

Democracy, participation and ‘scientific citizenship’: New Zealand initiatives¹

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Abstract

The Royal Commission on Genetic Modification (2000 – 2001) was a major exercise in the construction of ‘scientific citizenship’ in Aotearoa/New Zealand. It was closely followed by a general election in which state regulation of genetic modification was a significant issue. In the aftermath of intensive public discussion about the utilization of new biotechnologies and the development of a national biotechnology strategy, the state is investing in research directed at dialogic approaches to debates about new technologies. This paper reflects on these initiatives and analyses the challenges confronting those experimenting with interventions directed at dialogic discussion between Māori and non-Māori members of community organisations, scientists, clinicians, policy-makers, lobby groups and actors in the biotechnology industry. It explores the ways in which participatory processes pioneered in Scandinavia, Canada, the UK and Europe are being modified in the New Zealand context and reflects on the possibility of developing New Zealand-specific strategies for effecting ‘scientific citizenship’.

¹ This paper is informed by discussion with members of the ‘Constructive Conversations’ research team and their contributions to project proposals, memos, discussion documents and methodological strategies. They include: Anne Scott, Joanna Goven, Bevan Tipene-Matua, Andrew Moore, Jane Gilbert, Rose Hipkins, Rachel Bolstad, Robyn Baker, Fiona Cram, Murray Parsons, Trina Taupo, Jan Crosthwaite, Gareth Jones and Lesley MacGibbon. Barbara Nicholas, Geoff Fougere, Bronwyn Hayward, Julie Wuthnow, Hugh Campbell, Brian Wynne and Jack Heinemann have also contributed directly and indirectly to this paper. However, none of the above is responsible for the specific paper presented at this conference.

The possibility of ‘scientific citizenship’

‘...active citizenship is a pervasive discourse in many contemporary societies, providing the framework for many discussions about genetic technologies and their purported benefits, as well as the rationale for diverse programmes and practices’ (Petersen and Bunton, 2002: 204).

Against the background of significant public controversy about the development and application of genetic modification technologies in Aotearoa/New Zealand, the Royal Commission on Genetic Modification produced a four-volume report (Royal Commission on Genetic Modification, 2001). Increased Government funding for social research into the social, cultural, ethical and spiritual impacts of new biotechnologies was one of its many recommendations. I coordinate a five-year, \$3 million (NZ) project that is one of the recent beneficiaries of that recommendation. This paper explores the context in which that research is located and the global and local issues confronting that multi-ethnic, multi-disciplinary and multi-sited team.

The ‘Constructive Conversations’ project is directed at enhancing public participation in decision-making about emerging health biotechnologies. It will analyse what members of community organisations have to say about the social issues associated with these technologies. Another key objective is to explore the ethical reasoning associated with discussion of technologies like genetic testing, embryonic stem cell research and bio-nanotechnology. Crucial to the project is attention to Māori definitions of the issues associated with emerging health biotechnologies (ERMA, 1999; Cram, 2000) and the use of Māori conversational strategies in facilitating talk about these issues.

The project embraces the possibility that people’s positions on certain public issues can change as a consequence of exposure to the arguments of others and/or information that was not previously available. (This includes the possibility that scientists and policy makers’ views might change in the light of access to public understandings of the impacts of particular biotechnologies). While the focus of this project is on New Zealand strategies for engaging diverse public actors in discussion of emerging health biotechnologies, it is one of many global interventions directed at constructing what Alan Irwin has referred to as ‘scientific citizenship’ (Irwin, 2001).

Constructing public participation in science and technology decision-making

In the face of public activism around GE foods, the BSE crisis and citizen skepticism about the statements of politicians and scientists, governments and science organisations in a number of social democracies have embraced the need for more public dialogue about scientific controversies (See for example: Royal Commission on Environmental Pollution (RCEP), 1998; Klüver, 1999; House of Lords Select Committee, 2000; Advisory Group to the Office of Science and Technology, 1999; EUROPTA, 2000; Royal Commission on Genetic Modification, 2001; Human Genetics Commission, 2003). Social democracies like the UK, Canada, Denmark, the Netherlands and New Zealand

have, to some degree at least, acknowledged that better decisions will be made if citizens are involved in deliberation about the use of new technologies.

