

A New Policy-Making Instrument? The First Australian Consensus Conference

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Abstract

Consensus conferences evolved as a response to the public's increasing dissatisfaction with technocratic decision-making processes that are judged to have repeatedly failed to serve its interests. The staging of the first Australian consensus conference at Old Parliament House in Canberra in March 1999 therefore presented an ideal opportunity to analyse the evolution of this new kind of policy input from its conception through to its implementation and subsequent evaluation. This thesis set out to provide an analysis of that trajectory using elements of the theoretical approach known as actor-network theory (ANT).

Previous analyses of consensus conferences have generally provided only limited evaluations of single aspects of the entire process of setting up, implementing and evaluating such a conference. Furthermore, many of the early evaluations were conducted by reviewers or units which were themselves internal to the consensus conference under scrutiny. My own analysis has tried to offer broader, although inevitably less detailed, coverage, using a perspective from contemporary social theory that offers particular advantages in analysing the creation of short-term networks designed for specific purposes. By describing and analysing the role of this relatively new policy-making instrument, I have explored the different sub-networks that operate within the consensus conference process by focussing on the ways in which the conference was organised and how the relationships between the organisers and the participants helped to shape the outcomes.

Thus the entire consensus conference sequence from idea to outcome can be thought of as a construction of a network to achieve at least one immediate goal. That goal was a single potential policy input, a consensus position embodied in the report of the lay panel. To realise that goal, the network needed to be recruited and stabilised and its members made to converge on that collective statement. But how is it that a range of disparate actors, including lay and expert, are mobilised to achieve that particular goal and what are the stabilisation devices which enable, or fail to enable this goal to be reached? In the context of the first Australian consensus conference, three key alignment devices emerged: texts, money and people. Yet it is clear from the evidence that some of these network stabilisation devices functioned poorly or not at all. This thesis has drawn attention to the areas in which they were weak and what importance that weakness had for the kind of policy outcome the consensus conference achieved. The role and extent of these powerful stabilisation devices in networks was therefore a vital issue for analysis.

If one of the criteria to evaluate the success of a consensus conference is that it provides the stimulus to hold another, then the Australian conference must be deemed so far a failure. No further Australian consensus conference is planned. However, Australia stands to forfeit a number of advantages if no further consensus conferences or similar occasions are organised. Policy formation in contemporary democracies has had to accommodate an increasing array of new participants in order to track more effectively the diversity of potentially significant opinions on complex policy issues. This process requires new and transparent ways to educate and inform the public on policy issues and to ensure that policy makers are better informed about the needs and concerns of their community. As the evidence presented in thesis for the Australian example and its predecessors overseas suggests,

consensus conferences have the potential to play a role in the contemporary policy-making context. But the realisation of that potential will vary according to their institutional contexts and the capacity of the actors to create the temporarily most stable and productive network out of the heterogeneous human and material resources to hand.

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Statement of Originality

This work has not previously been submitted for a degree or diploma in any university. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made in the thesis itself.

Signed:.....

Date:.....

1. Introduction

PREAMBLE

This thesis provides an analysis of the first Australian instance of a relatively new policy-making technique – the consensus conference – using the theoretical approach known as actor-network theory (ANT). Consensus conferences were developed to provide lay citizens with a voice in technological decision-making processes. Their growing popularity over the past decade is testament to the public’s increasing dissatisfaction with technocratic decision-making processes that have repeatedly been seen to fail to serve its interests. As with the introduction of any new policy analysis model, thorough evaluation of its effectiveness is required. Analyses or evaluations focusing on the processes of consensus conferences have so far been limited due to the procedure’s only recent introduction to the field of public participation in science and technology policy analysis. Although consensus conferences have been used for a wide range of social controversies, according to Mayer (1996: 9) “very few, if any, benefits or pitfalls of participatory approaches have been systematically and empirically studied”. Joss (1995) has also argued that the focus of the few existing analyses remains narrow, often concentrating on a single aspect such as the methodology, organisation, managerial aspects, on the lay panel’s process of deliberation or the ethics of the consensus conference process.

For instance, early evaluations of the consensus conferences held in Denmark embraced a descriptive approach to process, organisation and outcomes, for example, *Gene Technology in Industry and Agriculture* (1987) and *Human Genome*

Mapping (1989), while the Dutch consensus conference on *Transgenic Animals* (1993) was evaluated with regard to organisational, methodological and ethical aspects. A second Dutch evaluation, on human genetics research, focused on the short-term effects of participation on participants' values, attitudes and knowledge, using quantitative analysis methods (Mayer et al., 1996). For the UK National Consensus Conference (UKNCC) (1994), a more systematic approach to evaluation was adopted to assess aspects of efficiency and effectiveness, including the model's value in promoting informed public debate, and to compare the UK model (specifically) with its Danish and Dutch counterparts and (generally) with other forms of public debate and participatory policy analysis (Joss, 1995). Previous analyses of consensus conferences have therefore provided only a limited evaluation of only parts of the entire process of setting up, implementing and evaluating the consensus conference.

The focus of this thesis, therefore, is a comprehensive, independent analysis of the first Australian consensus conference held at Old Parliament House in Canberra in March 1999. Those few existing analyses of consensus conferences have been mostly conducted by researchers and practitioners closely involved with the organisation and promotion of the events themselves. Joss (1998b) also discussed problems arising from evaluations conducted internal to the consensus conference process and the implications this may have. These analyses have primarily focused on practical considerations (Joss and Durant, 1995b; Mayer, 1997). An independent analysis will allow a thorough investigation of the model's utility for public participation in technological decision-making while casting a sympathetic, but occasionally critical eye over all aspects of its organisation, outcomes and impacts.

In this introduction, I first sketch the evolution of consensus conferences since their first use in Denmark in 1987; provide the background to the organisation and choice of topic of the first Australian consensus conference; and I then conclude with a description of the theoretical framework and research methods adopted for this thesis, followed by a road map to the chapters which follow.

EVOLUTION AND DIVERSIFICATION OF CONSENSUS CONFERENCES

The United States National Institutes of Health (NIH) introduced consensus development conferences as a new mechanism for identifying and assessing the safety and efficacy of medical technologies and to counter spiralling health care costs in 1977. The first of these mechanisms to assess medical technologies dealt with the issue of breast cancer screening and of the over 100 held since then, most have focused on new or alternative medical technologies (Jørgensen, 1995). Many (mainly European) countries subsequently adopted the consensus development conference to assess a range of health related issues. Recognising the relative success of the consensus development conference model in the Danish health care sector, the Danish Board of Technology, established by the Danish Parliament (*Folketinget*) in 1985, adapted the method by replacing one of the expert panels with a deliberating panel of lay citizens to meet their requirements. Whereas consensus development conferences aimed to present their recommendations to the public and inform them of any associated benefits and risks, the distinguishing feature of the consensus conference model is its inclusion of the public in the actual decision-making process. Since the Danish Board of Technology first employed the consensus conference model in 1987, it has continued to evolve. It would therefore “be a mistake to view the Danish model of the consensus conference as a fixed entity. Not only did it

emerge from earlier models, but also it has continued to evolve in Denmark in light of experience” (Joss and Durant, 1995a: 10). The relative success of the consensus conference in Denmark has inspired numerous countries – including, as we shall see, Australia – to adapt that model to local institutional and cultural contexts.

Consensus Development Conferences

Consensus development conferences first emerged in the mid-1970s as an instrument of medical technology assessment in the United States. The term ‘technology assessment’ was first coined within the United States Congress in response to growing concerns regarding technology and environmental pollution following the Second World War (Jørgensen, 1995; Mayer, 1997; Joss, 1998a). Congress, at the time, was ill equipped to provide advice regarding scientific and technological developments to an increasingly suspicious public. As a result, the Office for Technology Assessment was established in 1972 to provide Congress with evaluations and reports on the social implications of new scientific and technological developments.¹ The inaugural director of the OTA defined technology assessment as “the evaluation of the impact of existing, new and developing technologies upon society . . . to assess both the desirable and undesirable consequences of such technology In other words . . . to give us better mechanisms for anticipating short- and long-range potentials of technology - good and bad” (Kunkle, 1995: 180).

Consensus development conferences found their inspiration in the American ‘science court’, whereby evidence was procured in a court-like procedure consisting of opposing panels of high-level experts debating a controversial scientific issue. The model was also adopted as a marketing tool by the pharmaceutical industry in an

¹ In September 1995, the OTA was abolished. It failed to distance itself from Congress thus rendering the OTA as more of an information agency that responds to Congressional requests rather than an independent early-warning mechanism (Kunkle, 1995).

effort to establish consensus on the future needs, applications and markets for pharmaceutical products (Mayer, 1997). Consensus development conferences employed one panel of 12-30 experts to present the evidence, and a second panel of 9-18 experts to judge the evidence and compile the consensus report (Jørgensen, 1995). Variations in the practise of consensus development conferences existed nationally, but generally participation was limited to scientific experts or medical practitioners. To establish a foundation for medical practice acceptable to both the medical profession and the public, the NIH made allowance for citizen input and attendance in the early 1980s. Initially, citizen participation was limited to either a 'citizens' health care parliament' where views on medical developments and ethics were exchanged with other citizens, or when conclusions reached by experts were presented to an audience of lay people (Mayer, 1997). Democratic participation, that is, the provision of equal rights and opportunities for citizens to participate alongside experts, was not yet realised.

While most consensus development conferences were open to the public, their target audience mainly consisted of health professionals and health policy-makers. Accordingly, this new 'early warning device' was criticised for the fact that the scientists who were the producers of the new technology, were often the same scientists charged with the responsibility of advising policy which aimed to direct or control it (Mayer, 1997). Another criticism aimed at consensus development conferences, particularly those with policy-oriented objectives, was the lack of concern for non-medical consequences, highlighting the need for more public involvement in the actual decision-making processes rather than the public playing the role of the 'beneficiary' of an expert-oriented assessment (Jørgensen, 1995). It is generally agreed that scientific analysis alone is insufficient to deal with the wide-

ranging repercussions for citizens and society at large; hence the need to include ethical, social and environmental considerations to achieve a balanced appraisal (Joss, 1998a).

The challenge for technology assessment, therefore, was to integrate methods of active participation by ordinary citizens. To incorporate a shift from primarily political deliberations to encouraging societal debates which underpin political decision-making methods. By opening up the technology assessment process to non-experts and to a wider (more legitimate) range of views, participatory technology assessment departs from traditional methods of technology assessment. While technology assessment was considerate of the needs and interests of various social actor groups, participatory technology assessment developed this relationship to include the direct, interactive involvement of social actor groups and members of the public alongside the scientific experts and policy-makers. Thus, technology assessment has evolved from an applied academic discipline predominantly based on methods of technological forecasting to a number of participatory instruments aimed at facilitating debate and negotiation between a wide range of social actors.

Consensus Conferences

Following the example of the US Congress, and fuelled by academic and political debates in the mid-1980s on the social impact of new technologies, several technology assessment institutions were set up in Europe, including the Danish Board of Technology and the Dutch Office for Technology Assessment (NOTA,

now the Rathenau Institute).² European technology assessment institutions have been practising participatory technology assessment under various guises such as consensus conferences, citizens' panels, science courts, voting conferences (in Denmark, the Netherlands, United Kingdom, Switzerland, Austria and France), constructive technology assessment (in the Netherlands), and technology assessment discourse (in Germany) amongst others (Mayer, 1997). Since 1987, the Danish Board of Technology (*Teknologirådet*) has employed consensus conferences as a means of assessing technology for the Danish Parliament (*Folketinget*).

The Danish Parliament established the Danish Board of Technology in 1985 as a response to intense parliamentary debates on nuclear power that occurred in the late 1970s, and in preparation for similarly heated debates on information technology and biotechnology. From the outset, the Danish Parliament, though inspired by the OTA, evolved different practices and perspectives according to local cultural and institutional influences. During its first three years the Board set about developing a uniquely Danish framework for parliamentary technology assessment which aimed to bridge the gap between experts, politicians and the population by embracing “the wisdom, experience and visions of citizens; the insight and tools of experts; the needs and working conditions of decision makers; and the democratic traditions in Denmark” (Klüver, 1995: 41).

While initially consensus development conference topics were primarily influenced by new medical technologies, their subsequent extension has effectively

² A number of European technology assessment institutions joined together to form EPTA (European Parliamentary Technology Assessment) in 1990. These included: Parliamentary Office of Science and Technology (POST, UK), Parliamentary Office for Evaluation of Scientific and Technological Options (OPECST, France), Rathenau Institute (the Netherlands), Scientific and Technological Options Assessment (STOA, European Parliament), German Parliamentary Office of Technology Assessment (TAB), and the Danish Board of Technology (*Teknologirådet*). EPTA's ambit is to advise European parliaments on the possible social, economic and environmental impact of new sciences and technologies (EPTA Network, 2002).

charted the progress of 'hot topics' according to specific social or political contexts. Each year the Danish Board of Technology presents a list of possible topics to the Danish Parliament for consideration as possible technology assessment projects. Approximately two of these are chosen for development into consensus conferences. Including its first in 1987, the Danish Board of Technology had held a total of eighteen consensus conferences on a variety of technological issues, including biotechnology and information technology, by the time Australia held its first in 1999.³ It should be pointed out that Danish Board of Technology has developed a range of different technology assessment methods suited to different situations and desired outcomes and that the consensus conference is not always the preferred method.⁴

Consensus conferences arose from international attempts to find a better way to recognise both the role of science and the role of value judgements, and to respect the rights of the citizen to participate in the development of public policy on complex and challenging issues. A consensus conference thus represents a participative forum that encourages informed dialogue between citizens, scientific experts and stakeholder representatives and consequently, the inclusion of economic, ethical and social considerations. Such a conference has two overall aims: to encourage ongoing public debate on new technologies by providing accessible avenues for that debate;

³ At the close of 1999, topics included: gene technology in industry and agriculture (1987); food irradiation (1989); human genome mapping (1989); air pollution (1990); educational technology (1991); transgenic animals (1992); the future of private transport (1993); infertility (1993); electronic identity cards (1994); information technology in transport (1994); integrated production in agriculture (1994); threshold limits and risk assessment for chemicals in foodstuffs and the environment (1995); gene therapy (1995); consumption and the environment (1997); teleworking (1997); citizens' food policy (1998); future of fishing (1998) and genetically modified foods (1999) (Klüver, 1995; Loka Institute, 1999).

