COLLECTIVE ACTION FRAMING GENETIC ENGINEERING RESISTANCE IN NEW ZEALAND

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Abstract

The genetic engineering resistance movement in New Zealand constructed strategic and meaningful interpretations of why the genetic engineering technique is problematic and what can be done about it. There are four central interpretations – explored here as collective action frames – that were used by key movement activists in their mobilisation activities. These four frames describe genetic engineering as 'involving a wide range of issues', 'risky', 'unnatural' and as 'all about the ownership of life'. The characteristics of these frames are explained in this paper, along with an analysis of why it is that activists were able to achieve widespread resonance through their deployment of them. The successful framing and articulation of movement grievances is a critical movement activity for engagement of civil society in issues of great importance.

Keywords: biotechnology, framing, social movement, activism.

Introduction

Opposition to genetic engineering (GE) began internationally in the USA, with concerns being raised as early as the 1970s when rDNA (recombinant Deoxyribonucleic Acid) techniques were first developed (Barinaga, 2000; Osgood 2001; Schurman 2004). But it was the landmark Diamond v. Chakrabarty court case decision of 1980, which ruled that living organisms could be patented that saw concerns about GE accelerate, eventuating in the first protests against GE in the USA in 1993 (Osgood 2001; United States Patent and Trademark Office 2008; Wiegele 1991). By 1995 a movement of opposition had developed in the United States, and concerns had spread around the world, including to New Zealand (Lynas 2004; Nash 2000; Osgood 2001; Schurman 2004).

It was during the years 1996 through 1998 that the public and political profile of GE began to increase in New Zealand (Southward & Howard-Clark 2000). The first grassroots group opposing GE emerged in 1998: Revolt Against Genetic Engineering (RAGE), which later changed its name to GE Free New Zealand (in food and environment) in 2000 (Southward & Howard-Clark 2000). RAGE was a nationwide organisation that formed as an umbrella group for over 85 groups whose interests hinged primarily on matters related to health, environment and consumer rights (Southward & Howard-Clark 2000), which reflects the wide array of concerns about GE. Māori, religious groups, animal rights activists and those involved in the organic community were also expressing apprehension over GE technology. However, it was not until late in the 1990s that GE became an issue firmly planted on the political agenda of this country, and widespread in the minds of New Zealanders.

Public concern and awareness of GE in New Zealand can be traced to several factors. First, GE food had been sold in this country for some years without public awareness, and second, the Government had already allowed 238 GE field trials to take place by 1999, again, largely without public knowledge (Legat 1999: Weaver & Motion 2002). Third, much concern was being expressed over the lack of testing of GE foods being sold as well as the lack of any labelling indicating which goods contained GE or GE derived products (Weaver & Motion 2002). The year 1999 proved to be a pivotal one for GE politically with the first GE crop sabotage taking place on potatoes grown at Lincoln University, and the newly elected Labour coalition Government announcing that it would be taking action on the demands made in a petition earlier presented to Government for a Royal Commission of Inquiry into GE (MfE 2001; Southward & Howard-Clark 2000; Tanczos 1999). The GE resistance movement awareness raising stage transformed into a peak period of activism from late 1999 through to late 2003.

The years of mass mobilisation around an array of oppositions to GE in New Zealand included some of the largest numbers of people converging in protests and at rallies. The point of my research was to explore more closely the politics that occurred within this movement, through the experiences of activists who played important roles in the activities and campaigns undertaken as part of the wider movement. In particular I wanted to know about the structural qualities of the inner hub of movement activists, and the cultural meaning-making that was used to mobilise and maintain movement support. It is this latter aspect of my

research that will be elaborated in this paper, through focusing on the collective action frames, or the "modes of attribution and articulation" of movement grievances (Snow & Benford 1992, p137).

Materials and methods

Eighteen key movement activists were interviewed in 2005. Initial research participants were identified through their high profile in association with GE resistance in the mass media, with a snowball technique used to identify further participants following the first interviews. Interviewees were asked to consider the pivotal role and significance for the movement of those they chose to nominate when making their decisions. Put differently, nominations were not necessarily based on friendships or close personal ties, but on the perceived importance of the individual. Ultimately, participants varied widely in age, were evenly split in terms of gender, came from a range of employment and ethnic backgrounds, but tended in the vast majority to be highly, formally educated (those that did not have formal education of a high standard were nonetheless exceedingly well informed and educated individuals). In a number of instances, activists had expertise closely allied with the field of new biotechnology. Research participants were furthermore affiliated with a wide and varied range of organisations, and most often had multiple group affiliations.