While these moves extend opportunities for engagement by civil society in issues about the development and use of emerging biotechnologies, it is important not to overestimate the continuing power of governments and scientific expertise. According to the UK's Royal Commission on Environmental Pollution (RCEP), 'drawing on a pool of knowledge and understanding (lay as well as professional) can give warning of obstacles that, unless removed or avoided, would impede effective implementation of a particular decision' (Royal Commission on Environmental Pollution, 1998: 102). Government agencies are often interested in including people in debates about new science who do not have 'preconceived views' on scientific controversies. This can lead to the exclusion from consultative processes of groups that are key stakeholders in discussion of scientific controversies. Strategies to engage 'the public' may generate initiatives that are primarily organised around 'informing' the citizens and restoring confidence in science, rather than fostering critical engagement with science and technology issues (Irwin, 2000). The effect of these processes can be an erosion of democratic principles, rather than an enhancement of democratic decision-making (Glasner, 2000).

In the UK, the RCEP report was closely followed by the Public Consultation on the Biosciences for the Office of the Science and Technology (1999), and the House of Lords Select Committee report on *Science and Society* (2000) that advocated higher levels of public participation in the development of science policy and the necessity of attending to public values and ethical concerns. The arguments advanced in the *Science and Society* report, and the UK Royal Society *Science in Society Programme* (The Royal Society, 2003), have influenced position statements on science and society dialogue developed by officials in the New Zealand Ministry of Research, Science and Technology (MoRST, 2001; 2002a; 2002b).

Involvement in consultation processes about genetic modification and other new technologies is increasingly defined as a responsibility of citizens, and scientific organisations now invite them to actively engage with scientists in science-focused discussion. Alan Petersen and Robin Bunton discuss the construction of the ideal of the 'scientifically literate' citizen who is 'actively involved in issues associated with their own health and well-being' (Petersen and Bunton, 2002: 185). "Talk to us" invites the UK Royal Society with web pages that invite responses to the question 'Would you want a genetic test to tell you if you're at risk of developing a disease' (The Royal Society, 2003)?

Global shifts in the responses of governments and scientific organisations to science and technology politics and increasingly dissatisfaction with conventional democratic processes (Renn et al, 1995) constitute the context for the 'Constructive Conversations' research programme. But New Zealand experimentation with participatory and learning-based strategies with respect to responses to new technologies also informs this research (Fitzgerald, 1999; Office of the Parliamentary Commissioner for the Environment, 2000; Harmsworth, 2001; Allen and Kilvington, 2002). Assessment of the implementation of

the Danish consensus conference model in New Zealand has also had a significant impact on the 'Constructive Conversations' project (Goven, forthcoming). This Danish model for public participation (Andersen and Jaeger, 1999) has been used all over the world to facilitate public discussion of science and technology (Joss and Durant, 1995; Joss, 1998; Guston, 1999). It was utilized in New Zealand in 1996, and again in 1999, to explore public responses to social, cultural and ethical issues associated with plant biotechnology.

While appreciative of the goals of those who ran the New Zealand consensus conferences, her research has convinced Joanna Goven, a key member of the 'Constructive Conversations' team, that attempts at dialogue can perpetuate old inequalities between participants and consolidate differences between 'lay' panelists and 'experts', even in environments that are dedicated to public participation and deliberative democracy (Goven, forthcoming).

Goven is wary of forms of public engagement that potentially constitute participants as lacking knowledge, rather than people with the knowledge necessary for effective deliberation about the social, ethical, cultural and spiritual implications of biotechnologies. This is consistent with Alan Petersen and Robin Bunton's assertions about the dominance of the voice of the expert in situations in which the impact of new technologies is being debated (Petersen and Bunton, 2002: 180). They argue for attention to the need to involve diverse publics in decisions about applications of genetic technologies and suggest that there has been little attention to the 'diverse and often complex views and responses of actual or potential 'consumers' of new technologies.

Constructing accountability

Why present this paper at a Policy and Politics conference rather than a Science and Technology Studies, or Biotechnology, or Science and Society conference? And why present it as the researchers embark on the piloting of the first set of focus groups rather than when we have some 'data' to present? The answers to these questions lie in the need for ongoing critical reflexivity as the research team simultaneously seeks to create opportunities for deliberative democracy, but also to critique these interventions and engage with the conditions that have facilitated funding for this research. These are key issues to debate at a policy and politics conference.