⁴ The Board's methods may be divided into three categories: expert-oriented methods which are expert-centric in process and outcomes; participatory methods which occur at the interface between expert and non-expert participation (this category includes consensus conferences); and finally, public debates which serve a dual purpose. Often viewed as the criterion for success of a technology assessment, public debates are also seen as a technology assessment process in itself. If there is no existing method suited to a given problem, a new one is devised (Klüver, 1995).

and to contribute to formal policy-making processes by providing recommendations from a social, ethical and economic perspective (Klüver, 1995; Joss, 1998a). The Danish Board of Technology places paramount importance on public debate believing that it plays a dual role in technology assessment. First, it is often used as a measure of success. Second, it is seen as a process within itself, an ideal within an informed society. In Denmark, consensus conferences have played an extended role in government policy-making since 1987, not just for science and technology but also for a range of controversial issues (see Klüver, 1995). Since the early 1990s, the consensus conference model has been adopted extensively across Europe, and more recently it has been trialled in New Zealand, the United States, Japan, South Korea and Canada. In total, more than thirty consensus conferences on technological issues had been conducted world-wide by the time it was first utilised in Australia for the purpose of subjecting to public scrutiny and evaluation the use of gene technology in the food chain.⁵

The Danish consensus conference model

Given its influence on the use of consensus conferences in other countries, it is appropriate to describe the Danish model in some detail and to compare it briefly with the models used in the Netherlands and Britain. The Danish consensus conference model, defined as “a method of technology assessment organised as a meeting between an expert panel and a panel consisting of concerned citizens - the lay panel”, is a 3-4 day public investigation revolving around a group of 10-16 lay citizens charged with the assessment of a socially controversial technological issue (Grundahl, 1995: 31). Following extensive deliberations over (usually) two

⁵ At the close of 1999, consensus conferences numbered 18 in Denmark (Klüver, 1995; Loka Institute, 1999), three in the Netherlands (Mayer et al., 1996; Mayer, 1997), two each for Japan, New Zealand, South Korea, Switzerland, and the United Kingdom (Joss, 1995, 1998b)), and one each for Austria, Canada, France, Norway, the United States (Guston, 1998)) and Australia: a total of 37.

preparatory weekends, the lay panel puts its questions and concerns to a panel of experts, assesses the experts' responses, and then deliberates in order to construct a consensus statement, a report that expresses the members' expectations, concerns and recommendations. As ordinary citizens construct the recommendations, no one particular interest is represented. Likewise, the lay panel's report has no one particular target, but hopes to inform parliamentarians, scientists, public policy-makers, interest and consumer groups, media representatives and the general public.

A small and homogeneous country, Danish society encompasses a vast spectrum of political views, religions and attitudes in comparison with other countries (Klüver et al., 2000). The Danish socio-political context, "encouraging of public participation in technology debates, if not decisions, has been contributed to by the mind-set of actively participating citizens, the effect of critical attitudes towards the introduction of new technology, and an institutional actor in the form of the Danish Board of Technology" (Cronberg, 1995: 126). Four key aspects of Danish socio-political culture are considered particularly relevant to the perceived success of the Danish consensus conference model. First, Danish democracy has a well-established history in what is known as 'people's enlightenment' (*folkeoplysning*) extending back for over 150 years. During this period, the Danish government encouraged local debates and educational activities to encourage an enlightened population. Second, as a consequence of 'enlightenment', the Danish population possesses a high level of political awareness and a tradition of critical public debate. For example, a 1974 debate on nuclear energy, fuelled by a 'grass-roots movement', resulted in the Danish Parliament banning nuclear power plants (Cronberg, 1995). Third, the practise of enlightenment corresponds with participation in contemporary Danish decision-making processes. For example, when Danish citizens rejected the

Maastricht Treaty in a 1992 referendum, public debate ensued that resulted in the Danish government successfully arguing for amendments to the treaty at the European Commission. Fourth, the notion of achieving consensus through debate is a characteristic founded in Danish political history. No single political party has held a majority in the Danish Parliament for almost a century (Joss, 1998a).

The Dutch consensus conference model

The societal debates on nuclear power and biotechnology that shaped Danish technology assessment in the 1970s gathered momentum in the Netherlands at the same time. The relationship between science, technology and society became the focus of widespread debate in research and government communities. Thus participation in these debates was mainly limited to scientists, technologists and public policy-makers. The Dutch parliament's 1984 report on *Integration of Science and Technology into Society* led to the establishment of the Foundation for Public Information on Science, Technology and the Humanities (PWT) in 1986 (Glasmeier, 1995). This was to give Dutch citizens more insight into the impact of new technologies. The actual involvement of the public in the discussion of the social and ethical aspects of new technologies was the aim of a second parliamentary initiative, the establishment of the Platform for Science and Ethics in 1994 (Glasmeier, 1995).

The Dutch first adopted the Danish consensus conference model in 1993 and again in 1995. The first 'public debate'⁶ on *Genetic Modification of Animals, Should it be Allowed?*, held in The Hague, brought together expertise in public information campaigns on biotechnology (PWT), technology assessment (Dutch Office for Technology Assessment – NOTA), now the Rathenau Institute), consumer attitudes

⁶ In hindsight, it was revealed that the Danish term 'consensus conference' was more appropriate than the Dutch 'public debate' because the lay panel had managed to reach a consensus yet broader public debate did not ensue.

to biotechnology (Institute for Strategic Consumer Research – SWOKA) and additional funds from the Ministries of Agriculture, and of Education and Science (Hamstra, 1995). In fact, research commissioned by the Ministry of Agriculture and conducted by SWOKA concluded that public opinion on biotechnology was not reflected in the concerns and issues raised by the media at the time and that there was insufficient lay input in government decision-making on biotechnology (Hamstra, 1995). Hence, SWOKA proposed the implementation of the consensus conference model to address the opinions and concerns of the lay public in biotechnology decision-making. Unlike its Danish counterpart, the Dutch consensus conference was an initiative of a number of public organisations that aimed to inform parliamentary decision-making processes through one of its members, the Rathenau Institute, which has indirect links with the Dutch parliament (Hamstra, 1995). The second ‘public debate’ on *Human Genetics Research*, held in Amersfoort, was initiated by the Platform for Science and Ethics (Platform voor Wetenschap en Ethiek), a division of the Rathenau Institute, and organised by SWOKA and supported by the PWT and the Ministry of Education.

The British consensus conference model

The inaugural UK National Consensus Conference (UKNCC) on *Plant Biotechnology* was held at Regents College in London in November 1994. The UKNCC was funded by the government’s Biotechnology and Biological Sciences Research Council (BBSRC) and organised by the Science Museum under the banner of the ‘public understanding of science’ (Durant, 1995; Joss, 1998b). The public understanding of science movement in the UK emerged as the result of two seminal policy documents. First, a 1985 Royal Society report emphasised the need to improve the public communication of scientific information in order to increase the

public's knowledge and understanding of science and technology. Second, the 1993 White Paper, *Realising our Potential*, incorporated the public understanding of science movement into government policy (Durant, 1995). The White Paper instructed the six government research councils, of which the BBSRC is one, to allocate a percentage of their annual budget towards public understanding of science activities (Joss, 1998b). At a meeting convened in November 1992, the BBSRC and the Science Museum first discussed the use of the consensus conference model. The broad topic of biotechnology was provisionally agreed upon. The UKNCC was a novel experiment that challenged the prevailing civic and political culture by conducting an "intervention in public debate and public policy making" (Durant, 1995: 75). Hence, its link with political decision-makers and the British Parliament was tenuous, leading Joss (1998b) to conclude that that the UKNCC was conceptually, institutionally and culturally ambiguous.

Despite the concerns raised by Joss that placing the UKNCC under the umbrella of the public understanding of science resulted in conceptual ambiguity, a second UK national consensus conference was also placed within this framework. The consensus conference, on *Radioactive Waste Management*, was held at Westminster Central Hall in London in May 1999. This conference was initiated by the UK Centre for Economic and Environmental Development (UK CEED), an independent charitable foundation, and primarily funded by a Public Understanding grant from the Parliamentary Office of Science and Technology (POST). Additional funds were sourced from the Natural Environment Research Council (NERC) and NIREX, a company responsible for implementing national policy on disposal of intermediate level radioactive waste in the UK (The UK Centre for Economic and Environmental Development, 1999).

News published on the UK CEED website on 26 July 2002 announced that the lay panel for the *Radioactive Waste Management* consensus conference recently reconvened (The UK Centre for Economic and Environmental Development, 1999). The Environment Minister, Michael Meacher, had promised to reconvene the panel to consider the government's consultation paper on the issue and make sure it addressed appropriately the panel's recommendations. The panel met over two weekends to consider its input into the consultation process and a final report detailing its views and conclusions was presented to the Department of Environment, Food and Rural Affairs (DEFRA). The report is due to be published shortly.

In turn, the Danish model's relative success in influencing Danish parliamentary decision-making processes has inspired numerous re-creations worldwide. However, local institutional and cultural practices have dictated that the model evolve to incorporate minor amendments to ensure the model's applicability. For example, although societal debate in response to nuclear power emerged in the Netherlands in tandem with that in Denmark, the Dutch debates were mostly confined to scientific and political circles. The actual involvement of the Dutch public in the discussion of social and ethical aspects of new technologies did not receive attention until it became the focus of a parliamentary initiative in the early 1990s. Moreover, the British movement of the public understanding of science, which also emerged in the early 1990s, does not advance direct public participation in its overall philosophy. Its European counterparts therefore do not replicate the Danish example of institutionalised technology assessment, with direct links to parliamentary decision-making processes. The Rathenau Institute, as co-organiser of the Dutch consensus conferences, has indirect links with its parliament while the British consensus conferences' links with political decision-makers and the British

Parliament were, at best, tenuous. As we shall see, a similarly fragile link marked the Australian use of the consensus conference technique, to which I shall now provide a summary introduction.

OVERVIEW OF THE FIRST AUSTRALIAN CONSENSUS CONFERENCE

In March 1999, 14 ‘ordinary’ Australians, seated on the red leather benches of Old Parliament House in Canberra, were the focus of attention as they “talked, argued, discussed and, more importantly, listened to and respected the views” of the expert witnesses seated across from them in the chamber on the highly controversial issue of gene technology in the food chain (Lay Panel, 1999: 1). The occasion was the first Australian consensus conference. The Australian Consumers’ Association (ACA) had initiated the discussion of the organisation of the conference in order to encourage public participation in the analysis of an issue of major social concern. The ACA sought seed funding from the Myer Foundation⁷ in early 1998 and further sponsorship was later received from a variety of government, scientific, and research and development corporations (see back of Appendix 3). The ACA was, however, the only citizen-based organisation among the final list of sponsors. The conference itself was organised – for reasons to be explained in Chapter 3 (p. 79) – under the auspices of the Australian Museum, which itself had no particular interest in the field of gene technology. In a planning document for the conference, the Australian Museum (1998b: 1) outlined the perceived need for the consensus conference:

it is based on the concept that informed public debate is crucial to the ongoing development of a healthy society; that such debate can only take place when

⁷ The late Kenneth Myer and Baillieu Myer established the Myer Foundation in 1959 to provide funds for programs responding to community needs and for the development of new ideas.

inequalities between experts and non-experts are minimalised; and that nowhere is that debate more important than in the so rapidly advancing fields of science and technology. This is because of their power to alter everybody's life, and because it is so often in these fields that the importance of a pluralistic range of views is denied, and scientific and commercial perspectives are well established.

The conference was heralded as advantageous for Australian citizens because of the topic's relevance and because of the virtues of the consensus conference model per se. By providing a useful setting with which to evaluate the levels of communication between government, industry and the public in an area as contentious as gene technology, the model's innovative and adaptive qualities, enabling lay participation in the analysis of new technologies, were a major drawcard for the organisers (Australian Museum, 1998b). Certainly, the chairperson of the Australian consensus conference steering committee, Sir Laurence Street, expressed confidence that the conference was likely to "achieve greater understanding between government, industry, science and the community about gene technology in the food chain" (1999). By advocating a 'precautionary approach'⁸, typical of the consensus conference approach, the interests of the population as a whole rather than the narrower interests of the commercial and scientific communities would be represented in the technological decision-making processes surrounding gene technology in the food chain. The general objective, then, of the first Australian consensus conferences was to bridge the gap between citizens and the previously exclusive combination of experts and decision-makers in traditional policy-making

⁸ A precautionary approach to gene technology proposing "recognising scientific uncertainty, assessing the possible impacts and options, and putting in place now whatever measures are needed to avoid possible damage", was prompted by the lay panel's adoption of the precautionary principle, defined by them as "a key principle of ecologically sustainable development, useful when there is scientific uncertainty and possibility of serious damage to environment" (Lay Panel, 1999: 17).

processes, thereby filling a need to create greater awareness, more informed discussion, and wider debate on gene technology among the Australian public.

