Chicago Press.
- Johnson, D. K. N. (2008). Six degrees of GM bacon: network analysis of biotechnology inventors. *International Journal of Technology and Globalisation*, 4 (2), 139-147.
- Johnson, G. (2001). *Eyeball-to-eyeball with Mad Cow Disease*. Retrieved August 18th, 2010 from <http://txtwriter.com/Onscience/Articles/europemadcow1.html>
- Jordan, T. (2002). *Activism! Direct Action, Hactivism and the Future of Society*. UK: Reaktion Books.
- Kacew, S. (2001). The past, the present, and the future. *Journal of Toxicology and Environmental Health, Part A*, 64 (1), 23-40.
- Kaplan, M. D. G. (2010, June 30). *USDA Chief Scientist: How Biotechnology Will Help Us Feed the World*. Retrieved August 20, 2010 from <http://www.smartplanet.com/people/blog/pure-genius/usda-chief-scientist-how-biotechnology-will-help-us-feed-the-world/4074/>
- Kavada, A. (2003). *Social Movements and Current Network Research*. Retrieved June 16, 2007 from <http://nicomedia.math.upatras.gr/conf/CAWM2003/Papers/kavada.pdf>
- Kaye-Blake, W., Saunders, C. & de Aragão Pereira, M. (2008). *Potential Impacts of Biopharming on New Zealand: Results from the Lincoln Trade and Environment Model*. Research Report No. 307. Retrieved July 26, 2010 from http://www.lincoln.ac.nz/Documents/4696_RR307w_s15774.pdf
- Kidder, L. (1981). *Research Methods in Social Relations*. USA: Holt, Rhinehart & Winston.
- King, J. & Stabinsky, D. (1998). Biotechnology under globalisation: the corporate expropriation of plant, animal and microbial species. *Race And Class*. Oct, 73-98.

- Kingsnorth, P. (1999). India cheers while Monsanto burns. *The Ecologist* (29), 1 Jan/Feb. Retrieved August 21, 2010 from <http://www.orpheusweb.co.uk/john.rose/cremmon.html>
- Klandermans, B., de Weerd, M., Sabucedo, J. & Costa, M. (1999). Injustice and adversarial frames in a supranational political context: farmers' protest in the Netherlands and Spain. In D. della Porta, H. Kriesi & D. Rucht (Eds.), *Social Movements in a Globalizing World* (pp134-147). London: Macmillan Press Ltd.
- Klumpp, J. F. (2010). *Leadership in Social Movements*. Retrieved May 9, 2010 from <http://terpconnect.umd.edu/~jklumpp/comm461/socmov.html>
- Kong, S. and Lim, H. (2008). *Global framing Process Since Rio and Vienna: A Comparison of the Korean Human Rights and Environmental Movements*. Paper presented at the annual meeting of the American Sociological Association Annual Meeting, Sheraton Boston and Boston Marriott Copley Place, Boston. Retrieved August 19, 2009 from www.allacademic.com/meta/p240936_index.html.
- König, T. (2009a). *Introduction into Frame Analyses*. Retrieved October 16, 2009 from <http://www.ccsr.ac.uk/methods/publications/frameanalysis/>
- König, T. (2009b). *Identification and Measurement of Frames*. Retrieved August 21, 2010 from <http://www.ccsr.ac.uk/methods/publications/frameanalysis/measurement.html>
- König, T. (2009c). Useful Concepts for Frame Analysis. Retrieved February 12, 2010 from http://www.ccsr.ac.uk/methods/publications/frameanalysis/framing_concepts.html
- Koopmans, R. & Statham, P. (1999). Political claims analysis: integrating protest event and political discourse approaches. *Leeds University*. Retrieved February 2, 2007 from <http://ics.leeds.ac.uk/europolcom/exhibit/psmob.pdf>
- Kornblum, W. (2008). *Sociology in a Changing World. Eight Edition*. Belmont, CA: Thomson.
- Krafft, J., Quatraro, F. & Saviotti, P. (2009). The evolution of knowledge base in knowledge-intensive sectors: social network analysis of biotechnology. *University of Turin*. Retrieved February 20, 2010 from <http://ideas.repec.org/p/uto/labeco/200909.html>
- Kriesi, H. (2004). Political context and opportunity. In D. A. Snow, A. A. Soule & H. Kriesi (Eds.), *The Blackwell Companion to Social Movements* (pp67-90). USA/UK/Australia: Blackwell.
- Kvale, S. (1996). *Interviews: An Introduction to Qualitative Research Interviewing*. London: Sage.