Having embraced the responsibility to conduct research on how diverse publics can be involved in decisions about new health biotechnologies; this research team inevitably encounters the tension between policy and politics. For this reason we need feedback from other social researchers about our research processes and about our simultaneous positioning as researchers, **and** as those who are engaged in interventions in the community networks whose members will participate in this research. We need critical comment throughout the project, not just when we present our accounts of the outcomes of this research. We are both protagonists, evaluators and analysts, and the success of our project requires multiple sites of accountability: to our participants, to our funders, to the scientific community, to policy agencies, to the biotechnology industry, and to other

researchers who also embrace the risks and possibilities of doing research directed at democratic participation in issues of public policy.

At the heart of policy and politics has been decision-making about the ways in which science and technology are to be utilized.² Public decision-making about energy, transport, communications, fossil fuel, housing, mining, clean air, fishing, global warming, agriculture, health care, and the development and use of weapons are at the crux of political processes. Current political debate about genetically modified food, cloning, the Human Genome Project and gene patenting has meant that previously implicit links between policy, politics, science and technology are now explicit (Laird, 1993; Irwin & Wynne, 1996; Grove-White et al, 1997; Mayer, 1997; Wellcome Trust, 1998; Tesh, 2000; Wynne, 2001).

This project addresses the connections between worlds that have often been kept separate, including artificial professional boundaries between social scientists working in the fields of social policy and those engaging in science policy. Issues relating to levels of participation and opportunities for public influence at the local, regional and international levels are pertinent for researchers engaged with science policy and those whose fields are housing, poverty, education, health and local government. We share with those engaged in social policy and community research the challenges of embracing the possibilities of change and the potential cooptation by government agencies that arises out of engagement with the policy process.

Constructive Conversations – a new research programme

‘Constructive Conversations: New biotechnologies, dialogue and informed decision-making’ is an exercise in deliberative democracy involving both non-Māori and Māori (the tangata whenua, or indigenous people of Aotearoa/New Zealand). It is informed by Māori cultural conventions for engaging in conversation about issues of controversy (Metge, 2001). It also draws on international and local experience of focus groups, consensus conferences, panels and dialogic workshops directed at involving members of the public in discussion about science and technology. Attention to genetic testing preceded the release of the UK Genetics White Paper, released in June 2003 (Department of Health, 2003), but will usefully occur alongside consultation in the UK on the place of gene technologies in the NHS.

The research methodology developed for this project, under the leadership of Anne Scott, a sociologist at University of Canterbury, involves reconvened focus groups with members of community organisations, website discussions, and interviews with key actors: scientists, clinicians, policy makers, lobby group representatives, politicians and representatives of biotech companies. These interviews and conversations will precede day long-workshops that bring together research participants for discussion of issues arising out of reconvened focus groups, website discussions and interviews. The final stage of the project involves talking to policy makers about the relevance of the findings of the project for their work. Andrew Moore, a philosopher at Otago University, is

² I am grateful to Geoff Fougere for discussion of this insight.

responsible for a significant component of the research - an inquiry into the explicit and implicit ethical reasoning about new biotechnologies used by participants in the study and by the authors of documents relating to science and technology policy.

The project received its first installment of funding in April of 2003, and has been involved in planning the first focus groups.³ We have been scoping the range of community organisations that will be involved, including a variety of Māori community networks organised around tribal or iwi affiliations, religious connections, health practitioner networks, youth organisations, non-tribal community networks and expertise in public policy.

One of our core concerns as a team of Māori and non-Māori researchers is how we can conduct our meetings in ways that respect and incorporate Māori cultural practices such as powhiri (welcome that recognizes the distinction between the hosts and the guests and through a series of actions brings them closer together), karakia (recognition of the spiritual), mihimihi (introductions that recognize where people come from and their connections to others), and poroporoakī (leave taking).