Like its Danish counterpart, the Australian consensus conference was designed to achieve a particular set of outcomes: to produce a consensual document; to contribute to government policy-making; and to raise the level of consciousness/debate about genetically modified foods. This layering of differently-focused aims is a consequence of the broad audience targeted by the conference's consensual document. On one hand, it aims to inform parliamentarians, scientists, interest and consumer groups and policy-makers to make a specific input to policy; on the other, it aims to inform media representatives and the general public to facilitate broad public debate. The diversity of the consensus conference's aims, as identified by different participants, led naturally to different perceptions of the intended outcomes and therefore to contrasting evaluations of the success of the entire event.

In his keynote address former Minister and Australian Labor Party President, Barry Jones, conceptualised the consensus conference model, one that embraced a spectrum of opinion, concerns and interests in its deliberations, as an appropriate model for the assessment of issues such as gene technology where opinions are situated at many points along a spectrum. Jones's insistence on the wide range of positions points towards an inevitable feature of consensus conferences: the way diverse aims and ambitions held by participants are therefore relevant to their perceptions of how far the consensus conference had been a success. Regardless of the formally expressed aims of the organisers, such a diversity of participation leads to inevitable diversity in expectations, voiced or unvoiced, for instance: (i) consensus conferences involve many different people from different professional and social

backgrounds who bring with them a diversity of values and beliefs; (ii) people are variously passionate, therefore some participants may feel very strongly about a particular outcome while others may feel indifferent; (iii) variations among participants in their particular knowledge of the political process may lead to unrealistic expectations of what is politically possible; (iv) variations in knowledge of technical factors affect people's understanding of what (gene technology) companies actually do and what governments are able to legislate on.

Choice of Topic

The importance given to the choice of topic for consensus conferences has been emphasised numerous times. The model's developers have identified several characteristics that help to define suitable topics for consideration. One important rule prevails: the subject or theme must be able to be expressed as a problem. Other important characteristics have been identified: first, the topic should be possible to delimit, that is, set within an easily definable boundary; second, the issue has to be of current interest and of increasing importance to future developments (that is, a new technology) and therefore the timing of the conference may be critical to ensure the maximising of its impact; third, there should exist an obvious need for policy setting and clarification of public attitudes due to unresolved issues (that is, a current 'hot topic' of national or even supranational importance); fourth, as the conference is dependent upon the contributions of experts to clarify issues, it requires the availability of the necessary knowledge and expertise; and finally, its topic must be socially, ethically as well as politically controversial (Andersen et al., 1995; Grundahl, 1995; Mayer, 1997).

An important determinant for choosing an appropriate topic for a consensus conference, therefore, is its level of current interest. Accordingly, a large number of the topics chosen since the first Danish conference on *Gene Technology in Industry and Agriculture* in 1987 map the evolution of 'hot topics' over time (see Loka Institute, 1999), and, an increasing proportion have focused on genetic technologies relating to either humans or food. Five of the 18 consensus conferences held by the Danish Board of Technology between 1987 and 1999 focused on various aspects of gene technology, as did both Dutch and one of the two British consensus conferences. Between 1996 and 1999, a particular focus on genetically modified food dominated consensus conferences (Marris and Joly, 1999). Of these, eight were the first time a consensus conference, or indeed any form of participatory technology assessment, had been held in a given country. In fact, the issue of gene technology in the food chain was the focus of the three consensus conferences held simultaneously but independently in March 1999. As well as the first Australian consensus conference on that topic, the University of Calgary, Canada, hosted a regional 'citizens' conference' on food biotechnology from 5-7 March, and the Danish Board of Technology convened a consensus conference on genetically-modified foods from 12-15 March.

It has been argued that the proliferation of consensus conferences on genetically modified organisms does not necessarily correspond to a desire for increased lay participation in science and technology decision-making (Marris and Joly, 1999). Rather, it reflects the need for new methods to resolve public controversies that were insufficiently addressed by established institutional processes. However, this does not exclude the reality that some institutions may notionally adopt these methods to extricate themselves from difficult public

controversies. Furthermore, an independent analysis of the UKNCC on plant biotechnology prompted the suggestion that by limiting the topic to a less contentious aspect of gene technology, excluding discussion of animal and human genetic engineering, might be considered by some as a “quiet first step towards engineering public acceptance of biotechnology in general” (Purdue, 1999: 99). It is true that Danish and Dutch lay panels have addressed the more contentious issues of human and animal genetics, while British and Australian organisers opted for the slightly less contentious topic of plant biotechnology. A rationale for this variation is that public debate is, to a greater extent than elsewhere in Europe, an inherent part of the social fabric of Danish society and the Netherlands has a high proportion of public sector advisory committees, consultative platforms and government think tanks that encourage widespread debate of social issues (Mayer, 1997). Consequently, highly controversial technological issues are frequently and publicly aired.

Though its primary interest was in staging a consensus conference regardless of the topic, the ACA looked at a number of possible topics including (broadly) health care issues and environment-based issues such as the greenhouse effect. In the end, gene technology stood out as it seemed to be the most challenging topic and in that sense perhaps the most appropriate, albeit the most difficult, “because it was the one [topic] where you had the greatest . . . polarisation in terms of the debate between decision-makers and . . . the public” (S3)⁹. Whilst the organisers admitted it might have been easier, politically speaking, to tackle a less contentious topic, they recognised that one of the critical factors in choosing an appropriate topic was that it was timely, contentious and currently being widely debated. After thorough

⁹ See p. 33 this chapter for an explanation of the referencing system used for comments drawn from post-conference questionnaires and surveys.

consideration was given by the steering committee on how best to delimit the broad topic of gene technology, the issue of gene technology in the food chain and its possible effects on health and the environment was selected as the topic because of its intrinsic importance to all Australians, whether producers or consumers, urban or rural, manufacturers or farmers.

How had the issue of gene technology become such an important element in Australia's political debate? Of course, everywhere gene technology has vast social, economic and political ramifications that cannot be delimited and prevalent among concerns is the dominance of corporate interests and private returns over the public interest and the social benefits that may accrue from biotechnology. While widespread benefits such as 'solving third-world hunger' have been extolled, many fear that, as in the Green Revolution of the 1970s, the majority of benefits will serve those with power and wealth and not the economically disadvantaged as claimed (Griffin, 1974; Shiva, 1991). Experience has shown that new technologies, however beneficial, are not without some risk. It is clear that even within scientific and expert communities consensus on the possible impacts of genetically modified food has not and can not be reached. While the perceived benefits of gene technology are proclaimed to be many, the potential hazards are largely unknown and mostly unanalysed.

In terms of the food chain, agriculture in Australia has vast social as well as economic significance, and the general reliance of the Australian economy on its primary sector is indicative of the especially sensitive role that gene technology is likely to play. However, as a leading agrifood producer and exporter, Australia is also conscious of its trade obligations and constraints; while Australian farmers want to produce genetically modified crops for the agronomic benefits they bring, the

Australian government, too, has realised the importance of investing in biotechnology research to boost agricultural production and exports.

Growing social awareness of the issue of gene technology in Australia was promulgated by frequent reports filtering in from the United States and Europe throughout 1998 and 1999. Epithets such as ‘Frankenstein Foods’ and ‘Mutant Genes’ were frequently emblazoned across our television screens and newspapers. Increasing public debate focused on food safety and labelling, echoing trends in Europe (Ernst & Young and Commonwealth Department of Industry, Science & Resources, 1999). The issue of gene technology in the food chain had received scant political attention in Australia since the release of the 1992 House of Representatives Standing Committee on Industry, Science and Technology report entitled *Genetic Manipulation: The Threat or the Glory?*¹⁰ A succession of governments passed without implementing the recommendations, including a call for the establishment of a national Gene Technology Authority. Meanwhile, Australia’s involvement in gene technology research and development had surpassed the ambit of the existing regulatory framework. Public funding committed to biotechnology R&D in 1998/99 was estimated to exceed \$250 million (Department of Industry, Science and Resources, 1999). Though Australia’s biotechnology industry is comparatively small by international standards, in 1998 it was ranked among the top five agricultural biotechnology producer countries (Ernst & Young and Commonwealth Department of Industry, Science & Resources, 1999). Public policy development for biotechnology industry development at a national and state level began to accelerate

¹⁰ The report, *Genetic Manipulation: The Threat or the Glory?*, was the result of an inquiry into genetic engineering. Despite the inclusion of a prejudiced rider acknowledging an “*a priori* and unqualified acceptance of the existing and potential benefits” of genetic engineering, 35 per cent of respondents to a public call for submissions called for an immediate halt to genetic engineering activities in Australia (Hindmarsh, 1998). The report also recommended the adoption of a uniform regulatory framework across the State/Territory and Commonwealth governments, advice which remained unheeded until the launch of a new regulatory framework in May 1999.

in 1998 (Ernst & Young and Commonwealth Department of Industry, Science & Resources, 1999). By June 1999, there were approximately 120 Australian ‘core biotechnology’¹¹ companies with an estimated total revenue in 1998/99 of \$965 million. Of these, 20 were companies publicly listed on the stock exchange and 100 were privately or publicly held (Ernst & Young and Commonwealth Department of Industry, Science & Resources, 1999).

Australia’s biotechnology regulation is relatively consistent with the regulatory environment of the major markets worldwide. Applications submitted to the Genetic Manipulation Advisory Committee (GMAC) for field trial release of genetically modified organisms increased by 29 per cent to 45 in the year 1998-1999. Cotton was the major crop targeted for release, with half as many applications submitted for canola. CSIRO was listed as the most active organisation in the field trialling of genetically modified organisms, while AgrEvo¹² was amongst the most active companies proposing release of genetically modified crops (Ernst & Young and Commonwealth Department of Industry, Science & Resources, 1999). CSIRO is Australia’s largest and most prestigious public sector R&D organisation with numerous linkages with industry. However, CSIRO is increasingly required to derive increasing revenue from external earnings, a large proportion of which come from alliances formed with biotechnology industry.

Media exposure of genetically modified foods over the first six months of 1999 suggests that there was a strong undercurrent of concern surrounding the issue of safety. A Media Scape study conducted for Biotechnology Australia indicated that

¹¹ Ernst and Young (Ernst & Young and Commonwealth Department of Industry Science & Resources, 1999: 5) “define ‘core biotechnology’ companies as those whose business is entirely or substantially biotechnology related and that have a significant commitment to technological innovation”.

¹² The acronym, AgrEvo, stands for Agriculture in Evolution; a joint venture of the crop protection businesses of Hoechst, Roussel Uclaf and Schering.

media coverage of biotechnology in July 1999 was double that in February 1999, with negative coverage rising 14.4 per cent during the same period. However, positive coverage also increased by 50 per cent. During this period, genetically modified organisms rated as the top issue, increasing from 33.9 per cent in February to 70.38 per cent in July (Ernst & Young and Commonwealth Department of Industry, Science & Resources, 1999). Safety in food, therefore, rated as extremely topical.

All of these issues became part of Australian political discourse because of a unique political feature of the Australian political system, which accords considerable importance to minority parties. Prior to the federal election in 1998, the Australian Green Party held the balance of power in the Australian Senate, and used this position to raise a number of significant environmental issues. From their position of influence, the Greens were able to regularly focus on gene technology and insert the concerns that went with it into public discourse.¹³

Given the rapid advance of gene technology into economic and social aspects of people's lives, and the concern expressed by the Australian community about possible adverse side-effects, especially in the food chain, it was considered vital that widespread public consultation and informed public debate about the technology be undertaken as soon as possible, incorporating mechanisms for ongoing communication. A suitable approach would:

bring together the stakeholders to identify and debate the key scientific, commercial, economic, health and safety, ethical, cultural and environmental issues, with the aim of reaching consensus as to the degree of legislative protection Australia should

¹³ Following the 1998 federal election the balance of power in the Senate shifted to another minor party, the Australian Democrats, which also had a particular interest in the regulation of gene technology.

have in this area; and with an agreed education campaign to inform the general public as to the benefits of the technology and the controls that are in place (French, 1999: 2).

The question of timing is often critical to the success of consensus conferences especially when they deal with issues in which technology is rapidly developing, commercial interests are anxious to stake territory and governments are pressured to be seen to make equally quick responses. While the Minister for Trade's opening speech at the Australian conference was not encouraging in terms of openness at that point of the government's agenda for gene technology regulation, it served to demonstrate that timing can be critical to the success of consensus conferences. In Denmark, conferences are often timed to coincide with the drafting of legislation to regulate some controversial technology, so that the report could feed directly into new legislation. In an interview conducted in April 1998, Carole Renouf of the ACA expressed her hope this would happen in Australia: "Sometime next year, we are due to see new legislation to establish a national regulatory framework for gene technology - the consensus conference could inform that legislation" (O'Neill, 1998: 51).

Though originally scheduled for May 1999, the first Australian consensus conference was brought forward to precede, and therefore hopefully inform, the new

regulatory framework for gene technology due to be launched on 13 May 1999.¹⁴ In conjunction with the establishment of that framework, a review of all food regulation in Australia involving a formal process of public and stakeholder consultation was undertaken in 1997 and 1998. Known as the *Blair Review*, its purpose was to reduce the number of ‘regulatory burdens’ placed on industry. Timing can therefore make the difference between conference recommendations informing public policy or being put on the shelf.

However, recent consensus conferences focusing on genetically modified organisms have attracted criticism with respect to their timing. It is claimed they were “held after key technological and commercial decisions had already been taken and citizens were faced with the products of the technology” (Marris and Joly, 1999: 6). This contravenes the original intent of such conferences as outlined by Klüver (1995). Indeed, the pressure of timing caused the Australian consensus conference to be brought forward in order to precede key political decisions – a haste which meant that some of the ideal processes of a consensus conference had to be modified or abandoned (see pp. 63-64).