- Lang, C. (2008). Aotearoa/New Zealand: Scion's GE trees cut down! *World Rainforest Movement*. Retrieved June 13, 2010 from http://www.wrm.org.uy/bulletin/126/Aotearoa_New%20Zealand.html
- Lee, D. (2010). *E. Coli 0157:H7*. Retrieved August 1st, 2010 from http://www.medicinenet.com/e_coli__0157h7/article.htm
- Lee, M. S. W., Motion, J. & Conroy, D. (2009). Anti-consumption and brand avoidance. *Journal of Business Research*, 62, 169-180.
- Legat, N. (1999). 'GM food: should we worry?'. *North and South*, August, 38-50.
- Leopky, R. D. (1998). Control from within? Power, identity, and the Human Genome Project. *Alternatives: Social Transformation & Humane Governance*, 23 (2), 245-266.
- Loader, B. D. (2008). Social movements and new media. *Sociology Compass*, 2 (6), 1920-1933.
- Lynas, M. (2004). 'If they plant them, we'll pull them up'. *The Ecologist*. Retrieved June 3, 2007 from <http://www.theecologist.co.uk/article.html?article=452>
- Magdoff, F., Foster, J. B. & Buttel, F. H. (2000). *Hungry for Profit: The Agribusiness Threat to Farmers, Food and the Environment*. US: Monthly Review Press.
- Magnan, A. (2007). Strange bedfellows: contentious coalitions and the politics of GM wheat. *Canadian Review of Sociology and Anthropology*, 44 (3), 289-317.
- Maher, M. T. (2001). Framing: an emerging paradigm of a phase of agenda setting. In S. Reese, O. Gandy & A. Grant (Eds.), *Framing Public Life: Perspectives on Media and Our Understanding of the Social World* (pp83-94). NJ, USA: Lawrence Erlbaum Associates.
- Maiese, M. (2003). Elites. *Beyond Intractability*. Retrieved June 3, 2010, from <http://www.beyonدينtractability.org/essay/elite/>
- Mamay, S. (2004). *Theories of Social Movements and their Current Developments in Soviet Society*. Retrieved October 21, 2004 from <http://lucy.ukc.ac.uk/esacpub/russian/mamay.html>
- Marangudakis, M. (2002). New social movements: between civil society and communitarianism. *Sociological Spectrum*, 22, 41-70.
- Martineau, B. (2001). *First Fruit: The Creation of the Flavr Savr Tomato and the Birth of Biotech Food*. USA: McGraw-Hill.

- Marx Ferree, M. (1992). The political context of rationality: resource mobilisation and rational choice theory. In A. D. Morris & C. M. C. Mueller (Eds). *Frontiers in Social Movement Theory* (pp29-52). USA: Yale University.
- Massey University. (2010). Section 3. Application of the principles. *Massey University Code of Ethical Conduct*. Retrieved February 7, 2010 from <http://www.massey.ac.nz/massey/research/research-ethics/human-ethics/code/human-ethics/code/principle-appl.cf>
- McAdam, D. (1982). *Political Process and the Development of Black Insurgency, 1930- 1970*. USA: University of Chicago Press.
- McAdam, Doug. (1986). Recruitment to high-risk activism: the case of freedom summer. *American Journal of Sociology*, 92, 64-90.
- McAdam, D. (1996). Conceptual origins, current problems, future directions. In D. McAdam, J. D. McCarthy & M. N. Zald (Eds.), *Comparative Perspectives on Social Movements: Political Opportunities, Mobilizing Structures, and Cultural Framings* (pp23-40). New York, USA: Cambridge University Press.
- McAdam, D., McCarthy, J. D. & Zald, M. N. (1996). *Comparative Perspectives on Social Movements: Political Opportunities, Mobilising Structures, and Cultural Framings*. UK: Cambridge University Press.
- McCarthy, J. D & Zald, M. (1973). *The Trend of Social Movements in America: Professionalization and Resource Mobilization*. New Jersey: General Learning Press.
- McCarthy, J. D & Zald, M. N. (1977). Resource mobilisation and social movements: a partial theory. *American Journal of Sociology*, 82, 1212-1241.
- McPherson, M., Smith-Lovin, L. & Cook, J. M. (2001). Birds of a feather: homophily in social networks. *Annual Review of Sociology*, 27, 415-444.
- McRobie, A. (2003). Elections and the electoral system. In R. Miller (Ed.), *New Zealand Government and Politics 3rd Ed*, (pp175-187). Australia: Oxford University Press.
- Melucci, A. (1989). *Nomads of the Present: Social Movements and Individual Needs in Contemporary Society*. Philadelphia, USA: Temple University Press.
- Melucci, A. (1994). A strange kind of newness: what's "new" in new social movements? In E. Larana, H. Johnston & Jo. R. Gusfield (Eds.), *New Social Movements: From Ideology to Identity* (pp101-130). USA: Temple University Press.

- Melucci, A. (1996). *Challenging Codes: Collective Action in the Information Age*. UK: Cambridge University Press.
- Meylan, G. (1999). *Wild Greens Attach Genetically Engineered Potatoes*. Retrieved June 13, 2010 from <http://www.gene.ch/genet/1999/Mar/msg00059.html>
- Meyer, D. S. (2004). Protest and political opportunities. *Annual Review of Sociology*, 30, 125-145.
- Ministry for the Environment (MfE). (2001a). *Report of the Royal Commission on Genetic Modification: vol. 1*. Wellington, NZ: Ministry for the Environment.
- Ministry for the Environment (MfE). (2001b). Executive summary. *Valuing New Zealand's Clean Green Image*. Retrieved June 27, 2010 from www.mfe.govt.nz/publications/sus-dev/clean-green-image-value-aug01/index.html
- Ministry for the Environment (MfE). (2003). *Economic Risks and Opportunities from the Release of Genetically Modified Organisms in New Zealand*. Retrieved June 28, 2010 from www.mfe.govt.nz/publications/organisms/economic-impact-apr03/
- Ministry for the Environment (MfE). (2010). *Toi Te Taiao: the Bioethics Council*. Retrieved August 14, 2010 from <http://www.mfe.govt.nz/website/closed-sites/bioethics.html>
- Ministry of Economic Development (MoED). (2007). *2. Bioprospecting: What is it?* Retrieved August 1st, 2010 from http://www.med.govt.nz/templates/MultipageDocumentPage___28185.aspx
- Ministry of Research, Science and Technology (MoRST). (2010). *Crown Research Institutes*. Retrieved July 27, 2010 from <http://www.morst.govt.nz/rst-links/crown-research-institutes/>
- Mizuchi, M. S. & Bey, D. M. (2005). Corporate control, interfirm relations, and corporate power. In T. Janoski, R. R. Alford, A. M. Hicks & M. A. Schwartz (Eds.), *The Handbook of Political Sociology* (pp310-330). USA: Cambridge University Press.
- Moghaddam, F. M. and Ginsburg, S. (2003). Culture clash and patents: positioning and intellectual property rights. In R. Harré & F. M. Moghaddam (Eds.), *The Self and Others: Positioning Individuals and Groups in Personal, Political and Cultural Contexts* (pp235-249). CT, USA: Praeger.
- Morris, A. D. (2000). Reflections on social movement theory: criticisms and proposals. *Contemporary Sociology*, 29 (3), 445-454.
- Mulgan, R. & Aimer, P. (2004). *Politics in New Zealand. 3rd Ed.* Auckland, NZ: Auckland University Press.