Joan Metge, an anthropologist who has devoted her professional life to fostering understanding between Māori and non-Māori, has noted that Māori have adopted Pākehā (Anglo-Celtic) meeting strategies, but non-Māori have often ignored the values and rule governing discussion in Māori settings. Members of the ‘Constructive Conversations’ team have discussed how these cultural practices will inform the way we run focus groups with diverse participants, including all Māori groups, mixed Māori and non-Māori groups, and non-Māori groups. Issues surrounding tikanga Maori and the research process have been a central concern for Bevan Tipene-Matua, who heads the Maori Responsiveness team.

We have also needed to conduct our own constructive conversations about the different ways in which members of the group define ‘deliberative democracy’ or ‘bioethics. At times we have encountered interesting differences between the approaches of philosophers, sociologists and biological scientists in the group, and between Māori and non-Māori members. The process of implementing the original design for the study has highlighted our diversity as team members, as well as our common purposes. These experiences will hopefully be important resources as we move to the next stage of the project – the piloting and implementation of the focus group methodology.

Another key issue has been devising initiatives for discussion in the contact groups that facilitate multiple ways of framing issues relating to genetic testing. Dominant framing of the issues around genetic testing often focuses on consumer rights and issues individuals confront as they reflect on the personal implications of access the information about their genetic inheritance (See Petersen and Bunton, 2002 for discussion of the ways in which ‘genetic citizenship’ is frequently constituted as the personal choices of individuals).

³ We are calling these focus groups ‘contact groups’ since they are seen as potentially ongoing nodes in the networks of group members who will all be contacted through their involvement in particular community organisations.

However, the team considers it important that research participants have the opportunity to reflect on more collective issues relating to genetic testing. These include priorities in the distribution of health care resources, the storage of genetic material from New Zealanders in overseas laboratories, the patenting of information about human genes, and the recording of medical histories and genetic information in commercial databases.

Joanna Goven, who is responsible for coordinating the analysis of participants' responses to the various interventions associated with the project, has highlighted the importance of facilitating opportunities for participants in dialogic processes to frame the issues (Goven, forthcoming). This has had an impact on the design of the contact group methodology and will also shape analysis of conversations in the contact groups.

The need to ensure some consistency across contact groups in terms of the stimuli they receive to prompt discussion has also been balanced against the value of flexible formats for group discussion that allow participants to define issues and pose questions. While Māori cultural conventions for meetings will inform the processes used in each of the groups, the ways in which the practices of *karakia*, the consumption of food and *poroporoakī* are incorporated into the meeting will, of necessity, vary between different groups. How will non-Māori participants respond to being greeted in Māori? How will Māori participants respond to the relative formality of the show cards as prompts for discussion? How will members of Age Concern respond to the scenarios we present as opposed to Youthline counselors, Māori Mormon churchgoers, rugby club participants, *iwi kuia* and *kaumātua* (tribal elders), and members of the Cystic Fibrosis Foundation?

The advantage of the 'Constructive Conversations' project (and other forms of publicly funded, but independent research in this field) is that it can pursue strategies for public participation in discussion about new health biotechnologies outside the pressures to produce material for particular policy decisions. At the same time, the research team has been funded to produce policy-relevant research. Not to attend to the timetabling of policy initiatives runs the risk of producing information that is unlikely to inform decision-making. One of the ongoing challenges for the research team will be to avoid being driven by government reviews of legislation and Select Committee deadlines, while at the same time being attentive to how the research can be useful to officials and politicians for whom these deadlines are crucial.

Proliferating dialogue discourses

The UK House of Lords Select Committee report on *Science and Society* indicated the need for 'dialogue' about science and technology. It advocated institutional mechanisms for contributions by diverse groups into the development of science policy (House of Lords, 2000). The UK report *Science and Society* report has been influential in the development of strategies by New Zealand government agencies directed at 'dialogue' (MoRST, 2001; 2002a; 2002b).

Alan Irwin (2001: 3) argues that, in the last few years, 'social scientific analyses have found a more attentive policy audience than has previously been the case in the UK'. This

attention to the potential value of social research for scientific and environmental policy has been mirrored in the New Zealand context. Increasing resources have become available to researchers interested in exploring how the rhetoric of dialogue might be translated into particular practices with different publics in relation to varied science and technology issues. These issues are as varied as waste management, pest control, genetic modification, biological weed management, genetic testing and the lifting of the moratorium on the commercial release of genetically modified organisms into the environment.