Although the research sample of eighteen appears small compared to the overall number of people involved with the GE resistance movement, these individuals represented a diversity of positions and approaches. As such, even if a wider sample of individuals had been participants in this research, I do not expect that the findings relayed in the following would have altered in any substantial way. Additionally, by the accounts of those interviewed for this research, those comprising the movement core have in fact been a small (but varied) group.

The interviews were non-standardised, semi-structured, and involved questions useful to both frame analysis and social network analysis. Interviews were most often conducted face-to-face. The interviews generated over 400 pages of transcript, which required a robust organisational system to code data. Ritchie, Spencer and O'Connor's (2003, p219) framework technique, a "matrix based method for ordering and synthesising data" was used for this purpose. As well as providing an excellent system for dealing with data, this technique was well suited for framing analysis.

The identification of frames is an area that has been critiqued as a methodological shortcoming of the approach – there is no one particular technique for the measurement of frames (König 2009a). By adopting Ritchie et al's (2003) framework coding system however, the way that data was categorised meant that frames, like themes, became quite evident. This approach was combined with a second, which is useful for the purpose of identifying who activists saw as movement antagonists and protagonists, in other words, for locating identity constructs. This second technique suggested by König (2009b) involved finding all occurrences of first and third party references in transcripts and inputting them into a matrix according to who was being referred to. Locating identity is a core aspect of collective action framing work.

Framing, founded in the work of Erving Goffman, can be understood as "individual 'sense making activity' that via processes of social interaction and communication can become collective understanding" (Chesters & Welsh 2002, p3). A frame can therefore be understood 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" (Snow & Benford 1992, p137). While numerous frame-types exist, the focus here is on one particular type: collective action frames.

Collective action frames provide an interpretation of the world, but have a very strategic purpose as well: the mobilisation of individuals toward challenging an existing view and effecting change (Benford & Snow 2000; Snow 2004). In the words of Snow (2004, p385), collective action frames are intended to "activate adherents, transform bystanders into supporters, exact concessions from targets, and demobilize antagonists". There are different ways of understanding the components of a collective action frame. Snow and Benford's (1992) description is elaborate and useful for the analyst of frames. They refer to collective action frames as comprising four areas: accentuation, punctuation, attribution (prognostic and diagnostic) and articulation (Snow & Benford 1992). For the sake of simplicity and brevity however, I refer here to a model for understanding the components of collective action frames as developed by Gamson (1992) and used by others including Kornblum (2008). Gamson's (1992) approach incorporates three elements: identity (who the 'we' is and who the 'they' is), injustice (what the perceived issues are) and agency (how it is that the injustices can be addressed). These frames are specific to a given social movement, and are revealing in terms of the culture of that movement.

Results and Discussion

Four collective action frames were prominent in the transcribed conversations with GE resistance movement key opinion leaders. Each of these four frames is outlined here, with quotations from activists used to demonstrate them. To begin, GE as encompassing a wide range of issues is explored as a collective action frame.

GE encompasses a wide range of issues

The wide ranging character of GE – the number of different areas that this biotechnology technique potentially touches – was a common theme in participant discourse:

> 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. 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... (Gavin).

Gavin relays a number of quite philosophical concerns. Jason also noted concerns that are pitched at a more abstract level: "issues of globalisation, global social justice and sustainability, and a direction for humanity [which are] all converging in [GE] technology". However, most commonly it is GE and food or environment that is noted as being most implicated in concerns with the technology. This wide array of concerns expressed among those questioning GE in New Zealand is described by Heidi:

> 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.

With such an array of concerns, why then was this mobilisation effort pitched primarily around GE food and the environment? Herring (2008, p464) noted a separation between the "white" industrial and the "red" medical applications of biotechnology, and that activists understood this:

> 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.

Although referring to European activists, the statement applies equally in the New Zealand situation. Activists were both empathetic and strategic in their interest to mobilise recruits while minimising the possibility of marginalisation at the same time. The strategy of targeting GE in food and the environment as central issues was a purposeful move, given the emotive associations with medical-related technologies and for the sake of simplicity in relaying messages. Linda explains the emotion element, followed by Grant explaining the importance of a simple message:

> 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)

> There are the other things [like] medical applications where we haven't really focussed... For a long tie 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).