- Mützel, S. (2009). Networks as culturally constituted processes: a comparison of relational sociology and actor-network theory. *Current Sociology*, 56 (6), 871-887.
- Nanjundaswamy, A. M. (1998). Cremating Monsanto: genetically modified fields on fire. In K. Ainger, G. Chesters, T. Credland, J. Jordan, A. Stern & J. Whitney (Eds.), (2003). *We Are Everywhere. The Irresistible Rise of Global Anticapitalism* (pp152-154). London/ New York: Verso.
- Nash, J. M. (2000). Grains of hope. *Time*, 156 (5), 38-46.
- National Academy of Sciences. (2010). *Technology to Feed the World*. Retrieved August 20, 2010 from <http://www.nationalacademies.org/webextra/crops/>
- New Zealand Food Safety Authority (NZFSA). (2009). *Mycobacterium avium subspecies paratuberculosis (MAP) and Crohn's Disease*. Retrieved July 4, 2009 from [www.nzfsa.govt.nz/consumers/animal-disease-affecting-human/map-crohns-disease/ index.htm](http://www.nzfsa.govt.nz/consumers/animal-disease-affecting-human/map-crohns-disease/index.htm)
- New Zealand History (NZ History). (2010). Nuclear-free Legislation – Nuclear-free New Zealand. *New Zealand History Online*. Retrieved August 21, 2010 from <http://www.nzhistory.net.nz/politics/nuclear-free-new-zealand/nuclear-free-zone>
- New Zealand in History. (2010). *The Māori. Today...Māoritanga – Māori Tradition and Customs*. Retrieved September 13, 2010 from <http://history-nz.org/maori8.html>
- New Zealand Inventory of Chemicals (NZIoC). (2007). *New Zealand Inventory of Chemicals (NZIoC): Operational Policies and Procedures*. Retrieved September 10, 2010 from <http://www.ermanz.govt.nz/resources/publications/word/nziocprocedures200703.doc>
- New Zealand Press Association (NZPA). (2003, November 25). Largest user of canola oil goes GE-free. *New Zealand Herald*. Retrieved September 10, 2010 from http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=3535979
- Nielson, C. P., Thierfelder, K & Robinson, S. (2003). Consumer preferences and trade in genetically modified foods. *Journal of Policy Modelling*, 25 (8), 777-795.
- Noonan, R. K. (1995). Women against the state: political opportunities and collective action frames in Chile's transition to democracy. *Sociological Forum*, 10 (1), 81-111.
- NW RAGE. (2005). *New Zealand Campaign Forces KFC to use GE-free Feed for their Chickens*. Retrieved June 13, 2010 from <http://nwrage.org/content/new-zealand-campaign-forces-kfc-use-ge-free-feed-their-chickens>
- Office for the Voluntary and Community Sector. (2010). *Toi Te Taiao: The Bioethics Council Online Case Study*. Retrieved August 14, 2010 from <http://www.>

goodpracticeparticipate.govt.nz/techniques/online-case-studies/bioethics-online.html

- Ogle, M. (2010). *The Gaia Theory. Model and Metaphor for the 21st Century*. Retrieved June 9, 2010 from <http://www.gaiatheory.org/index.html>
- Olesen, T. (2005). Transnational publics: new spaces of social movement activism and the problem of global long-sightedness. *Current Sociology*, 53 (3), 419-440.
- Olesen, T. (2006). The Zapatistas and transnational framing. In H. Johnston & P. Almeida (Eds.), *Latin American Social Movements. Globalization, Democratization and Transnational Networks* (pp 179-214). Maryland, USA: Rowman & Littlefield.
- Oliver, P. E. & Johnston, H. (2000). *What a good idea! Frames and Ideologies in Social Movement Research*. Retrieved on March 3, 2010, from <http://www.ssc.wisc.edu/~oliver/PROTESTS/ArticleCopies/Frames.2.29.00.pdf>
- Organic Consumers Association (OCA). (2000). *Biodevastation Anti-GE Activists Will Meet and March in Boston March 24-25*. Retrieved August 21, 2010 from <http://www.organicconsumers.org/ge/biodemboston.cfm>
- Osgood, D. (2001). *Dig it Up: Global Civil Society's Responses to Plant Biotechnology*. Chapter four. Retrieved September 2, 2004 from www.Ise.ac.uk/Depts/Global/Yearbook/PDF/Ch4.pdf.
- Ostergard Jr, R. L., Tubin, M. & Altman, J. (2001). Stealing from the past: globalisation, strategic formation and the uses of indigenous intellectual property in the biotechnology industry. *Third World Quarterly*, 22 (4), 643-657.
- Paget-Clarke, N. (2001). From Missouri to New Zealand. The politics of genetic engineering. *Z Magazine*. Retrieved August 19, 2010 from <http://www.zcommunications.org/from-missouri-to-new-zealand-by-nic-paget-clarke>
- Pakulski, J. (2008). Elite theory. *International Encyclopedia of the Social Sciences*. Retrieved October 15, 2010 from <http://www.encyclopedia.com/doc/1G2-3045300702.html>
- Paratuberculosis Awareness and Research Association (PARA). (2003). *Welcome*. Retrieved July 4, 2009 from <http://www.crohns.org/>
- Paratuberculosis.Net. (2006). *How does MAP cause disease?* Retrieved July 4, 2009 from www.paratuberculosis.net.
- Park, J. (2004). *Strength of Ties in High-Risk Social Movement: The Kwangui Uprising in South Korea, 1980*. Paper presented at the annual meeting of the American Sociological Association, Hilton San Francisco & Renaissance Parc 55