The *Science and Society* attention to ‘dialogue’ is echoed in the statements of a number of the research teams contracted by the Foundation for Research, Science and Technology to produce information about the social, cultural, ethical and spiritual impacts’ of new biotechnologies. ‘Dialogue’ now has the status of a dominant discourse in the field of ‘science and society’ interventions. Scientists, clinicians and state officials are expected to act dialogically, rather than just to assume the authority that is often associated with their professional status. Social researchers have responded to the challenges of providing evidence-based advice on how this dialogue can be achieved.

The ‘Constructive Conversations’ project is just one of a number projects recently funded in Aotearoa/New Zealand that are directed at dialogue in the field of science and technology and a response to FRST requests for proposals on ‘the impact of new technologies’. It is complemented by another research team based at Waikato University that is similarly funded for five years to explore the social impacts of new biotechnologies. In the same funding round, another group of researchers at Otago and Massey Universities secured funding for survey of Māori responses to issues relating to genetic modification. It will involve conducting telephone interviews with over 200 kaumātua and kuia (tribal elders).

Earlier this year, the Ministry of Research, Science and Technology funded four research projects through its Science and Technology Dialogue Fund. This fund is directed at supporting experimentation with strategies directed at bringing together scientists and other stakeholders to talk about issues relating to science and technology (MoRST, 2002b). The projects have preliminary funding for two years and an evaluation team has been commissioned to conduct a participatory evaluation with all the four teams. This will involve exploring the similar and different ways in which the teams set up their dialogue initiatives, implement the strategies they have developed, and move to some form of closure for the participants involved in the process. The research teams are located in both Crown Research Institutes and universities and will bring together a variety of different stakeholders. One of the most innovative endeavours combines the technology of *The 7 Habits of Highly Effective People* (Stephen Covey’s US based methodology for addressing personal and professional problems by becoming ‘principle centred’) with marae (Māori meeting place) procedures for discussions about alternative technologies for pest and weed management.

Irwin has argued that, in the UK context, “‘dialogue theory’ currently has the upper hand over deficit theory’ (Irwin, 2001: 3). However, he goes on to note that there is little

experience in the UK of moving from attention to what the public does not know (the deficit model) to application of the principles of dialogue or interactive, multifaceted communication between scientists, policy makers and other members of the community. In the New Zealand context, the resources for work that address this gap have significantly expanded in the last few years. In this financial year (2003/4) publicly funded investment in GM and biotechnology impacts research is approximately \$7 – 7.5 million (NZ) per year. This exceeds the total amount available through Foundation for Research, Science and Technology in its ‘Social Research’ portfolio that currently stands about \$6.592 million (MoRST, Vote Research, Science and Technology, 2003a, B.5 Vol.II:1079). The ‘Social Research’ portfolio primarily includes research relating to family and children, community, ageing, housing, socio-economic disparities, migration and economic development.

While investment on the impacts of new biotechnologies has significantly increased since 2000, and particularly since 2002 in response to the recommendations of the Royal Commission on Genetic Modification, it is significantly less than public money spent on research using genetic modification as a research tool and research focused on developing new GM products. About \$134.5 million per annum was invested in 2002 in research relating to modern biotechnology and biotechnology-related research across the Foundation for Research, Science and Technology, the Health Research Council and the Royal Society of New Zealand (the Marsden Fund) (Biotechnology Task Force, 2003: 28).

Constraints on ‘scientific citizenship’?

Irwin has argued that, while UK government agencies have embraced the rhetoric of dialogue and participation, the focus is primarily on how ‘public engagement will permit rather than impede scientific and technological development in areas such as biotechnology and biosciences’ (Irwin, 2001: 3). He predicts constraints on public dialogue about science, particularly if this form of deliberative democracy hinders innovation and commercial advantage. These are critical issues in the UK, but even more critical in Aotearoa/New Zealand where technological innovation in a diversifying economy is seen as essential to the maintenance of a fragile economy, which still rests heavy on the export of primary products (Office of the Prime Minister, 2002).