¹⁴ The new regulatory framework, developed by the Commonwealth and States/Territories, aimed to simplify legislative and regulatory systems covering products derived from gene technology by developing a nationally consistent regulatory system. The lack of Commonwealth power under the constitution to pass comprehensive laws in the area complicated the process of developing an Australia-wide regulatory system and deciding the form the new system would take, how it would be implemented and enforced, how existing regulatory systems would be affected and how the costs will be shared (Therapeutic Goods Administration, 1999). In May 1999, the Federal Government announced two new agencies to be the focal point for policy and gene technology regulation in Australia. These were Biotechnology Australia (to develop a national strategy for Biotechnology) and the Office of the Gene Technology Regulator (to operate within the Health and Aged Care portfolio and is intended to be overseen by both Commonwealth and State Ministers) (Commonwealth Scientific and Industrial Research Organisation, 1999).

THEORY AND RESEARCH METHODS

Theoretical Framework

This thesis is an investigation of this first attempt in Australia to conduct such an exercise in citizen participation in public policy formation. Concerned with describing and analysing the role of this new policy-making instrument in the technology policy process, it explores the different networks that operate within the consensus conference process by focussing on the ways in which the conference was organised and how the relationships between organisers and participants helped to shape the outcomes. The aim is to use this network approach to examine in detail the organisation and impact of policy networks inherent in consensus conferences in order to contribute to the expanding international literature on this new element in the policy process. By offering some comparisons between the Australian case and its international counterparts, this thesis will demonstrate how the organisation of networks evolves, since networks are the basis of such conferences and their structure influences the types of outcomes reached.

Consensus conferences are constructed from an array of networks consisting of different categories of participants (lay, expert, bureaucrat, public, stakeholders, evaluators etc) whose spokespersons come together to reach policy conclusions. Contemporary social and policy science fields are particularly interested in the issue of networks and how their form tends to influence the decisions that their representatives reach. For example, Danish evaluations of consensus conferences have included analyses of the impact of new groups and new voices on the technology policy-making process. The Danish approach of the ‘social shaping of technology’ is one among a diverse range of so-called ‘constructivist’ approaches to

network formations. Another is the actor-network approach pioneered by French sociologists, Callon and Latour, and developed by an English group, whose best known figure is John Law.

Actor-network theory seems particularly appropriate as an approach to participatory policy-analysis and therefore consensus conferences, because it does not prejudge the roles to be played by actors in decision-making processes. It does not prejudge where power lies; rather, it sees power as an effect and not a background cause (Latour, 1986). Actor-network theory has been applied to some features of some policy-making contexts, though not at length. Extension of its approach to further forms and areas of policy-making therefore seems justifiable. Actor-network theory is diverse, indeed becoming more so, and one important test of its value is to see how its expanding vocabulary and analytical experience can be used to illuminate the ‘associative’. Potentially it is a very valuable instrument which can also help us to identify network features of consensus conferences in a novel perspective. I describe the basic elements in actor-network theory and why they are appropriate for the analysis of the policy-making process in the following chapter. In adopting the strategies used by the developers of actor-network theory in several of their empirical studies (e.g. Callon, 1986a, b) and undertaking as much participant observation as possible, I will establish how the consensus conference network was constructed, identify the resources used to build and stabilise the network and determine the solidity and durability of the connections that have been made.

Research Methods

It is worth noting that former evaluators of consensus conferences have encountered a number of practical problems when evaluating the consensus conference process,

which were also relevant to this analysis (Joss, 1995; Mayer, 1997). As with the introduction of any new policy-making process, the implementation of new methods of analysis may be fraught with complications. First, the evaluator may be an active member of the organising committee or a consultant contracted to work to a number of objectives. Alternatively, the evaluator may come to the process independent of the organisers, armed with a separate evaluation agenda. Each of these options raises certain issues. Conference organisers, sponsors, participants, policy-makers and evaluators may all have different aims and objectives for the evaluation program and its outcomes (Mayer, 1997). Indeed, organisers may be more concerned with the efficiency of the process in terms of human and financial resources and how this may influence further implementation of the model. Sponsors may well be interested in how the process will benefit them, expecting value for their sponsorship funds. Participants may be primarily concerned with the impact their contribution will have on conference outcomes while policy-makers may seek affirmation for fulfilled policy decisions rather than information for future decisions. An evaluator who is also a member of the organising committee may be bound to the committee's objectives, which may be construed to appease sponsors or policy-makers. An independent evaluator, while working to a separate set of objectives, may have problems gaining access to the process and the trust of the participants. Elements of the consensus conference process tend to be fairly intense and quite intimate and some participants may feel threatened or exposed in the presence of an 'intruder'. A third option, that of a quasi-independent evaluator hired by the organisers, may have difficulty in choosing between their own objectives and those set by the organiser, as well as possibly being subject to external pressure from sponsors and policy-makers.

Yet for each of these evaluation approaches, the accumulation of empirical data from direct observation of the organisational processes leading up to the event, the consensus conference process itself (particularly the interactions between the various participants) and the deliberations of the lay panel behind the scenes, is indispensable to a comprehensive evaluation. It is imperative, therefore, that a clear contractual arrangement is agreed on between all parties involved (organisers, participants and evaluators) as early in the organisational process as possible. As various participants (lay panellists, expert speakers) negotiate with the organisers about their engagement in the process, the scope of their involvement in the evaluation process should be made immediately clear. As a consequence of his involvement in the evaluation of the UKNCC, Joss (1995) recommends: first, that the aims of the evaluation programme be clearly articulated to all participants involved; second, that an evaluation strategy be adopted early in the planning process; third, that participation should focus on participant groups rather than individuals, thus individual participation is voluntary; and finally, that evaluation activities be discreet and unobtrusive to participants and the process in general. My study of the first Australian consensus conference was unusual in the degree both of its independence and the close contact I had with the organisers from the beginning.

My original research proposal of 1996 aimed to analyse the evolution of the consensus conference model by conducting cross-cultural and organisational comparisons of consensus conference processes in Denmark, the Netherlands and UK. At the time, this field of research was concentrated in Europe and the plans by the Australian Consumers' Association to conduct an Australia consensus conference had yet to be realised. I travelled to North America and Europe in 1997 and to New Zealand in 1999 to consult with organisers of consensus conferences,

locate relevant documentation and to observe suitable case studies. In New Zealand, I attended the second consensus conference on Plant Biotechnology organised by the New Zealand Consumers' Institute in Wellington in May 1999 with the intention of conducting a cross-cultural comparison with the Australian consensus conference process.¹⁵ However, the vast amount of empirical data eventually collected from the Australian consensus conference made this proposal impractical. By the time Australia's conference was held in 1999, I was ready to conduct a detailed analysis of its full trajectory. My preparations to evaluate it began when the announcement that it would take place came in November 1998. I immediately contacted the conference organisers with a research proposal to arrange access to the process and appropriate data for an independent analysis. In spite of initial (and lengthy) complications (see Chapter 3) suitable but partial access to the consensus conference was successfully negotiated in late February 1999.

On 26 February 1999, I was notified by the steering committee that it had agreed to four types of access to the consensus conference process. I was subsequently invited by the steering committee to approach the lay panel (in writing) with a research proposal that fell within the parameters indicated. I was provided with access to: (i) the lay panel (as of 13 March) via telephone and questionnaires; (ii) the 'official' evaluation report as soon as it was made available (mid-April); (iii) discussions with the evaluators after they have finished their report; and (iv) any documentation held by the Australian Museum that is in the public domain,

¹⁵ The second New Zealand consensus conference revisited the topic of the first held in 1996 on Plant Biotechnology. The lay panel was reconvened to discuss issues raised by the Australian consensus conference on gene technology. The consensus conference was a condensed version of the normal format: the preparatory weekends were conducted using teleconferencing facilities in Wellington linking panellists in a number of regional centres; the conference proper was reduced to one day, with participants breaking after lunch to prepare their recommendations. These additional recommendations were added to the original recommendations originating from the first conference and re-released.

including steering committee minutes, briefing materials sent to the lay panel and expert speakers, protocols, the report on the recruitment methodology (Renouf, 1999). I accepted the conditions set out by the steering committee, but still pressed for further access to the steering committee, facilitator and stakeholder groups after the conference. These actor groups and their members represented key figures in the policy network that made up the consensus conference and were therefore vital to the understanding of network operations. The steering committee later conceded but limited my access to just the four members of the evaluation subcommittee, the facilitator and chairperson even though the minutes of the second steering committee meeting stipulate that “all members of the steering committee be spokespeople, as they are all ambassadors for the process” (Australian Museum, 1998e: 3).

On the first day of the consensus conference proper I was introduced to members of the lay and expert panels, facilitator and the members of the evaluation subcommittee. This enabled me to explain the intent of my evaluation in person and to give assurances that individual participants’ anonymity would be preserved. It was in any case their collective role as a group, within the overall network, that was the focus of my research.

This study is therefore based on my observations (as a non-participant) of the Australian consensus conference’s proceedings over three days in March 1999, supplemented by questionnaires and interviews. Documentary sources that formed part of the proceedings or were made available subsequently were also examined as well as numerous print and electronic media reports, including edited versions of ABC tapes of the consensus conference as broadcast over four Radio National *Life Matters* programs and over 60 print media articles on the consensus conference reported across Australia. My own data created for this thesis are drawn from a post-

conference questionnaire (see Appendix 1) distributed amongst 33 participants in May/June 1999 and subsequent tape-recorded interviews (mostly lasting 30-45 minutes each) (see Appendix 2) with 28 respondents conducted throughout July/August 1999. Members of the lay and expert panels, as well as the steering committee (including the facilitator and chairperson to preserve their anonymity) participated in these surveys. The four members of the evaluation sub-committee were the only steering committee members made available for post-conference interviews. There were 28 of a possible 33 respondents: 12 of the 14 lay panel members; all six steering committee members; and 10 of the 13 expert speakers. Verbatim extracts from their responses are referenced accordingly: L = lay panel; S = steering committee; E = expert speaker, accompanied by a number assigned to each member of each group (i.e. L1–14, S1–6, E1–13).

GUIDE TO THE CHAPTERS WHICH FOLLOW

Actor-network theory compels the analyst to look to at several interconnected phases when examining consensus conferences using the data collected. Accordingly, I have employed five central themes as metaphors for the various phases of the consensus conference process to serve as a conduit for the empirical research resulting from the Australian case study. The five themes are: enrolling the cast; workshopping the script; staging the performance; the reviews; and impact of the performance.

To understand actor-network theory it may first be useful to consider the adage, ‘all the world’s a stage’; a theatrical metaphor that invokes the inner workings of actor-network theory. Consider the consensus conference network as a play performed on a stage. Through their interactions with other actors and various stage props, and by following a particular script, actors become enrolled as particular

characters in that play. Their scripted role, the props they use, and their interrelationship to other actors defines the characters they play. For example, in the context of a consensus conference, the lay panel members are distinguished from other characters (such as expert speakers and steering committee members) by the particular script they follow (the protocols outlining their role in the consensus conference) and the props provided for them (consent form, introductory briefing notes) by the directors of the play (ACA and the Australian Museum). On a stage, a prop is equally important in the network of interactions as it also has a definite role to play. In order to define what role a particular actor plays, we must first study how the play in which it performs a role is constructed as an effect of interactions, interactions involving both actors and props, human and non-human objects. To do so, we must deconstruct the ‘scripts’ that brought the actors and their props into existence, study their evolution, and how they came into being.

In an actor-network, there is no *a priori* distinction between the roles played by the various actors. By watching the play, seeing it evolve as a sequence of events, as a network of interlocking characters and props, the analyst can determine those elements that link the actors together. It is hard to imagine a play without props. They are crucial elements in almost any situation in which humans interact. Therefore, a study of a consensus conference network, a network in which humans and non-humans play a dominant role, must naturally involve a study of how people, texts, money and other ‘props’ circulate, how alliances are established and consensus is reached. These all circulate in the networks that characterise consensus conferences and that are the principle focus of attention in the rest of this thesis.

In the chapter which follows, *The Consensus Conference as a Hybrid Policy Network*, I identify the characteristics of actor-network theory that render it a

valuable framework for examining the policy networks that circulate within a consensus conference. Using some key examples, actor-network theory's evolutionary approach to policy-making is traced, including its key terms, policy applications and successes and failures in analysing those applications. The suitability of the actor-network framework for evaluating consensus conferences is discussed, as is the ability of actor-network theory to clarify the particular issues raised by a consensus conference. Actor-network theory enables the analyst to view the entire conference process (from idea to outcome) as the construction of a network designed to achieve a particular goal. That goal is a single, consensual policy input. In order to achieve this outcome, the network needs to be recruited, stabilised and made to produce its policy input. This chapter discusses the devices which enable, or in some cases, which are too weak to enable it to happen: people, texts, money and a shared lexicon.

In Chapter 3, *Enrolling the Cast: Introducing the Actors*, I investigate the actors brought together in the networks that make up the first Australian consensus conference. The origins of the conference, including who initiated the project and how and why the host institution was selected will be discussed. The recruitment processes for the cast/network core members are outlined and the recruitment methods assessed for their comparability with the Danish protocols. I detail the final composition of the steering committee and the lay and expert panels and conclude whether they are balanced, unbiased, and representative. Finally, with a specific focus on the Danish protocols, I present an overview of how the core network membership is stabilised by alignment devices.

Chapter 4, *Workshopping the Script: First Step Towards Enrolment*, looks at organisation and participation in the preparatory weekends. Based on the responses

of the lay panel, I discuss whether there were equal levels of interaction amongst participants, including ample opportunities to express opinions, engage in discussions and to ask questions. Finally, I surmise how much of the preparation was already scripted by the steering committee, facilitator or the conference protocols. This discussion leads into the material presented in Chapter 5, *Staging the Performance: Contested Scripts and (De)Stabilisation Devices*, where I assess the extent to which the cast acted according to the script and the roles it was assigned. The actors that participated in staging the performance are identified, as is the extent to which their expectations of other actors were met. I investigate the restraints placed on each of the actor groups throughout the performance and whether any actors or actor groups performed outside of these restraints, and if so, what the consequences were, if any.