- Hotel. San Francisco, California. Retrieved on February 20, 2010, from http://www.allacademic.com/meta/p109357_index.html
- Passy, F. (2000). *Socialization, Recruitment, and the Structure/Agency Gap. A Specification of the Impact of Networks on Participation in Social Movements*. Retrieved January 4, 2009 from <http://www.nd.edu/~dmyers/lomond/passy.pdf>
- Pawson, E. (1997). Branding strategies and languages of consumption. *New Zealand Geographer*, 53 (2), 16-21.
- Peters, P. (1993). *What is Biotechnology?* Retrieved August 21, 2010 from http://www.accessexcellence.org/RC/AB/BC/what_is_biotechnology.php
- Petley, L. & Wheeler, F. (2001). *GE – Nemesis of Labour Alliance*. Retrieved June 3, 2009 from www.pl.net/9politics/nemesis.html
- Physicians and Scientists for Global Responsibility (PSGR). (2010). *Physicians and Scientists for Global Responsibility*. Retrieved March 25, 2010 from <http://www.psgr.org.nz/>
- Pitt, L., van der Merwe, R., Berthon, P., Salehi-Sangari, E. & Barnes, B. R. (2005). Swedish biotech SMEs: the veiled values in online networks. *Technovation*, 26(5-6), 553-560.
- Pollack, A. (2004, September 21). Genes from engineered grass spread for miles, study finds. *New York Times*. Retrieved August 19, 2010 from <http://www.mindfully.org/GE/2004/Monsanto-Scotts-Roundup21sep04.htm>
- Polletta, F & Jasper, J. M. (2001). Collective identity and social movements. *Annual Review of Sociology*, 27, 283-305.
- Potter, H. (2004). *Ecology/Environment as Master Frame*. Paper presented at the Annual Meeting of the American Sociological Association, Hilton San Francisco & Renaissance Parc 55 Hotel, San Francisco, CA. Retrieved September 13, 2010 from http://www.allacademic.com/meta/p_mla_apa_research_citation/1/0/9/7/1/p109716_index.html
- Prakash, C. S. (2005). Benefits of biotechnology for developing countries. *AgBioWorld*. Retrieved August 20, 2010 from <http://www.agbioworld.org/biotech-info/topics/dev-world/benefits.html>
- Puke Ariki. (2003). 1981 Springbok tour. *Puke Ariki*. Retrieved September 10, 2007 from <http://www.pukeariki.com/en/resources/pathfinders/springbokpath.asp>
- Purdue, D. (2000). *Anti-GenetiX: The Emergence of the Anti-GE Movement*. UK: Ashgate.

- Reed, T. V. (2002). *Glossary of Terms Used to Study Social Movements*. Amsterdam University. Retrieved October 21, 2004 from www.wsu.edu:8080/~amerstu/smc/glossary.html
- Regal, P. J. (1996). Metaphysics in genetic engineering: cryptic philosophy and ideology in the “science” of risk assessment. *PSRAST*. Retrieved July 18, 2002 from www.psrast.org/pjrbiosafety.htm
- Reynolds, P. (2004). *Nga Puni Whakapiri: Indigenous Struggle and Genetic Engineering*. Unpublished doctoral dissertation, Simon Fraser University, British Columbia, Canada.
- Rifkin, J. (1998). *The Biotech Century. How Genetic Commerce Will Change the World*. Great Britain: Victor Gollancz.
- Ritchie, J., Spencer, L & O’Connor, W. (2003). Carrying out qualitative analysis. In J. Ritchie & J. Lewis (Eds.), *Qualitative Research Practice* (pp219 – 262). London: Sage.
- Ritzer, G. (2007). Collective identity. *Blackwell Encyclopaedia of Sociology*. Retrieved September 8, 2010 from http://www.blackwellreference.com/subscriber/uid=895/tocnode?id=g9781405124331_yr2010_chunk_g97814051243319_ss1-66
- Ritzer, G. & Goodman, D. J. (2004). *Modern Sociological Theory. 6th Ed.* NY, USA: McGraw Hill.
- Roberts, K. M. (1998). *Deepening Democracy? The modern left and social movements in Chile and Peru*. US: Stanford University Press.
- Robnett, B. & Trammell, R. W. (2004). *Negative and Positive Radical Flank Effects on Social Movements: The Influence of Protest Cycles on Moderate and Conservative Organisations*. Paper presented at the annual meeting of the American Sociological Association, Hilton San Francisco & Renaissance Parc 55 Hotel, San Francisco, CA. Retrived June 6, 2009 from www.allacademic.com/meta/p109468_index.html
- Salman, N. (2002). *Networks and innovation: a social network analysis of biotechnology collaboration*. Unpublished master’s thesis, Concordia University, Wisconsin, USA.
- Sawyers, T. M. & Meyer, D. S. (1999). Missed opportunities: social movement abeyance and public policy. *Social Problems*, 46 (2), 187-206.
- Scheff, T. J. (2005). The structure of context: deciphering frame analysis. *Sociological Theory*, 23 (4), 368-385.