The strategic implications and moral conflict implied in both Grant and Linda's comments is situated within the recognition of the wide range of issues that GE touches on. Individual activists' concerns and interests varied substantially, with this tendency for considerable variation being evident in the remaining three collective action frames.

GE is unnatural

The second collective action frame positions GE as unnatural, as something that is in opposition to nature, a contaminant. Jason's interest in GE was engaged when he saw that biotechnology developers were trying to

convince people that GE was no different to anything done before, despite genetically modified organisms (GMOs) being 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 in it is interconnected, with the manipulation of one element having effects that emanate outwards to affect other elements in the world. Activists commonly argued that when such manipulation occurs at a genetic level, repercussions could be profound: "very small amounts can actually alter [things] quite severely" (Barb). Concerns about manipulating genes, and moving genetic material were voiced frequently, as in this example from Hilda:

> 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.

Nature will do what nature does in its own time argues Hilda.

The term contamination came up regularly in association with the GE is unnatural collective action frame. GE in foods is equated with contaminated food, with concerns of insufficient testing and adverse results of testing GE food being cited. Dissemination of information about these matters was a tactic drawn on by many activists, as was arguing for a thorough labelling regime for GMOs. New Zealand does have a labelling regime, but it has been regarded as not going far enough. Linda explains her views on GMO labelling insufficiencies along with her frustrations:

> the Food Safety Authority Australia and New Zealand labelling ... means nothing, i.e. one percent of allowable contamination, and GE oils and sugars and starch is not labelled at all. So [the New Zealand Government] found ways of allowing most of the crops that are being produced in mass in America without any labelling. ... how do you know whether it's GE canola oil or what the hell it is? You can't tell.

Linda advocated a consumer choice approach, whereas others, including Jason and Shane encouraged directly targeting producers that use GMOs. Jason argued that individuals should phone up companies and question GE content in their products, whereas Shane opted for a more direct action approach, which included noisy protests outside companies that use GMOs. The rationale for the direct action tactic is explained by Shane in relation to protests aimed at Inghams chicken products through targeting Kentucky Fried Chicken stores:

> 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.

All in all, a variety of tactics existed which can be linked in with the GE as unnatural collective action frame. However, there is one remaining perspective which was strongly supported by activists: if GE is unnatural and equated with risk, organic production is the antithesis. Organic methods of producing food in harmony with the environment are seen as natural and safe.

The organic industry in New Zealand experienced massive growth, in part as a result of the debate occurring in this country over GE (MfE 2001). Dean discussed how people seem to want to reach out to nature, but do not seem to know how:

> 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 kinds of ways [like] through the conservation movement, through buying organic food, but not actually doing it. And organics is actually a practice: it's not a knowledge based system.

While there was widespread support among movement activists for an organic future for New Zealand, there was variation in terms of how to actively support this vision. Grant for example raised concerns about people

not being able to afford to buy organic foods, yet he himself still supported this vision. Nonetheless, pursuing the organic route was positioned as the natural alternative to a risky technology. GE as risky constitutes a further collective action frame.

GE is risky

Linda described GE as a "time bomb", and as:

> an accident waiting to happen, and the more we piss about 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.

The thing that "people are most frightened of" according to Linda is an accident that might not be remediable: if something goes wrong, is it possible to fix the problem? Shane described 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]". Adding to the sense of risk surrounding GE, was concern that we do not know enough about the technology:

> What about the unknowns? We don't know enough. What about the soil bacteria? 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).

The lack of knowledge and uncertainty with GE was reinforced for activists by the lack of transparent reporting of GE science. Uncertainty and transparency translated to a lack of trust in GE, with misinformation and misleading debates being problematic. Hilda described an example where information was 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.

Just as GE was seen as a contaminant in food, in the environment GE was also seen as a contaminant and therefore a risk.

Environmental 'contamination' is seen as a threat in many ways, including to biodiversity and to primary producers who do not wish to use GE technology. Moreover, there is uncertainty over who would be financially responsible if a contamination incident did occur. It was common for movement activists to draw on overseas examples of GE contamination and use 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).

Arguments about contamination 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, if any, is acceptable is a "dividing line" for the movement according to Kirsty. There are those who completely jettison GE, and others that are accepting of some GE experimentation and research so long as it is adequately contained. Kirsty describes a situation where she visited a facility with GE cows and 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.