The first significant investments in research directed at exploring the social impacts of new biotechnologies and public participation in scientific decision-making occurred in December 2000 while the Royal Commission on Genetic Modification (RCGM) was still in process. The Labour Government responses to the RCGM included a thorough review and public consultation process on the Hazardous Substances and New Organisms (HSNO) Act, the legislation used by the Environmental Risk Management Authority to regulate the use of genetically modified organisms as well as poisons, explosives and other hazardous substances. Amendments to that legislation are currently before a Select Committee.

The Government adopted the recommendation of the RCGM that it proceed with caution with respect to the release of genetically modified organisms into the environment (Cabinet Policy Committee, 2001). Since the Royal Commission reported in 2001, the Government has been creating the institutional and legislative environment necessary if it is to lift the moratorium on the commercial release of genetically modified organisms put in place when the RCGM was set up. While social researchers interested in this field are the beneficiaries of the Government's decision to respond positively to the RCGM recommendations re social research, the research commissioned will not be available to inform the decision to lift the moratorium by the scheduled November deadline since most of it has only been commissioned in the last 1-2 years.

One of the Government's responses to the RCGM has been the establishment of the Bioethics Council, headed by an eminent Māori cleric and former Governor-General, Sir Paul Reeves (Ministry for the Environment, 2003). The Council will advise the Government on social, cultural, spiritual and ethical issues relating to new biotechnologies. It is currently engaged in research into public responses to the use of human genes in other organisms. It has also prepared submissions on Assisted Human Reproduction legislation currently before a Select Committee and amendments to the HSNO Act. The Bioethics Council is only an advisory body. It has no regulatory function, and owes its existence to a Cabinet Minute. This means that, while much is expected of the Council, its institutional existence is relatively fragile.

The Government's commitment to lifting of the moratorium by November 2003, and its increased funding for social research in this field, occurs in the context of support for biotechnology as a key component of its 'Growth and Innovation Framework' (Office of the Prime Minister, 2003). Biotechnology was identified early in 2002 as one of three areas that the Government wanted to target for development, and a taskforce consisting of stakeholders in the industry was established. They have recently reported to Government. The key recommendations are the need to build critical mass, to reform the regulatory framework to enhance competitiveness and to stimulate international investment in New Zealand biotech companies. Their aim is to increase the number of biotechnology companies, boost export earnings, and treble the number of biotechnology organisations to more than 1,000 (Biotechnology Sector Taskforce, 2003).

The Labour Government has also recently released its *Biotechnology Strategy*, coordinated by the Ministry of Research Science and Technology (MoRST, 2003b). The development of the strategy was preceded by production of a discussion document for public consultation and the use of a variety of focus groups to get feedback on different dimensions of that preliminary document. The theme of the strategy is 'development with care'. While the Biotechnology Strategy and the report of the Biotechnology Sector Taskforce both advocate growth in commercial uptake of biotechnology, the Biotechnology Strategy document attends more closely to 'engagement with society', the need for understanding 'on both sides of diverse perspectives' and the significance of attention to ethical and cultural concerns. It also embraces regulation to protect people and the environment and argues for the need to draw on Maori biological knowledge and innovative capacity as well as protecting traditional knowledge.

It is important to recognize that different government agencies or quasi-governmental organisations, such as the Office of the Commissioner for the Environment and the Bioethics Council, may have different orientations to public consultation. They may also have different ideas about the principles that should inform consultation and decision-making, the place of regulation, and the ideal time frames for the development and use of new biotechnologies in the New Zealand context. While the Ministry of Research, Science and Technology may be very supportive of commercial development of science and technology, it nevertheless does have a responsibility to engage the public in debates about the biotechnologies and their impact on individuals and their environments.

Scientific citizenship revisited

Against the background of some of the tensions between the New Zealand Government's interest in the development and application of new biotechnologies and its embrace of 'dialogue', 'consultation' and 'public participation', what is the future of scientific citizenship in Aotearoa/New Zealand? Irwin has raised similar questions in the UK context. He asks: 'Does dialogue imply that public knowledges are given the same status as scientific understandings – or instead that familiar deficit notions of an uninformed public are recycled? Who, for example, gets to decide what counts as a legitimate problem for discussion? How are *informative* (or information giving) and *consultative* (or information gathering) dimensions of participation to be balanced? What happens when public opinion is opposed to government policy – or, more likely, when certain shades of opinion are opposed, but others are in favour?' (Irwin, 2001: 3).