- Scher, M. (1993). *Biotechnology's Evolution Spurs Food Revolution*. Retrieved August 19, 2010 from <http://www.allbusiness.com/manufacturing/food-manufacturing/352553-1.html>
- Schiffauerova, A. & Beaudry, C. (2008). Innovation networks and gatekeepers of Canadian biotechnology clusters. *École Polytechnique de Montréal*. Retrieved on February 14, 2010 from <http://rrifr.univ-littoral.fr/wp-content/uploads/2008/04/tacoma-schiffauerova-beaudry-biotechnology-network-final.pdf>
- Schurman, R. (2004). Fighting “frankenfoods”: industry opportunity structures and the efficacy of the anti-biotech movement in Western Europe. *Social Problems*, 51 (2), 243-268.
- Schurman, R. & Munro, W. (2004). *Sustaining Rage: Cultural Capital, Strategic Location, and Motivating Sensibilities in the U.S. Anti-genetic Engineering Movement*. Department of Sociology, University of Illinois, Illinois. Unpublished Manuscript.
- Schurman, R. & Munro, W. (2007). Sustaining outrage: motivating sensibilities in the U.S. anti-GE movement. In W. Wright & G. Middendorf (Eds), *Food Fight: Producers, Consumers, and Activists Challenge the Global Food System* (Pp145-176). USA: University of Pennsylvania Press.
- Scott, A. (1990). *Ideology and the New Social Movements*. London: Unwin Hyman.
- Scott, J. (2000). *Social Network Analysis. A Handbook. Second edition*. London / California / New Delhi: Sage.
- Smelser, N. (1963). *Theory of Collective Behaviour*. New York, US: Free Press.
- Snow, D. A. (2004). Framing processes, ideology, and discursive fields. In D. A. Snow, S. A. Soule & H. Kriesi (Eds.), *The Blackwell Companion to Social Movements*. (Pp380-412). USA: Blackwell Publishing.
- Snow, D. A. & Benford, R. D. (1988). Ideology, frame resonance and participant mobilization. *International Social Movement Research*, (1), 197-219.
- Snow, D. & Benford, R. (1992). Master frames and cycles of protest. In C. Mueller & A. Morris (Eds.), *Frontiers of Social Movement Theory* (pp133-155). Connecticut, USA: Yale University Press.
- Snow, D. A. & Benford, R. D. (2000). Clarifying the relationship between framing and ideology in the study of social movements: a comment on Oliver and Johnston. *Mobilization: An International Journal*, 5 (pp55-60). Retrieved on November 2, 2008 from http://www.ssc.wisc.edu/~oliver/PROTESTS/ArticleCopies/ SNOW_BED.PDF.

- Sökefeld, M. (2006). Mobilizing in transnational space: a social movement approach to the formation of diaspora. *Global Networks*, 6 (3), 265-284.
- Southward, C. & Howard-Clarke, M. A. (2000). Why RAGE? In R. Prebble (Ed.), *Designer Genes* (pp165-177). Wellington, NZ: Darkhorse.
- Sternhell, S. (2001). The Next Technological Revolution. *Quadrant*, 45 (9), 56-57.
- Stone, J. L. (2005). *Rebelling by any means possible: New Zealand local government nuclear weapon free zones*. Unpublished master's thesis, Massey University, Palmerston North, New Zealand.
- Strauss, M. (2000). When Malthus Meets Mendel. *Foreign Policy*, Summer, 105.
- Sustainability Council of New Zealand. (2002). *The Board*. Retrieved June 10, 2009, from www.sustainabilitynz.org/council.asp
- Suzuki, D. (1998). Introduction: a geneticist's reflections on the new genetics. In R. Hindmarsh, L. Geoffrey & J. Norton (Eds.), *Altered Genes. Reconstructing Nature: the Debate*. NSW, Aust: Allen and Unwin.
- Tanczos, N. (1999). Wild Greens not vandals. *Green Party of Aotearoa New Zealand*. Retrieved August 8, 2004 from <http://www.greens.org.nz/searchdocs/PR3759.html>
- Tanczos, N. (2006). GE – Cartagena Protocol on Biosafety – what's happened. *Green Party of Aotearoa New Zealand*. Retrieved August 19, 2010 from <http://www.greens.org.nz/features/ge-cartagena-protocol-biosafety-whats-happened>
- Tarrow, S. (1994). *Power in Movement: Collective Action, Social Movements and Politics*. UK: Cambridge University Press.
- Te Ara. (2009). *Bastion Point Protest*. Retrieved September 13, 2010 from <http://www.teara.govt.nz/en/auckland-places/13/3/1>
- Te Pareake Mead, A. (1997). Genetic resources and indigenous cultural heritage. In The Royal Society of New Zealand (Ed.), *Gene Technology: Benefits and Risks* (pp67-69). Wellington, NZ: The Royal Society of New Zealand.
- The Nelson Mail. (2008, September, 25). *Anti-GE Picket Opposes Equine Flu Vaccine Plan*. Retrieved August 30, 2010 from <http://www.stuff.co.nz/nelson-mail/news/644719>
- Tilly, Charles. (1978). *From Mobilization to Revolution*. Essex, UK: Longman Higher Education.