The following two chapters broaden the concerns of the analysis. Chapter 6, *The Reviews: Results of the Evaluations*, will follow the participants as they reflect upon their involvement/input. Participants' own assessments of whether their views had changed on the issue during the course of the process, and if the process itself met their expectations will be explored. I will investigate participants' views on the timing of the performance and if, in their eyes, the consensus conference was likely to have an impact upon the key issues identified by the lay panel. That line of discussion is taken up in Chapter 7, *Impact of the Performance: Enrolling Government Support, Public Interest and Subsequent Debate*, where I assess the available evidence on the extent to which the aims of the conference were met. Finally in the *Conclusion*, I recapitulate the research questions. I summarise the main arguments and conclusions and consider the theoretical and practical outcomes of the research.

2. The Consensus Conference as a Hybrid Policy Network

ACTOR-NETWORK THEORY: A BRIEF GUIDE TO ITS TENETS AND EVOLUTION

The early 1980s marked the beginning of a collaboration between two French sociologists, Michel Callon and Bruno Latour in what they first labelled ‘the sociology of translation’ (Callon et al., 1986a; Latour, 1997) but which soon became more widely known under the name of actor-network theory (ANT). Actor-network theory aims to (re)construct the complexities of technoscientific knowledge and to examine the processes by which certain technoscientific practices become indispensable, or conversely, why they fail in the socio-technical networks in which they circulate. Actor-network theory’s richly endowed, sometimes arcane, vocabulary serves to highlight those decisions and components that lead to either stability or instability within the network. A central concern of the theory is therefore the mobilisation of power within decision-making networks and how alliances are negotiated and constructed. A key lesson is that decision-making is initially aided by material arrangements such as the introduction of texts and money as props to facilitate negotiations by defining the roles of the various actors (Callon, 1986a, b; Law, 1987, 1994; Latour, 1997). Network construction is thus the juxtaposition of heterogeneous entities to form a network of alliances; for example, the practices of scientists and technologists are seen as social, political and economic as much as they are scientific and technological, harnessing a multiplicity of materials and

techniques to extend their influence beyond the laboratory (Singleton, 1993). Success lies in constructing complex networks that incorporate the enrolment of social actors from beyond the laboratory walls and can thus assemble all the necessary elements to ensure that experiments take place and work, their results are communicated to the relevant policy-makers and the policy-makers can deliver their implementation.

Actor-network theory provides policy analysts with an array of concepts and principles with which to examine the construction of socio-technical relationships. According to Callon (1986b), the role of the analyst in observing socio-technical interactions is made easier through the adoption of three simple tenets. First, actor-network theory requires the analyst to approach negotiations faced by the various heterogeneous actors impartially, thus adhering to *general agnosticism*. Preconceptions and assumptions of the role to be played by each of the actors are cast aside as no particular point of view is privileged over another. The abrogation of the privilege of experts and scientists, the foundation of traditional policy networks, is particularly suited to the analysis of consensus conferences where non-experts also play a key role. Second, the application of a single, neutral vocabulary to encompass all actors, even non-human entities (such as texts and technologies) to illuminate the conflicting viewpoints of all actors, forms the basis of *generalised symmetry*. Third, *free association* allows the analyst to follow the networks of alliances formed (translated) throughout the policy process, while rejecting any a priori distinctions between the social and the natural or the technological. Callon's well-known analysis of the scallops of St Brieuc Bay clearly advocates the principle of free association: "The observer must abandon all a priori distinctions between natural and social events. He must reject the hypothesis of a definite boundary, which separates the

two. These divisions are considered to be conflictual, for they are the result of analysis rather than its point of departure” (Callon, 1986b: 200-201). These three tenets combine to form what Fuller (2000) claims is actor-network theory’s critical edge: reminding policy analysts not to get carried away by their own rhetoric.

However, these three tenets have not gone uncriticised. Callon’s notion of generalised symmetry has drawn the ire of SSK proponents. Collins and Yearley (1992) accused Callon of ‘epistemological conservatism’. In treating natural entities and humans as equal actors on the scientific stage, Collins and Yearley (1992) claim Callon, Latour and their actor-network colleagues adopt a prosaic approach to science. Generalised symmetry, they argue, avoids granting privilege to social relations or to particular things, thus removing humans from the pivotal role. For that reason, Cussins’s (1998) study on the objectification of women in infertility clinics has drawn criticism for dehumanising the human. Cussins’s perspective is such that she considers the treatment of humans as objects vital to the construction of objectivity, thereby humanising all network entities (Cussins, 1998). Callon and Latour (1992) in turn reject the nature/society spectrum embraced by Collins and Yearley and their SSK colleagues. Instead, they propose that nature and society are intertwined in scientific and technological practice. That their “general symmetry principle is not to alternate between natural realism and social realism but to obtain nature and society as twin results of another activity” (Callon and Latour, 1992: 348). They call it network building, building alliances, heterogeneous engineering, or trials of force (Callon et al., 1986a; Callon, 1987; Law, 1987; Callon, 1991; Latour, 1997).

Many early actor-network studies were also characterised by a focus on a lone conquering network-builder and on the success of a particular outcome from an

array of other possibilities (Callon et al., 1986a; Latour, 1997). A further, oft-repeated criticism of actor-network theory rejects this totalitarian tendency to glorify the heroic practitioner, be it the powerful politician or the heterogeneous scientist, whose force of will overcomes all others (Collins and Yearley, 1992). Feminist and other critics disputed actor-network theory's universality, asserting it was not the neutral realm it claimed to be. By speaking of 'trials of strength', 'forces' and 'strategies', it reproduces exploitative and warlike metaphors of scientific activity that feminist authors have criticised for years. As Nick Lee and Steve Brown (1994: 781) argued, actor-network theory is a totalising strategy; there is no way of circumventing the "formulaic circle of expansion, domination and collapse".

At the core of actor-network theory is a concern with how actors (human and non-human, individual and organisational) interest, enrol, mobilise, and stabilise the network of heterogeneous entities out of which they are composed. Early actor-network theory outlined 'moments of translations' to describe the phases during which the identity of actors, their interactions and 'margins of manoeuvre' are planned, negotiated and stabilised. 'Translation' implies a process whereby an entity represents the interests of others so effectively that the voice of the represented is essentially silenced. Central to this process is the capacity of translators to reorient the objectives of those they aim to translate. Callon and Latour applied the term 'interessement' (coming between) to capture this capacity, implying that it is the presence of a mediator that creates or reorients an objective that only the mediator can uniquely satisfy (Fuller, 2000). Four moments of translation are distinguished to describe the interrelated and progressive stages that lead to translation (Callon, 1986b). First, *problematization* is the process by which the translator seeks to become indispensable to others by identifying the nature of the latter's problem and

offering an alternate solution which involves passing through an ‘obligatory passage point’ defined by the translator. Second, *interessement* is the process by which the translator seeks to “impose and stabilise the identity of other actors it defines through its problematisation” (Callon, 1986b: 207-208). Third, *enrolment* is a multilateral process that involves both the redefinition of an actor and the actor’s acceptance of its new role. Finally, *mobilisation* is the set of methods employed by the translator to position itself as the accepted spokesperson for those collectively translated, while trying not to be disloyal to its subjects. These moments encompass a variety of strategies and mechanisms that enable an actor, such as the Electricité de France (EDF) (Callon, 1986b), to define and enrol other entities such as Renault, the French government, consumers, fuel cells and electrons, in an attempt to develop an electric vehicle (VEL). Only by traversing these four moments of translation can enrolment be considered complete, albeit, if only temporarily. Early actor-network studies stressed that closure was always temporary and that a network is never completely and irrevocably stabilised.

Translation, therefore, is a process whereby an entity establishes itself as a spokesperson by creating a conduit of obligatory passage points through which other actors and entities must pass in order to configure their identity and their role in the network. The strategic alignment of materials, resources and information assists in ‘displacing’ actors, re-orienting their objectives. By establishing sets of rules or protocols, creating position descriptions and binding actors to contracts, a translator can accumulate those material arrangements necessary to render its actor-network more stable. Enrolment and the translation of interests can be, however, inherently problematic, particularly across space and time. One mechanism identified by actor-network theorists as a means of combating spatio-temporal impediments is the

‘immutable mobile’ (Latour, 1997). The immutable mobile, most commonly observed in the form of a text, has the ability to move across space and time while retaining its shape. It facilitates the capacity of some entities to reinforce ‘centres of calculation’ such as laboratories, where materials are bound together to create a black-boxed entity (Latour, 1997).

So how are networks – amalgams of social and technical elements – constructed, stabilised, weakened and dismantled to generate the effects of agency, organisation and power? How are resistances to network building overcome? The answer lies in power, for actor-network theory is also a study of the effects of power. The political order described by early actor-network theory is often “warlike, competitive, and biased toward the point of view of the victors (or the management)” (Latour, 1991: 33). Yet actor-network theorists agree that much can be gained by opening up the black boxes of science and technology to scrutiny, by examining previously invisible work, and, especially, by attempting to represent more than one point of view within the network. The process of translation from the point of view of the scientist is well charted. Less popular is the point of view of the layperson, and even more obscure is the point of view of technological entities and other non-human actors. Yet it is agreed as a principle of translation that all points of view are important. The emphasis of the actor-network theory approach is on the continuous struggle to build at least temporarily stable coalitions to deliver what may appear from the outside to be quite small results. For example, the staging of a Broadway play may seem like a completely routine event, but think of the number of elements and behaviours that need to be marshalled to allow it to take place. First, negotiations with the playwright and his/her agents must be successful in order to obtain permission to use the script; suitable and skilled actors must be contracted to play

particular roles; a support team of costume and set designers, technicians, makeup artists and publicists must be employed to transform the stage and the actors and to publicise the event in order to sell tickets and attract an audience. The absence or failure of a single connection threatens to close the play.

WHY ACTOR-NETWORK THEORY IS APPROPRIATE FOR THIS STUDY

An inspection of the various applications of actor-network theory over the past twenty years reveals a number of reasons why it provides an appropriate framework for this study. First, actor-network theory has demonstrated a continuing concern, right from the outset, with science and technology policy. Second, it is characterised by a more recent concern with health. While the risk posed to human health by genetically modified food is one of a range of issues raised by the Australian consensus conference, topics covered by Danish consensus conferences (e.g. *Infertility* in 1993) and by the preceding consensus development conferences (Jørgensen, 1995), share a direct concern with health. Finally, problematisation of the expert/lay divide and an emphasis on confrontation/negotiation between holders of different knowledges are central, even defining, elements in the workings of the consensus conference network.

A Concern With Policy

Early actor-network case studies were predominantly characterised by the failure of translation in a science and technology policy context. Significant in the French science policy context were a number of failures, most famously that of the restocking of scallops in St Brieuc Bay (Callon, 1986b). As with most actor-network case studies, the failure was the result of an overstated confidence in what top-down

decision-making could achieve without attending to the ‘interests’ of those (potential mediators) whose cooperation would be required for the policy’s implementation. It gradually became clear that these mediators held the balance of power in the network negotiations. Callon’s (1986b) analysis of the scallops, researchers and fishing community of St Brieuc Bay describes an actor-network built by the researchers to investigate ways of restocking the scallop-depleted bay. By defining the roles of the other actors, the researchers were able to convince the fishermen (if only momentarily) that it was in their long-term economic interest to moderate their harvesting of the scallops to allow restocking of the bay. Scientific colleagues were drawn into the investigation to help advance the knowledge of the researchers, while the scallops, it was hoped, would anchor themselves to shelters which would enable them to multiply.

The researcher’s investigation intended to assist the economic wellbeing of the local fishermen (and through them, the local community) by increasing the scallop stocks through advancing the available knowledge concerning that particular species of scallops. If the other actors in the St Brieuc Bay network agreed to the imposition of their new roles by the researchers, if the stocks of scallops were to increase, if the fishermen hoped to secure their long-term economic interests, and if the scientists wanted to advance their understanding of this particular species of scallop, then they must answer a single pertinent question: ‘how do scallops anchor?’ To produce an answer, they must form an alliance. Thus, the three researchers configured the identities of the other actors (fishermen, scientists and scallops) in such a way that they established themselves as an obligatory passage point in the network of relationships surrounding the investigation. The actor-network of St Brieuc Bay illustrates a number of important characteristics. It highlights the paths

that must be taken, the detours that must be accepted, and the alliances that must be forged by each of the network actors if the scallops are to be cultivated. The scallops, fishermen and the scientists are all immobilised, their intended paths blocked by a series of obstacles which force them to seek a change of direction: a change in strategy, in which the researchers point the way.

If the scallops are to be enrolled then they must be willing to anchor themselves to the collectors. To do so, they must overcome the currents that threaten to sweep them away and the predators that prey on them. First, negotiations with the currents and the predators must be resolved. To overcome these obstacles, the researchers introduce *interessement* devices such as towlines and collectors. The towlines are made up of collectors carrying fine-netted bags and supports for the anchorage of scallop larvae. The towlines enable the researchers to measure the levels of anchorage, while collectors allow water to pass through while preventing the larvae from escaping and, at the same time, protecting the scallop larvae from falling prey to currents and predators. This exercise constructs a system of alliances by providing the scallops with a practical yet safe environment in which they can multiply. This in turn helps strengthen the position of the researchers who have demonstrated that predators do threaten the larvae, that the larvae can anchor, and that the collectors protect the larvae from predators. The alignment of interests, if successful, validates the alliances forged during the problematisation.