Irwin is reflecting on state initiatives, but these comments are equally pertinent to the work of a non-governmental research team, publicly funded to initiate and evaluate dialogue strategies for the discussion of emerging biotechnologies. The design of scenarios to be used in the first of the focus groups has involved balancing the 'information giving' and 'consultative' dimensions of our research practice. We have sought to avoid 'teacherly' attempts at conveying information, but also wanted to provide participants with material to inform their responses to the scenarios they will be asked to discuss. At times we have also had to confront our own knowledge 'deficit', and avoid projecting it onto others.

This project assumes that participants come with knowledge that is relevant to reflection on the social issues associated with health applications of new biotechnologies. That knowledge comes out of knowledge of Māori customary understandings and practices, ethical understandings accumulated by immigrants to this country over a lifetime, the practice of family relationships, and experiences of participants' own illness or that of friends or family members. However, we are also interested in encouraging their own inquiries into these technologies and their communication with others in their social networks about genetic testing, xenotransplantation, and possibly bio-nanotechnology.

We have constituted ourselves as those who will provide information useful to policy advisors, but we are also aware that advisors' agendas must be shaped by the decisions

made at the level of Cabinet and pursued in the context of commercially driven innovation strategies. We know that we will be providing the insights of qualitative research in a context in which figures, graphs and tables are often important in convincing senior managers and Ministers of the value of particular research findings.

Irwin argues that there is a need to move beyond 'mere advocacy of scientific democracy and towards a more considered treatment of the possible *forms* of such democracy and their implications for wider publics' (Irwin, 2001: 4). This is the focus of the 'Constructive Conversations' project. In the next two years we will be experimenting with a particular set of strategies to facilitate public participation among diverse social actors in discussion of a range of issues relating to genetic testing. Evaluation of the outcome of these experiments (our own and those of other researchers and evaluators in the field), will inform the next stage of the project. This will involve interviews with those who are the most obvious stakeholders in the field and the facilitation of workshops that will involve all categories of research participants. Evaluation of this stage of the project will involve expanding on the range of biotechnologies discussed, and modification of the strategies for public engagement. We will also be evaluating responses to the website we are developing, both in terms of the number of hits, the web pages accessed and people's comments on the site. We also hope to involve biological scientists associated with the New Zealand Institute for Genecology in the preparation of factual advice to participants who have indicated that they want more information about biotechnologies.

Posing questions, resisting conclusions

This paper has introduced an embryonic project, a project whose funding cannot be understood without attention to global initiatives to involve members of the public in conversations about science and technology in general, and biotechnologies in particular. It is a project that is pursued by independent researchers located in universities, polytechnics, publicly funded research institutes and private consultancies. At the same time it is funded by a public foundation that is charged with supporting research that will contribute information needed to inform policy advice.

The Constructive Conversations proposal was evaluated on its potential relevance to key stakeholders and the connections between the research team and potential users of the research, but also on the basis of linkages to international researchers working in similar fields. Quality control by the Foundation of Research, Science and Technology demands of applicants that they are international in their orientation as well as local. For the project to receive funding it must therefore be simultaneously local and global.

It is also important that this project is evaluated as a community intervention directed at public participation in the framing of policy issues and regulatory processes. It is fitting, given the stage of this research, to conclude this paper not with informed insights, but a set of questions. How have other researchers negotiated this complex positioning as independent investigators and applied social researchers with responsibility to deliver relevant and timely information to key stakeholders? Do others in this workshop have

advice on how to draw members of community organisations into discussion of issues that on first appearance may not have direct relevance for their day-to-day operation, or provision of services to their members? How have other researchers managed to sustain involvement by participants in reconvened focus groups? How can we create the possibility of participation contributing to policy development without overselling the impact of evidence on policy, despite intensified calls for ‘evidence-based practice’?

Forms of public consultation have become increasingly necessary to the legitimacy of social democracies, but governments, and those who advocate deliberative democracy, continue to encounter the challenges of delivering on the promise of participation. Addressing these challenges involves cross-national, cross-disciplinary communication that stretches the boundaries of the substantive fields in which researchers and change agents are located. This paper outlines an initiative by one set of actors in this process to participate in that conversation.

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