- Tilly, C., Tilly, L. & Tilly, R. (1975). *The Rebellious Century, 1830 – 1930*. Cambridge: Harvard University Press.
- Tipene-Matua, B. (2000). A Maori response to the biotech age. In R. Prebble (Ed.), *Designer Genes* (pp97-110). Wellington, NZ: Dark Horse.
- Tolich, M. & Davidson, C. (1999). *Starting Fieldwork. An introduction to qualitative research in New Zealand*. Melbourne: Oxford University Press.
- Tormey, S. (2004). *Anti-capitalism: A Beginners Guide*. England: Oneworld Publication.
- Touraine, A. (2007). “After the industrial revolution we are going from a society of tools to a society of language”. *Universitat Oberta de Catalunya*. Retrieved on January 1, 2010 from http://www.uoc.edu/portal/english/la_universitat/sala_de_prensa/entrevistes/2007/touraine.html.
- Trefil, J. (2001). Brave new world. *Smithsonian*, 32 (9), 38-44.
- Tucker, C. A. (2003). *Contaminated Democracy: a discourse analysis of the submissions to the Royal Commission on Genetic Modification*. Unpublished master’s thesis, Massey University, Palmerston North, New Zealand.
- Turner, R. H. & Killian, L. M. (1972). *Collective Behaviour*. 2nd Ed. New Jersey, USA: Prentice-Hall.
- United Nations. (2010). *United Nations – Earth Summit+5*. Retrieved September 8, 2010 from <http://www.un.org/esa/earthsummit/>
- United States Patent and Trademark Office. (2008). *35 U.S.C. 101 Inventions Patentable – Patent Laws*. Retrieved September 8, 2010 from http://www.uspto.gov/web/offices/pac/mpep/documents/appxl_35_U_S_C_101.htm
- University of Kiel. (2008). Assistant Professor Dr Rudolf Heberle. Retrieved November 26, 2009 from www.uni-kiel.de/ns-zeit/bios/heberle-rudolf.shtml
- Urbanik, J. (2007). Locating the transgenic landscape: animal biotechnology and politics of place in Massachusetts. *Geoforum*, 38, 1205-1218.
- Vandenberghe, F. (2002). Reconstructing humants: a humanist critique of actant-network theory. *Theory, Culture & Society*, 19, (5/6), 51–67.
- Van der Veen, E. W. (2002). *Social Movement Theories*. Retrieved December 16, 2004 from http://husky1.stmarys.ca/~evanderveen/wvdv/social_change/social_movement_theori...

- Van de Donk, W., Loader, B. D., Nixon, P. G. & Rucht, D. (Eds) (2004). *Cyberprotest: New Media, Citizens and Social Movements*. USA / Canada:Routledge.
- Waitangi Tribunal. (2010a). Waitangi Tribunal. Te Rōpū Whakamana I Te Tiriti O Waitangi. *Waitangi Tribunal*. Retrieved September 18, 2010 from <http://www.waitangi-tribunal.govt.nz>
- Waitangi Tribunal. (2010b). Flora and Fauna (Wai262 Inquiry). *Waitangi Tribunal*. Retrieved September 18, 2010 from <http://www.waitangi-tribunal.govt.nz/inquiries/genericinquiries2/florafafauna/default.asp>
- Wapner, P. (2003). Transnational environmental activism. In J. M. Jasper & J. Goodwin (Eds.). *The Social Movements Reader: Cases and Concepts* (pp202-209). UK: Blackwell.
- Wasserman, S. & Faust, K. (1994). *Social Network Analysis. Methods and Applications*. Cambridge: Cambridge University Press.
- Weaver, C. K. & Motion, J. (2002). Sabotage and subterfuge: public relations, democracy and genetic engineering in New Zealand. *Media, Culture & Society*, 24, 325-343.
- Wellman, B. (2001). Physical place and cyber place: the rise of networked individualism. *International Journal for Urban and Regional Research*, 25, 227-252.
- Westby, D. L. (2005). Strategic imperatives, ideology, and frames. In H. Johnston & J. A. Noakes (Eds.), *Frames of Protest. Social Movements and the Framing Perspective* (pp217-236). UK: Rowman & Littlefield.
- Wetter, K. J. & Shand, H. (2009). *GM Crops and the Gene Giants: Bad News for Farmers*. Science and Development Network. Retrieved July 22, 2010 from <http://www.scidev.net/en/opinions/gm-crops-and-the-gene-giants-bad-news-for-farmers.html>
- Wiegele, T. C. (1991). *Biotechnology and International Relations. The Political Dimensions*. Florida, USA: University of Florida Press.
- Williams, D. (2003). Secrets of the sea. *Time*, August 18, 76-77.
- Williams, R. H. (2004). The cultural contexts of collective action: constraints, opportunities, and the symbolic life of social movements. In D. A. Snow, S. A. Soule & H. Kriesi (Eds.), *The Blackwell Companion of Social Movements* (pp91-115). UK: Blackwell.
- Wolfson, A. (2002). Biodemocracy in America. *The Public Interest*, Winter, 23-37.