As a result of Kirsty's experience, her view shifted from GE in containment as acceptable to it not being acceptable. This shifting of perspectives was not unique – a number of movement participants relayed similar experiences.

Collective action framing around GE as risky was not limited to the realm of food and environment. In relation to medical research and applications, concern was emphasised in relation to cross-species experimentation, pharmaceutical crops, bio-pharming and ill-fated medical experiments and accidents. How to address these many areas of risk around food, environment and medical applications was a question that activists had differing responses to. Many activists placed responsibility squarely with the State to tighten up on regulation, others advocated consumer activism approaches, while still others who had little faith in the Government to adequately deal with these matters argued that direct action – crop sabotage for example – is the only real worthwhile option. For those activists positing crop sabotage, those responsible for developing these technologies that tamper with plant, animal and microorganism genetics would be directly targeted. New biotechnology developers, driven by neoliberal capitalism, were in many respects viewed as being at the core of the problems with GE.

GE is all about the ownership of life

GE technology as equating to the ownership of life comprises the last of the four collective action frames, a frame that is firmly focussed on the developers of GE technology. In this frame, all of the reasons given by GE technology protagonists for pursuing GE are deemed irrelevant, because the real reason this new biotechnology technique is being promoted by these bodies is profit and power:

> [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 here what most 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. Such sentiments are shared by Grant: "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 commoditisation and ownership of life.

For some central movement activists, it is issues tied up with ownership and commoditisation that are at the nub of their oppositions. These kinds of objections can be seen in Amber's comments:

> 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.

Dean also commented on GE ownership issues as they relate to indigenous peoples, as well as more broadly:

> 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.

The central claim of this collective action frame is that those working with GE technology development are not doing so out of 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 [about] corporate ownership of life effectively" (Heidi). In a similar vein, Shane referred to GE as just part of the wider-liberal agenda of privatisation:

> 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, who shared the same kinds of views as Shane stated that people have come to realise what is going on with ownership, and are consequently beginning to turn their backs on GE food:

> It's not in [the public's] best interests to have their food supply organised by the big companies and their genetic engineering products. ...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?”.

As with previous collective action frames, activists thoughts on how to approach the GE issue from this particular angle was varied. There were those who advocated a complete rejection of GE, as well as the promoting of sustainable, organic based systems. To do both of these things could begin quite simply:

> 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 ... financially (Dean).

In providing your own produce, you are not supporting the multinational biotechnology industry.

Conclusion

In summary, collective action framing has been an important task for key movement participants, a task which has involved some very strategic thinking and investment of time into researching and understanding the GE technique and its implications. These frames highlighted how GE technology is multifaceted, raises moral dilemmas and involves myriad tensions. Moreover, detailing the concerns and claims made as collective action framing indicated the complexities and challenges of political and public engagement in contentious scientific and social issues. Despite such diversity of issues and views, three basic levels of consensus emerged: an emphasis on food and environment matters over others, organic practices as the preferred alternative, and an overall concurrence on the general theme of these collective action frames. Achieving this agreement involved negotiation between activists, as well as a generalising of concerns in order for a basic level of consensus to be tentatively available, even though for those involved the issues are much more intricate. It is challenging to express in a succinct and clear way to the wider public, particularly when the mass media is the critical vehicle of information dissemination, the kinds of apprehensions around the science that many of these social actors shared. Thus it is the clear communication of succinct ideas that can successfully recruit and mobilise individuals toward political action that is a cornerstone goal of framing, and one that was achieved in this movement as evident in the multitude of events that happened around the country.

The multiple views and rationales seen in collective action framing have achieved an increased credence for GE technology injustice or grievance articulation simply given the variety of approaches. It is not difficult to argue to conclusion a debate based on a single rationale or perspective, but is near impossible to do so when a debate is multifaceted and ever-emerging as knowledge becomes available and perspectives continue to shift. As a move away from the solidarity based movements of the past toward globally networked movements occurs, and as issues involving science becoming more complex with wider reaching implications, the role of activists in skilfully constructing collective action frames that make such issues more transparent becomes ever more necessary. The awareness raising and subsequent potential engagement of the wider public in issues that have implications for society, is critical in a world where big business interests increasingly influence aspects of our everyday existence.

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