While the introduction of towlines and collectors are necessary for the *interessement* of scallops, these devices are redundant to the *interessement* of the fishermen and the scientists. Furthermore, and of particular significance, the researchers did not try to attend to the interests of the fishermen as a collective; rather, the researchers approached representatives of their organising body. The

researchers used data, graphs and argumentation to show the decline in scallop stocks in St Brieuc Bay in order to secure the cooperation of the fishermen's representatives. The lack of conclusive literature on scallops and scallop harvesting was used to initially convince the scientists to follow the researchers' project. Further negotiations with the scientists were necessary to convince them that the anchorage was in fact successful and the experiment worthwhile, in spite of inconclusive data.

However, the three researcher's actor-network is eventually destabilised. Their role as spokespersons for the scallops, fishermen and scientists was short-lived. Within a few years the scallop larvae stop anchoring; instead water temperatures, predators and strong currents reorient the scallops' objectives, enrolling them in their own networks. To complicate matters further, renegade fishermen tempted by an abundant catch plunder the (temporarily) increased stock. The fishermen defy the commitment made by their organisational spokespersons. A failure to attend to the individual interests of the scallops and fishermen whose cooperation was required for the policy's implementation resulted in their 'silent mutiny', rendering the network unstable (Callon, 1986b). If the researchers are to satisfy their superiors and retain their research funding, they must now introduce new devices of intersement in an attempt to reconfigure the identities of the actors.

What this analysis indicates is the importance of attending to the interests of all actors, regardless of how their position in the policy network is traditionally perceived. For example, in a consensus conference network, the role played by the lay panel is just as important, in fact more so, than that of the experts who traditionally dominate policy discussions, thus adhering to Callon's notion of general agnosticism. By observing the actions of each of the participants, as Callon has done,

and recognising the important role played by interestment devices such as texts and documents, we are able to establish how the consensus conference network was constructed, the resources used to stabilise it and the durability of the linkages formed.

A Concern With Health

Law (1997: 4) claims that just as it is possible for a 'translated' technology to be the same yet different, "the actor-network theory of (..) the 1980s is the same yet different to the actor-network theory of (..) of the 1990s". According to Law (1997: 4), it would be safer to say that with actor-network theory "we are dealing with a set of diverse practices instead of a single set of principles". In recent years, many actor-network studies have focused on the various socio-technological trajectories that characterise network building in the area of health issues and patients' concerns for their own health (see Haraway, 1991; Star, 1991; Berg and Mol, 1998). The reason for this concentration of research in actor-network studies is as follows.

The notion of 'unity' in medicine dominated sociological literature well into the 1980s; eventually dissolving in the late 1980s as the focus on medicine shifted to the role played by a range of health care providers and their heterogeneous belief systems. Health care was no longer seen as the sole domain of the venerated doctor, but also relied upon the participation of other practitioners, their support structures and the patients themselves. Medical practice was increasingly viewed "as an overrationalized, technocratic and closed system of beliefs, one that was hostile to the human subjects that it was supposed to help" (Mol and Berg, 1998: 4). As sociologists began to question the technocracy, inequality and prejudices in medical sociology they began to identify the 'differences in medicine', challenging the notion

of medicine and its practice as a unified whole and the existence of a unified 'medical society'. Rather, these researchers demonstrated that medicine is an amalgam of knowledge, practices, techniques, instruments, diagnoses and, most importantly, patients. Medical practice itself is a heterogeneous association of approaches to illness and bodies, shaped by the actions of a myriad of health professionals (general practitioners, specialists, pathologists, radiologists etc.). The concept of unified health care gave way to diverse practices, memberships and concerns. But diversity is often viewed as problematic (particularly in a policy-making sense), a temporary state of disarray that must be overcome through such alignment devices as protocols and a shared lexicon. The ANT-inspired group around Mol and Berg (1998) views diversity as a natural and necessary by-product of complex practices and systems, and rather than trying to rectify it, recommends that innovative ways of dealing with it be found.

Thus, the network is often described 'topologically' (Mol and Law, 1994), itself an immutable mobile that, though continuously evolving, remains unaffected by its change in shape and size. Certain actor-network theorists have introduced the terms 'fluid' (Mol and Law, 1994), 'trails' (Cussins, 1992), 'choreography' (Cussins, 1998), and 'ambivalence' (Singleton and Michaels, 1993) to indicate more flexibly demarcated, less stable, more peripheral arrangements in which elements are held together more loosely in a network. These terms also highlight the contingent nature of network construction, where alliances and allegiances are viewed in terms of 'partial connections' and 'multiple memberships' (Haraway, 1991). These substitutes are representative of what actor-network theory itself has become: a series of continual negotiations rather than the definition of individual components and their definitive interactions.

Binding elements spatio-temporally and creating equivalences through disciplining disparate entities are archetypal practices associated with classic actor-network studies. Actor-network theory has transformed as well and according to Latour (1999: 19), “To have transformed the social from what was a surface, a territory, a province of reality, into a circulation, (..) has been the most useful contribution of [actor-network theory]”. The networks that are emerging embrace diversity rather than conformity. The new heterogeneous network maintains its existence partly through incorporating instability and diversity in its very structure (Singleton and Michaels, 1993; Timmermans and Berg, 1997).

Charis Cussins’s (1998) study on the objectification of women infertility patients is an exercise in embracing diversity. Cussins demonstrates a concern for things that do not fit comfortably into a particular socio-technical network; rather she is interested in the inconsistencies contained within (Law, 1997). Against critical sociological and feminist viewpoints that female infertility patients are either rendered helpless or are victimised by reproductive technologies, Cussins argues that a woman’s objectification is partially self-determined. In her desire to become pregnant, by extraordinary means, a female patient objectifies her infertility by passing through a series of medical obligatory passage points that promise to bring about the desired changes.

Dehumanising the female patient and attributing anthropomorphic tendencies to the medical instruments and techniques that aim to transform her identity forge a “functional zone of compatibility that maintains referential power between things of different kinds” (Cussins, 1998: 192). Cussins calls this process ‘ontological choreography’ in order to capture the embracing of that which is different. The early actor-network studies of the 1980s made no allowances for such differences. Actors

and entities that did not comply with a particular objective were approached as elements to be constrained. The focus was on power or, as Lee and Brown (1994) suggest, absorbing the ‘undiscovered continent’ of the other. Cussins, however, is primarily concerned with temporality, though not simply with movement through time rather individual moments in time. Cussins’s study suggests a new temporal network order. With each passing moment a new order emerges, a different configuration of elements and fresh trails. Black boxes are transient and constantly vulnerable to the latest resistance, change or force.

In another health area, the ambivalence perpetuated by the UK Cervical Screening Programme (CSP) has been the focus of numerous actor-network studies (Singleton, 1993; Singleton and Michaels, 1993; Singleton, 1996, 1998). Singleton draws attention to a practice that has operated effectively for almost thirty years, yet is characterised by constant instability and manifold identities. Singleton demonstrates that instability and manifoldness assist the continuity of the program, particularly within the pathology laboratories at the nucleus of the CSP network. While discrepancies detected in the samples sent for examination are commonplace, the majority of samples are processed regardless. The laboratory staff simply note the discrepancies and accommodate them in their reports. In doing so, the laboratory staff effectively deproblematise their role in their CSP network through redefining their own identity and the identity of non-ideal entities, such as inconclusive samples. Thus, Singleton (1998: 101) concludes, aided by Star (1991), that “in our attempts to capture the intricate work by which . . . programs such as the CSP achieve durability and longevity, it is important not to assume that the components of these programs adopt stable identities or inhabit only one domain”.

While early actor-network studies argued that networks achieve stability as the result of a translator successfully defining and positioning a diversity of human and non-human entities to form an actor-network, Singleton's approach differs in that elements are not organised and engineered heterogeneously (Callon, 1986b; Callon et al., 1986a; Latour, 1986; Law, 1987; Latour, 1997). Singleton is not concerned with enrolling participants by forcing them through moments of translations. Rather, she considers the ways in which the constant mobility of all elements, particularly their ability to change their roles and alliances, stabilises the network. In Singleton's study, as in Cussins's, both humans and non-humans are granted agency in a technological network, nevertheless, differences quickly emerge. As translation takes place and the various actors negotiate their position within the network, it becomes apparent that translation will never be a completed process, that block boxes will never be fully closed. Black boxing gives way to repetitive and successive ordering and ambivalence. Law (1997) concurs, claiming that actor-network theory cannot be told as a sequence of events. He believes it is best represented as a series of translations united by instability.

Mol's (1998) application of actor-network theory to atherosclerosis suggests a further deviation from a convergent sequence of events in favour of multiple configurations. Mol identifies a number of different types of atherosclerosis which occur in different parts of the body and which manifest different symptoms, thus making it difficult for doctors to identify the links between them. A textbook description of atherosclerosis, which may connect the complaints associated with atherosclerosis and a diagram of a thickened intima of a vessel wall, suggests there are intermediaries that link the two. However, such links are not measurable in reality. The diversity encapsulated by the multiple performances of atherosclerosis

may be understood as a result of the different meanings attributed to the term. Yet, it is a single atherosclerosis that is often mobilised (Mol, 1998).

Mol's study is similar to those of Singleton and Cussins in that it identifies heterogeneous socio-technical relations between blood, legs, microscopes and doctors, while simultaneously highlighting the inconsistency in those relations, the instabilities. She is also resigned to the fact that stability may be unattainable; there exists nothing other than continual negotiations.

These recent studies on aspects of health demonstrate a transformation in actor-network theory from representing a convergent sequence of events to identifying multiple configurations that embrace differences and instabilities. Just as the notion of a 'unified medical society' has been debunked, so too has the notion of 'unity in expert opinion' on science and technology issues. The debates surrounding new technologies are not only characterised by the spectrum of opinion among expert communities, but also the need to incorporate wider heterogeneous belief systems, including lay, in order adequately to address the range of social, ethical, environmental, economic and political concerns raised by technologies. Therefore an amalgam of knowledge, experiences, values and concerns is needed to effectively address issues such as gene technology in the food chain. The concept of a unified policy network has therefore given way to diverse (participatory) practices (of which consensus conferences can be seen as one), memberships and concerns. But diversity in policy-making is generally seen as problematic. Delimitations on the topic, issues and key lexicon are achieved through the introduction of alignment devices such as boundary defining texts in my case, the Danish consensus conference protocols, and the other documents circulated to, and authored by, different groups of participants, plus a shared lexicon. The ANT-inspired group discussed above has demonstrated

that diversity, as a natural by-product of complex systems, can be incorporated rather than overcome in policy-making practices through the implementation of innovative models such as the consensus conference.

Accordingly, actor-network theory itself has become a 'heterogeneous work in progress' (Law, 1999). The continual evolution of actor-network theory raises and continues to raise a number of interesting questions and issues relating to its theoretical and narrative progression. Actor-network theory has evolved from a sociology of science and technology to a range of different practices which borrow from and reflect other social theories: cultural studies; social geography; organisational theory; medical anthropology; feminist studies; psychology (Law, 1999). Yet, while its elements may be diverse they remain partially connected under the umbrella of actor-network theory.

Rejecting as Unproblematic the Expert/Lay Divide

Actor-network theory is but one approach to science and technology policy analysis that regards policy debates and their outcomes as a consequence of different interests and the power of those interests to influence what counts as knowledge, and the policies such knowledge claims are taken to authorise. Constructivist models such as actor-network theory and the sociology of scientific knowledge (SSK) intend to more adequately inform policy analysts than linear models of science and technology development such as traditional expert-oriented methods of policy-making in which scientific and technical facts are isolated from social forces.

The SSK approach to policy analysis is one of negotiation where dominant points of view are advanced by various forms of power (MacKenzie, 1990; Bijker, 1995). Although actor-network theory has similar elements to its constructivist

counterpart, it makes a significant departure from SSK through the inclusion of other materials and actors previously (notionally) excluded from its policy networks. These 'others' may already circulate within policy networks (texts and technologies) or, alternatively, they may exist on the periphery or just beyond its borders (interest groups, lay citizens and consumers). Actor-network theory reveals aspects of policy analysis that other social constructivist frameworks cannot. First, those frameworks assume that various interest groups have power that is constituted through the social arrangements in which they participate outside of the science policy context. However, assuming that this is the case lets the analyst off the hook. It uses as explanatory something that should be explained: how is power mobilised? How is it revealed? How is it reproduced and organised in the situation at hand? Power, therefore, must be constantly renegotiated. Second, the constructivist frameworks imply that spokespersons are focal, rational decision-makers who represent a particular and popular point of view. This is not to say that worthy spokespersons cannot be all of these things, but their constitution takes place in the course of negotiation. Actor-network theory introduces an opposing argument that supports local and lay knowledge common to post-structuralism in the case of decision-making privileges in policy-making. Third, SSK makes an analogous series of assumptions about the material objects considered in policy-making. Objects such as Callon's (1986a) electric vehicle are generally considered in a social constructivist sense to be embedded in various heterogeneous systems and thus generate competing knowledges and technologies. But if an actor can be peripheral, then so too can an entity. Finally, in order to explain how power is mobilised and actors and entities are embodied, a further and important feature of negotiation, one that is often overlooked, needs to be explored: alignment devices. A key lesson of actor-network

theory is that it is in and through the ‘material arrangements’ of policy networks that decisions are possible (Callon, 1986a, b; Law, 1987, 1994; Latour, 1997).

Wynne’s (1996) problematisation of the boundaries between expert and lay knowledge in a study involving Cumbrian sheep farmers and environmental radioactivity is firmly located in the approach associated with SSK. Wynne’s approach to the expert/lay divide reflects three key SSK tenets: first, its perception that scientific knowledge is shaped by scientific observation and experiment (as per the prevailing theory) of natural evidence; second, its perception that scientific knowledge is embedded in local (laboratory) practices that rely on establishing successful discursive connections between disparate local practices in order to claim universality; and third, partly as a function of these properties, its perception of the inevitable (and indirect) embodiment of subjective interpretation in the constitution of scientific knowledge. These three tenets combine to highlight the intrinsically local nature of scientific knowledge construction therefore allowing an increased recognition of the value of lay knowledge as well as the increased level of interdependence between lay and expert knowledges.