Yellow. (2009). *How to be Green at Home*. Retrieved September 3, 2010 from <http://howto.yellow.co.nz/culture-and-society/environmental-issues/how-to-be-green-at-home/>

Appendix A

Framework Index

Biographical identity

- 1.1 Age
- 1.2 Gender
- 1.3 Ethnicity
- 1.4 Place of birth
- 1.5 Living Situation
- 1.6 Other

Activist Life History

- 2.1 Childhood experiences
- 2.2 Education
- 2.3 Employment
- 2.4 Overseas travel
- 2.5 Past group / organisational memberships / affiliations
- 2.6 Becoming an activist
- 2.7 Current location
- 2.8 Other

Activist Identity

- 3.1 Activist description
 - 3.1.1 Activist description
 - 3.1.2 Activist description of self
 - 3.1.3 Activist description of other activists
- 3.2 Activist involvement (past)
 - 3.2.1 Past activist actions and activities
 - 3.2.2 Past other group / organisational membership
- 3.3 Activist involvement (GE)
 - 3.3.1 GE activist action and activity
 - 3.3.2 GE group / organisational memberships
 - 3.3.3 GE activist roles
- 3.4 Future activist action and activity
- 3.5 Activist emotions.
- 3.6 Activism inspirations
- 3.7 Activist philosophies and beliefs
 - 3.7.1 GE specific philosophies and beliefs
 - 3.7.2 Wider activist philosophies and beliefs
- 3.8 Activism rationales and intellectual claims
 - 3.8.1 GE activist rationales and intellectual claims
 - 3.8.2 Wider activist rationalisations / intellectual claims
- 3.9 Other

Appendix A

GE Interests and Values

- 4.1 GE terminology / discourse
- 4.2 GE history
- 4.3 GE representations
- 4.4 Initial GE interest
- 4.5 GE Interest progression
- 4.6 GE Interest expansions (into other areas)
- 4.7 Key issues
 - 4.7.1 Labelling issues
 - 4.7.2 Medical issues
 - 4.7.3 Environmental /biosecurity issues
 - 4.7.4 Economic issues
 - 4.7.5 Maori / cultural issues
 - 4.7.6 Religious / spiritual issues
 - 4.7.7 Moral / ethical issues
 - 4.7.8 Food issues
 - 4.7.9 Health issues
 - 4.7.10 Democratic / public rights issues
 - 4.7.11 The science
 - 4.7.12 Patents / Intellectual property
- 4.8 Other

GE and Geographical Specific Interests

- 5.1 New Zealand specific interests /issues
- 5.2 Other country interests and examples
- 5.3 Global interests
- 5.4 Other

GE Mobilisation and Representations

- 6.1 Movement representation
- 6.2 Recruitment strategies
- 6.3 Mobilisation strategies
- 6.4 Tactical repertoires (tactics used) / mobilisations
- 6.5 Target identification
- 6.6 International relationships
- 6.7 Actions / events
- 6.8 Slogans
- 6.9 Outcomes
 - 6.9.1 Key movement moments
 - 6.9.2 Perceived movement successes
 - 6.9.3 Perceived movement failures
- 6.10 Other

Challenges, Conflicts & Relationships

- 7.1 Personal challenges and conflicts
- 7.2 Internal movement conflicts and challenges
 - 7.2.1 Conflicts and challenges specific to GE
 - 7.2.2 General conflicts and challenges
- 7.3 Member relationships, observations & critiques
 - 7.3.1 Positive
 - 7.3.2 Neutral
 - 7.3.3 Negative
- 7.4 Group relationships, observations & critiques
 - 7.4.1 Positive
 - 7.4.2 Neutral
 - 7.4.3 Negative
- 7.5 External conflicts and challenges
 - 7.5.1 Legal matters
 - 7.5.2 Police / policing
 - 7.5.3 Central Government / Government Authorities
 - 7.5.4 Regional Government
 - 7.5.5 Political process
 - 7.5.6 Media
 - 7.5.7 Science
 - 7.5.8 Scientific community / Scientists
 - 7.5.9 Biotechnology companies
 - 7.5.10 Pro-GE lobbyists
- 7.6 Other

Key People and Organisations

- 8.1 Key people
- 8.2 Key organisations /groups
- 8.3 Key opponents /adversaries
- 8.4 Other

GE Possibilities

- 9.1 What could/ would have made a difference to the movement
- 9.2 What could/ will make a difference at present
- 9.3 Future possibilities & future certainties
- 9.4 Future hopes
- 9.5 Future fears
- 9.6 Other

Other

- 10.1 Other

Appendix B

GE Resistance Social Movement Groups

An important thesis finding is the complexity of relationships between activists, social movement groups, and the movement network overall. Eighteen individual activists were interviewed, and between them they stated affiliations with 18 Aotearoa New Zealand-based groups. Moreover, these groups are considerably diverse in size, organisational style, membership, focus and durability, as the following descriptions demonstrate. Details in these descriptions may at times appear vague – this is due primarily to the ethical consideration of protecting research participants' identity.

Anti-Genetix Action (AGA): A localised group with a small number of active participants. Their focus was on using protests and demonstrations to target companies who use or support GE food. The group existed for several months.

Auckland GE Free Coalition (AGEFC): A localised group which consisted of individuals from a range of groups, that would come together to share information and coordinate on activities. The coalition existed for less than two years.

(Royal) Forest & Bird (Protection Society): A national organisation with local branches throughout Aotearoa New Zealand, which has a large membership base (approximately 70,000 as at May 2011). Their main concern is conservation of New Zealand flora, fauna and animals, but there is also some interest in GE where the conservation of species is concerned, such as with biopiracy. They are a well established organisation that initially formed in 1923.

www.forestandbird.org.nz

Friends of the Earth (New Zealand) (FoENZ): An international environmental organisation which as at May 2011 has member groups in 76 countries, around 5,000 local activist groups within those countries, and approximately two million members. The New Zealand member group formed in 1975, and cites genetic engineering as one of its main interests, in line with their organisational role of being environmental watchdogs.

www.foei.org

GE Free New Zealand (in food and environment): a national organisation with a head office in Wellington, ten regional branches throughout Aotearoa New Zealand, and a small paid membership. The group developed specifically out of concern about GE. They are a watchdog for GE activity and disperse information on GE. They are particularly concerned with keeping GE out of the Aotearoa New Zealand Environment and out of the food chain. The group emerged in 1998 (and were known at that time as 'RAGE' – Revolt Against Genetic Engineering), and continue to be active.

www.gefree.org.nz

Appendix B

GE Free Sticker Brigade: A very small, localised group of activists. Their sole purpose and focus was placing stickers on goods in supermarkets to identify those products containing GE ingredients. They existed for several months, but instigated some copy-cat behaviour around the country as well which meant that ‘stickering’ activities extended beyond this particular groups existence.

Green Gloves: This ‘group’ consisted of just a couple of people primarily, who in only a few months, collected around 3,000 signatures for a register of individuals who would be willing to pull out GE crops should a commercial release occur in Aotearoa New Zealand. Green Gloves existed for a few months in 2003. The list collected by the group has never been utilised.

Green Party (of Aotearoa New Zealand): An Aotearoa New Zealand political party who are currently a minority party holding nine seats in Parliament. The Green Party evolved out of the Values Party (which formed in 1972), forming in 1990. The Green Party have opposed commercialisation of GE in this country, helped put the issue on the political agenda in 1999, and made GE a strong campaign focus in the 2002 general elections. They continue to oppose the commercialisation of GE in Aotearoa New Zealand.

www.greens.org.nz

Greenpeace: An international, professional, hierarchical organisation that formed in 1971, with a national branch based in Auckland being founded in 1974. The international membership is around 2.8 million people. In this country Greenpeace largely consists of paying but inactive members, and a smaller group of active members, including paid employees. GE is one of the core campaign areas of concern in Aotearoa New Zealand, which, as with their other environmental based campaign areas, is addressed through non-violent action. Greenpeace continue to be an important environmental organisation in this country and internationally.

www.greenpeace.org/new-zealand/

Mothers Against Genetic Engineering (MAdGE): MAdGE was founded by iconic 1980s pop singer of the band the Thompson Twins, Alannah Currie, in 2002. This was a national organisation, with a head office in Auckland, comprised of women who are particularly concerned about GE in food. At their peak, MAdGE had a paying membership of several thousand women. The group disestablished in late 2003 / early 2004. MAdGE were also involved in a range of protest events and promoted consumer activism.

Appendix B

Māori community: concerns about GE in Aotearoa New Zealand were registered in the early 1990s by Māori (including through the WAI262 claim discussed in Chapter One), which places Māori at the forefront of bringing certain GE related issues to the attention of the wider public and politicians. The Māori community comprises various individuals and groups around Aotearoa New Zealand, including Nga Wahine Tiaki o Te Ao (a collective of women concerned about GE). The concerns of this particular community are culturally situated – they are specifically concerned about GE from a Māori cultural perspective – and for this reason remained networked with the GE resistance movement, but preferred to keep separate. A number of prominent Māori academics and other professionals maintain a strong interest in GE.

Organic community: The organic community comprise a network that has contributed to the GE resistance social movement network, and includes individuals (for example, organic producers) as well as groups (for example, the Soil and Health Association). The organic community's interests are in the promotion of organic systems, which they argue cannot co-exist with genetic modification due to the risk of contamination.

Peoples Moratorium Enforcement Agency (PMEA): The PMEa emerged out of WAGE (see below) in October 2003, during a 'tent city' (individuals illegally pitched tents to protest against the lifting of the moratorium on commercial GE) on Parliament Grounds in Wellington. The PMEa is a non-hierarchical collective of activists who promote the use of direct action – crop sabotage – in order to keep GE out of the Aotearoa New Zealand environment. The group have not been active since 2004.

Physicians and Scientists for Responsible Genetics (PSRG): The PSRG is a charitable trust with a paying membership of several hundred, which was established in 1999. They are a national organisation, which has international affiliations with Physicians and Scientists for the Responsible Application of Science and Technology (PSRAST). They changed their name in 2008 to Physicians and Scientists for Global Responsibility, but their core objectives which are to be collectors, authors and disseminators of reliable information about GE, has remained the same. This organisation continues to be active.

www.psg.org.nz

Rural Women New Zealand (RWNZ): RWNZ is a charitable organisation that was first established in 1925 (then known as the Women's Division of Federated Farmers). RWNZ has a national office, with groups spread throughout the country. Their purpose is to support people in rural communities, though they have been interested in GE at different times.

www.ruralwomen.org

Appendix B

Save Animals From Exploitation (SAFE): SAFE is a nationwide, animal protection organisation, which became formally established in 1978 (although their roots go back to 1932). The organisation is run by a board of up to nine members, and has 17 employees at present, and a large network of volunteers around the country. Their focus on the prevention of animal exploitation includes being opposed to the genetic modification of animals. SAFE continue to have a strong presence in Aotearoa New Zealand.

www.safe.org.nz

Sustainability Council (of New Zealand): The Sustainability Council is a Trust comprising notable New Zealanders, which was launched in 2002. Their working objective is to promote an environmentally sustainable Aotearoa New Zealand, which includes a strong interest in the place of GE in this country. Their core function is undertaking research and disseminating information on areas of interest to the Trust. They continue to be an active Trust.

www.sustainabilitynz.org/

Wellington Anti-GE (WAGE): WAGE emerged around 2000, and essentially morphed into the PMEAs (see above) in October 2003. This was a small, localised group of activists, who would organise and participate in a range of (usually) small-scale protests and demonstrations.