Wynne’s social constructivist approach to the expert/lay nexus, taking to task Beck’s (1992) and Giddens’s (1990) disregard for the value of subjective interpretation of (reflexive) lay knowledge compared to expert knowledge, makes a remarkable departure through its potential to create new forms of epistemic and social order by problematising ‘expert knowledge’. Giddens’s unproblematic definition of expert knowledge assumes an abiding trust by lay people in expert capability and trustworthiness while presenting a diminished view of the intellectual value of lay knowledge. Beck’s concept of the ‘risk society’ presents a rather less condescending view of the lay public by acknowledging the increasing levels of

public mistrust in science and expertise. However, according to Beck, it is the experts who have betrayed themselves by failing to protect society from the unknown risks. Nevertheless, it is the counter-experts who emerged as the heroes by identifying the possibility of unknown risks thereby establishing themselves as representatives of the lay interest.

In challenging the dichotomous views of Beck and Giddens, Wynne (1996: 75) considers the “important political implications in terms of potential redistributions of power and recognised authority to subcultures currently marginalised or outside formal institutional processes”. A narrowing of the dichotomous divide between expert and lay knowledges resonates with the “construction of knowledge as the construction of the hybrid (Latour, 1992) or heterogeneous (Law, 1986) network, necessarily paying no respect to putative boundaries between the natural, social and the artificial” (Wynne, 1996: 75). Nonetheless, while Wynne (1996: 77) cannot accept the view of Beck and Giddens that “non-expert understandings are only represented in public debate and contestation by dissenting expert groups”, he is also quick to point out that his perspective does not support the claim by actor-network theorists that lay or local knowledge is equal to scientific knowledge.

Thus, while SSK proponents and actor-network theorists agree upon the heterogeneous character of order, their opinions diverge with respect to the role non-humans play. For Wynne and his SSK colleagues, their order is purely a social order while actor-network theorists embrace a characteristically hybrid order: humans co-exist with, and cannot exist without, non-humans. Actor-network theorists reject the humanistic ideal of conferring prime importance to humans over other entities. They favour a vocabulary that acknowledges the power generating capacity of non-human

entities while avoiding a vocabulary that is anthropomorphic and inarticulate (Harbers and Koenis, 1996). Accordingly, actor-network theory has developed a number of terms, a vocabulary, which emphasises the interrelated and heterogeneous character of all network entities whether social, natural or technical. Indeed, the actor-network theorists' practice of "including nature and technology as equal participants in the narrative is considered by some to be a more complete analysis of the action observed" (Latour, 1991: 32).

An emphasis on confrontation/negotiation implied by the lay/expert divide effectively epitomises the network construction inherent in consensus conferences. The conceptualisation of the term 'negotiation' by actor-network theorists and their SSK colleagues, however, differs in a number of ways. Actor-network theory's approach to negotiation rejects the notion that power is conferred by social arrangements (thereby favouring expertise over lay knowledge); rather power is mobilised through constant negotiations between network actors. The ability to represent the interests of others so effectively that they are essentially silenced within the network is also constituted within the course of network negotiations. Thus peripheral or lay knowledge, generally excluded from policy networks, is granted equal negotiation privileges in a consensus conference network. Power is further mobilised in the course of negotiations by alignment devices. These material arrangements assist in the stabilisation of the consensus conference network thereby making consensual decisions possible.

Why the Vocabulary of Actor-Network Theory Can Be Fitted to Consensus Conference Units/Processes

What then can be learnt about the role and functions of consensus conferences in the policy-making process when evaluated within the framework of actor-network theory? A key contributing feature to the emergence of this question lies in the weakness of much of the literature to cope with the kind of policy innovation that consensus conferences have introduced. As the popularity of the consensus conference model continues to grow, little is yet known of its usefulness in contributing to public policy-making. The reasons for conducting systematic evaluations of consensus conferences are therefore becoming increasingly important. The model's adoption in new cultural and institutional contexts requires that its organisation and outcomes be monitored. This would certainly assist the argument for introducing the model into further cultural contexts by identifying areas of incompatibility as well as giving an assurance of its effectiveness and adaptability (Joss, 1995). Moreover, the democratising of policy analysis has become a real-world trend. Policy analysis has become more flexible in order to accommodate new actors that have entered the policy process, including interest groups, stakeholders and concerned citizens and to inform more heterogeneously complex policy issues effectively and democratically. Distrust in the role of the scientist has compelled the ordinary citizen to become more circumspect. New and more transparent models of analysis are therefore essential to incorporate a dual strategy: to educate and inform the general public on policy issues and secondly, to enable policy makers to become better informed about the needs of society.

Herein lies a good opportunity to draw upon actor-network theory as a suitable methodological framework for analysing consensus conferences. No other framework is so well adapted to analysing the myriad of heterogeneous elements drawn into the present day participatory policy process. Mayer (1997) argues that effective participation is reliant upon the facilitation of procedures of debate and negotiation on technological issues between many actors distinguished by large differences in responsibility, interests, knowledge and power. As Mayer's argument demonstrates, just as the range of actors who participate in consensus conferences are distinguished by significant differences, so too, are actor-network theory actors similarly distinguished. This *generalised symmetry* allows the observer to weave the various distinguishing elements into a narrative that maps and negotiates the moments of translation inherent in a consensus conference actor-network. Actor-network theory will help map the course of policy-making processes inherent in consensus conferences enabling the observer to ask questions such as 'Who is directing the performances?', 'Whose script/s are they following?' and 'What effect did the changing alliances of actors have on the network outcomes?'. These are not questions with deterministic answers but prompts that allow a thorough interpretation of the situation.

Actor-network theory developed in a more traditional policy context, yet since policy-making has become ever more complex, and old methods and practices of policy analysis have therefore become inadequate. Actor-network theory, too, has developed (rapidly), becoming more complex, necessitating a simplified (re)construction of its various elements and by adopting a new vocabulary and new points of application. By reframing the criticisms directed against traditional policy analysis, actor-network theory can be used to address its shortcomings and therefore

advance our understanding of the role of participation in the policy process. As discussed at the beginning of this thesis (pp. 1-2), the few analyses of consensus conferences that have been conducted have focused only on particular elements of the participatory process rather than the entire sequence. As the literature attests, only now are we beginning to appreciate the benefits of systematic and empirical evaluations of this important and relatively new contribution to policy-making.

THE NETWORK ARCHITECTURE OF CONSENSUS CONFERENCES

The Distinctive Kind of Network that the Consensus Conference is

The consensus conference network is a combination of groups whose representatives are constituted in panels (lay, expert, steering committee and audience) with relations between them. These representatives extend beyond the more established traditional policy networks. In traditional policy-making, experts, analysts and industry are all viewed as stakeholders even though they represent, in a pluralistic sense, different interest groups (Cronberg, 1995; Mayer, 1997). Citizens and consumers are not considered stakeholders and are therefore situated outside the actor-networks that have a legitimate stake in technology policy. Actor-network theory contests this exclusion. Citizens and consumers, even technologies are all viewed as legitimate representatives. Through mobilisation they are able to express their views and to influence technological decisions. They are general stakeholders in technological decision-making. Their participation may influence expert views and affect technology policy-making, and their interaction will always result in social learning for the participants, as well as for the audience (Cronberg, 1995). An actor-network analysis of a consensus conference must therefore highlight the provision of agency and power to non-experts in the policy-making process.

How, then, are policy networks that embrace such diversity stabilised until they have delivered what they were designed to deliver? While some actor-networks embody fluid and informal ‘spaces of negotiation’ others, like the consensus conference policy network, are more regulated ‘spaces of prescription’ bound by formal protocols, conventions and established procedures. Yet these procedures are open to negotiation and interpretation by a network of actors who seek to reconfigure material resources on their own terms, dependent on what Law (1994) refers to as their own ‘centred subjectivities’. The product of the consensus conference network, its consensus statement, is therefore an amalgam of individual and heterogeneous interests arrived at through Callon’s (1986b) notion of *interessement* whereby boundary-defining texts, such as the Danish protocols, provide an obligatory passage point through which the network actors must pass.

Innovative participatory policy models such as the consensus conference are often viewed as symbolic; a conciliatory gesture to appease mass publics. If the consensus conference is to be anything other than symbolic, it needs to enrol key stakeholders into a defined network in the pursuit of shared goals, representative spokespersons to command the trust of unheard others and a knowledge base of credible and accessible science. This presumes that trusted and respected actors can be easily enrolled to represent complex sectors, but the practical difficulty of achieving this places limits on the comprehensiveness of a consensus conference network, exposing it to risks of external challenge. Nevertheless, it is clear that a consensus conference network may be seen to stabilise when a range of influential representatives sign up to an agreed strategy. Three particular features of consensus conferences are worth noting.

1. Consensus conference networks are short-term

The general image I present of the consensus conference is that of a dynamic, temporary network where groups of actors are generally recruited, mobilised and disbanded within a period of 12-18 months. The consensus conference network is a temporary alliance connecting a range of actors capable of contributing something valuable to a short-term project. Such temporary networks are created specifically within rigorous constraints imposed by time, money and performance to achieve a specific objective, and cease to exist after the objective is attained or abandoned. It is therefore of great tactical and strategic importance to develop very rapidly a committed, interactive, and participative alliance of network actors in order to facilitate a seamless flow of knowledge throughout the network trajectory.

Of the constraints imposed upon the Australian conference network time played a particularly important role, one which had an indelible effect upon the network outcomes. While time and representations of time as a principal, albeit indirect, means for managing networks has played a part in constructivist literature (for example, Brown, 1998), previous studies have generally ignored or downplayed the particular importance of time constraints inherent in actor networks. Time constraints serve as a function to meet deadlines and schedules built into the conference protocols and other network texts that govern the actors' code of behaviour, playing an important part in regulating and standardising the passage of time in the consensus conference network. Time constraints also function as both a means and a boundary of network organisation, whereby temporal dimensions of ordering help to shape the structure and performance of the conference network.

The temporal process of constructing the Australian consensus conference network was problematical from the outset. The steering committee's preliminary

timetable was reduced by two months in order to meet the timeframe for possible input into government gene technology policy processes. This temporal adjustment produced wide-ranging and ongoing consequences for the network. A lack of time resulted in a number of steering committee members writing the briefing paper, which is generally the domain of journalists. Initial negotiations between the steering committee and the Australian Museum regarding the Museum's communications responsibilities, in particular, pre-publicity of the consensus conference, also failed partly due to time. Time constraints also forced the cancellation of the 'hearing of interested parties', resulting in the marginalisation of a range of social, political and technical actors from the conference network. Limited time to formulate the key questions, central to the role of the lay panel, meant that it had to entrust the facilitator and the professional writer with the final wording. Furthermore, the lack of time and information available to the lay panel regarding the selection of the most suitable expert speakers meant the panel also had to delegate the selection of a number of experts to the facilitator and steering committee. Formal interactions between network actors were also hindered by time constraints, particularly during cross-questioning sessions, marginalising a significant number of audience members. Finally, and most notably, time constraints on the lay panel's negotiations during the report writing process forced panel actors to reach 'agreement by attrition'. Hence, time constraints are an important condition for pushing a variety of decisions in a particular, perhaps unintended, direction right from the planning and preparatory stages of the consensus conference.

While I have chosen to frame the consensus conference as a short-term network other consensus conference analysts and practitioners have presented different images of the model. Four additional images are especially prevalent. First,

the Australian Museum's (1999b) view of the consensus conference, published on its conference website, was essentially one of courtroom drama where consensus on the balance of probabilities based on the evidence submitted – not truth – is sought:

It works like a 'citizens' jury'. The citizens decide the 'key questions' they want to ask the speakers. The speakers 'give evidence' (which can be conflicting), the citizens cross-question them, and then retire to develop their recommendations on the key questions and come as close to consensus as possible. This 'verdict' is published as a report, available to government, industry, scientists, the media and the community.

The judicial metaphor is often applied in participatory policy analysis to indicate an "open forum, following an advocacy procedure, presided by a neutral chairperson and a panel which draws conclusions" (Mayer, 1997: 57). The metaphor has been carried forward from science courts and citizens' juries (precursors to the consensus conference model), which were heavily inspired by the Western jury system, to be occasionally and inappropriately applied to consensus conferences (Crosby et al., 1986). While certain elements of judicial practice and the consensus conference model clearly overlap, the jury metaphor compounds the adversarial nature of the expert's contribution to the consensus conference, resulting in a polarised debate. So, rather than facilitating broad public debate from a plurality of perspectives, the jury metaphor suggests that the consensus conference model facilitates debate from a duality of views. That view is inconsistent with the model's aims.

Second, the general conception of consensus conferences, however, is as a supplement to bureaucracy. Consensus conferences, as examples of participatory democracy, are not meant to replace more traditional representative democratic

decision-making processes where popularly elected officials make-decisions on behalf of their constituents. Rather consensus conferences aim to demonstrate that policy-making is capable of blending elements of representative democracy with participatory democratic criteria (participant learning and empowerment) to accommodate a broader range of interests, values and worldviews.

The third image is of a parliamentary debating chamber where formally elected representatives are brought together to debate matters of general importance. The process of parliamentary debate shares a number of common elements with the consensus conference process. Both recognise the importance of all ‘members’ having an opportunity to contribute to the discussion of the issues and that any decisions reached reflect the views of the majority. Similarly, debate is conducted according to a set of rules that govern the way debate is conducted and ensure that decisions are made without undue delay and, at the same time, to allow all points of view to be considered. Rules of (Australian) parliamentary debate are especially analogous to consensus conferences, outlining: “how a subject is to be presented; the order of speaking; how debate is to be kept relevant to the matter in hand; how to avoid wasting time; how order is to be maintained – i.e. debate kept methodical and disciplined” (Parliament of Australia, 2002: 1). It is therefore the task of the person chairing the debate to enforce the rules of debate and maintain order. The chairperson alternately ‘calls’ upon members from opposite sides of the chamber to speak before the House.

A fourth and more recent image projected by the consensus conference is of a university seminar or symposium. As this image suggests, a small group of people with an interest in a particular subject meet to discuss the issues it raises. Discussion

is generally intensive and the topic investigated thoroughly over a short period of time.

These prevailing images of the consensus conference process have emerged as a result of the various locales within which conferences have been held internationally. The judicial metaphor, however, has persisted as a result of those elements of the consensus conference that have been drawn from its predecessors, the science court and citizens' juries, not because conferences have been held in courtrooms. The staging of Danish conferences and, of course, the Australian conference in parliamentary buildings has helped to reinforce the image of the parliamentary debating chamber. Likewise conferences in the UK and in Canada were held in university halls or conference facilities, evoking an image of the consensus conference as a university seminar.

2. Consensus conference networks can be self-monitoring

Unlike the traditionally conceived conference format, consensus conferences often incorporate an element of self-evaluation, as was the case in the Australian conference. This institutional reflexivity is a common characteristic of the model as most organisers are keen to assess the quality of the organisational processes. The knowledge construction inherent in consensus conferences is short-term and mutable and, consequently, institutional reflexivity enables ongoing revision of network practices that may lead to a reordering of the existing social relations.

3. Consensus conference networks need not have an institutional base

Unlike its Danish and, to a lesser extent, its Dutch counterparts, the Australian consensus conference network had no permanent institutional base. Consequently, it lacked a direct and established connection to political power and was thus forced to

create its own power base: a personal rather than institutional base. The conference network organisers positioned powerful or seemingly powerful people as the spokespersons for the emergent network in order to enrol those actors necessary for its completion. Enrolment in the conference network was heavily influenced by the respect held for the Chairperson and by the ACA's involvement. A lay panel member admitted to agreeing to participate in the consensus conference "because of Sir Laurence's involvement" (L9), as did an expert speaker who thought, "Sir Laurence lent a certain sense of gravity to the situation" (E12). Likewise, a second expert speaker agreed to participate because he "was contacted by the ACA", an organisation which he respected (E2). The impact of trusted and respected actors on a network was also demonstrated by the influential role played by the steering committee members.

The notion of network stability is referred to by Callon's definition of a successful process of translation as one that "*generates* a shared space, equivalence and commensurability. It *aligns*." (Callon, 1991: 145). An unstable network, therefore, is one where the actors no longer communicate or comply with their translators but choose to reconfigure themselves in a separate network. If network stability is to be maintained then compromise and negotiation with the dissenting parties must be entered into, perhaps through mediation in an attempt to enrol the support of new 'others' and move towards consensus. Thus, in a consensus conference network, the facilitator occupies a powerful mediating and stabilising role by convincing when necessary lay panel members that it is in the interest of the panel as a whole to reach a compromise and move towards consensus. It can be said that the facilitator adopts a strategic position in order to protect and consolidate the interests of the lay panel. Such strategies by the facilitator are contingent, but

through alignment devices (protocols outlining the facilitator's pivotal role in the consensus conference network) they may be made more stable.

Elements that Stabilise the Network

The entire consensus conference sequence from idea to outcome can be thought of as a construction of a network to achieve at least one immediate goal. That goal is a single potential policy input, a consensus position described in the lay panel's report. In order to achieve its goal, the network needs to be recruited, stabilised and made to produce its consensus statement. But how is it that a range of disparate actors, including lay and expert, are mobilised to achieve that particular goal and what are the stabilisation devices which enable, or fail to enable this goal to be reached? In the context of the first Australian consensus conference, three key alignment devices emerge: texts, money and people. Yet it is clear from evidence gathered that some of these network stabilisation devices function poorly or not at all. That is, they departed from their intended use as defined in the Danish protocols or from the ways in which they were used to function successfully in other countries. This thesis will demonstrate why they were weak and what importance that weakness had for the kind of policy outcome the consensus conference achieved. The role and extent of these powerful stabilisation devices in networks is a vital issue for analysis.

1. Texts

Texts enable the analyst to track the sequence of documentary production from the preliminary preparation stages of the consensus conference process through to the event's conclusion with the presentation of the lay panel's consensus statement. Earlier documents help to determine what gets into, and what is excluded from, the later ones. After all, the final product of the consensus conference, its policy input, is

a document. Texts also help to determine who gains access to, and who is excluded from, the consensus conference process. The text, in its many guises, was employed by the Australian organisers to construct a black-boxed consensus conference network. A clear sequence of documentary production, or lack thereof in some instances, is evident throughout.

A range of texts encompassing procedures (Danish protocols, Australian guidelines), planning (preliminary agendas, steering committee minutes, journalists' brief, communications strategy), preparation (briefing paper, newspaper articles, list of possible expert speakers) recruitment (advertisements, recruitment methodology, contracts, memorandums of understanding) and evaluation (evaluation terms of reference, Phase 1 and 2 evaluation reports, Avcare and OGTR responses to the lay panel's report, media reports) were used to stabilise the Australian consensus conference network. Though not formally inscribed or any less powerful were the opening and keynote speeches, experts' presentations and the Senate President's acceptance speech.

How is it that these immutable mobiles are capable of exerting power upon, or display weaknesses within, the preparatory weekends network? According to Law (1986), texts exert power in two ways. First, power comes from the way in which texts, juxtaposed with the right mix of actors and entities, create a stable network. They are the location in which the network is realised. Second, power is also embodied in words, the scripts contained within the texts. As the evolution of the consensus conference is outlined, the strength or weakness of texts and their implications for the enrolment of network actors will be illustrated in detail.

2. Money

Money too plays an important role in shaping the consensus conference process. The majority of consensus conferences held throughout the world have been dependent upon a number of funding sources, with only limited amounts coming from government. Apart from those held in Denmark and the Netherlands, a growing number of consensus conferences have been organised by non-governmental bodies such as universities and consumer organisations that traditionally lack sufficient resources to be the sole provider of funds.¹⁶ Depending on the institutional arrangements of the conference, organisers may need to source additional funds from sponsors. Sponsors may, as a term of their agreement to provide funds, demand a certain level of control over the process to ensure that their sponsorship funds reap the required benefits. Moreover, the relationship of sponsors to organisers may involve that of an alliance or even inducement. It is imperative to track where funds have come from, how they were distributed and how they affect the relationship between the (neutral) organiser and (mostly stakeholder) sponsors. Thus, the source of funds may have an influence upon a conferences' perceived neutrality or partiality. Moreover, monetary rewards for participation are a powerful agent of recruitment of network personnel, both expert and lay. To enrol participants in the Australian conference, per diems covering travel, accommodation and food were offered by the organisers as a symbolic payment for time donated. So, too, is money needed to promote crucial media support. A lack of sufficient funds may result in a lack of media opportunities, which places significant limitations on the network's communication of its final product.

¹⁶ For example, consensus conferences in the United States and Canada have been organised by universities while both the Australian and New Zealand consensus conferences were organised by consumer organisations. For further examples, see Loka Institute (1999).

3. People

People are also central to the operation of the consensus conference process. The choice of particular people, qua their possession of particular skills (facilitator, professional writer, publicist), qua their expertise (expert speakers) or lack thereof (lay panellists), qua their reputation (chairperson) or qua representatives of organisations (steering committee members, conference coordinator), can have a stabilising or disruptive effect on the consensus conference network. The steering committee occupies a core organisational role; while the chairperson and facilitator play a key coordinating role, moderating the interactions between the lay panel, expert speakers and the audience; and the conference coordinator and professional writer play utilitarian roles, providing practical support to the lay panel during the report writing process. These network actors are required to balance their professional duties against the maintenance of critical distance, thus avoiding any influence over the process and its outcomes. However, as we shall see, comments made by members of the steering committee, lay and expert panels reveal that this was not always the case. For example, the role of the chairperson and facilitator was to govern the interactions that are permitted. However, in practice, further issues arose out of the way that these roles were actually played by the individuals who filled them.

CONCLUSION

The application of actor-network theory's neutral vocabulary poses many risks. Yet, no other vocabulary is better placed to incorporate those actors who are presently excluded from technological decision-making processes and who are faced with the products of new technologies (Lee and Brown, 1994). Actor-network theory enables

the representation of these ‘others’. In opening up policy networks to include others, it is only fair that as members of networks, observers see them as equal. Thus signifying actor-network theory’s unique approach to the study of power. All things being equal, the observer is then in a position to follow the production of inequalities within a network by such procedures of translation, interessement, enrolment and the creation of obligatory passage points.

Furthermore, while this thesis focuses on the inclusion of ‘other’ actors who are traditionally peripheral to policy networks, what has not been discussed is the role played by ‘other’ entities such as technologies. While I recognise that the inclusion of ‘all others’ is an important tenet of actor-network theory, it is one that does not fall within the scope of this thesis. The personification of gene technology or some other technology in consensus conference networks would therefore be an ideal area for further study. With that limitation noted, I shall now move on to the description and analysis of the primary components and stages of the Australian consensus conference.

3. Enrolling the Cast: Introducing the Actors

ORIGINS OF THE FIRST AUSTRALIAN CONSENSUS CONFERENCE

The Australian Consumers' Association (ACA) began provisional planning for the first Australian consensus conference in late 1997. The conference was the brainchild of Carole Renouf, then Senior Policy Officer with the ACA. While working in the United Kingdom in 1994, Ms Renouf saw literature distributed by the Science Museum about the first UK National Consensus Conference (UKNCC) and wanted to try to introduce the methodology of consensus conferences to Australia in response to the perceived political climate. The ACA's reasons for implementing a consensus conference were twofold: feedback received from the consumers represented by the ACA indicated they were "feeling very alienated . . . , were losing faith and trust in the government decision-makers and . . . were increasingly suspicious of industry decision-makers; and the kind of climate that ACA was seeing under this present government, namely Liberal government, was that government and industry were getting extremely close and cosy together and consumers were increasingly being squeezed out of the decision-making picture" (S3).

However, the ACA's position as a consumer lobby organisation did not have the impartiality that could provide the necessary credibility for a successful consensus conference. "Given that the issues considered in consensus conferences are by definition socially controversial and that the [lay] panel, as key actor in the proceedings, should be able to fulfil its role with no undue influence or pressure brought to bear on it the independence and impartiality of the organisers [are] seen as

crucial” (Joss, 1998b: 302). Accordingly, for reasons spelled out below (p. 79) the ACA approached the Australian Museum in mid-1998 to convene the conference.

Initial funding of \$49,000 from the Myer Foundation had been secured by the ACA in early 1998 enabling the commencement of preliminary preparations, including the formation of the key organising body, the steering committee. This committee was formed in mid-1998 as a result of an informal and unsystematic process. Foundation members Carole Renouf (ACA), Dr Gary Morgan (Australian Museum) and Professor Arthur Brownlea (Griffith University)¹⁷ selected committee members to represent a plurality of stakeholder views or for their impartiality.¹⁸

Chaired by Sir Laurence Street, who was appointed by the Australian Museum in August 1998, the steering committee included a mix of academics, journalists, public servants, representatives from science, industry and non-government organisations, and from the CRC (Cooperative Research Centre) and RDC (Research Development Corporations) sponsors. The CRC and RDC sponsors insisted upon representation as a term of their sponsorship bringing the total of members to 17. During the period August 1998 to January 1999, the steering committee met on three separate occasions to begin preparations for the conference, including the recruitment of the remaining cast members. The formation of such a large committee enabled the delegation of recruitment and organisational

¹⁷ Professor Arthur Brownlea, an academic who had worked in environmental sciences and psychology and had a strong interest in social justice, met Carole Renouf at an international meeting to discuss the consensus conference as a model for public participation in science and technology held at the Science Museum in the UK in 1995.

¹⁸ The membership of 17 was: Sir Laurence Street (former Chief Justice of New South Wales); Professor Snow Barlow (Agriculture, Fisheries and Forestry Australia); Dr Bob Seamark (Cooperative Research Centre for Biovertebrate Control); Dr Kevin Ward (Commonwealth Scientific and Industrial Research Organisation); David Butcher (World Wide Fund for Nature); Dr Lyn Carson (University of Sydney); Dr Ronnie Harding (University of New South Wales); Rosemary Stanton (Nutritionist); Professor Arthur Brownlea (Griffith University); Carole Renouf (Australian Consumers’ Association); Dr Paul McNeill (University of New South Wales); Wilson da Silva (Science Communicator); Julian Cribb (Commonwealth Scientific and Industrial Research Organisation); Professor Emeritus John Lovett (Grains Research and Development Corporation); Virginia Greville (Agriculture, Fisheries and Forestry Australia); Claude Gauchat (Avcare); and Dr Gary Morgan (Australian Museum).

responsibilities to numerous subcommittees. Consequently, five subcommittees were established to oversee a range of fundamental processes in the consensus conference network: a communications subcommittee comprising Carole Renouf (ACA), Virginia Greville (AFFA), Wilson da Silva (Science Communicator), Julian Cribb (CSIRO) and Rosemary Stanton (Nutritionist); a lay panel subcommittee comprising Dr Lyn Carson (University of Sydney), Carole Renouf (ACA), Professor Arthur Brownlea (Griffith University) and Dr Gary Morgan (Australian Museum); a facilitator subcommittee comprising David Butcher (WWF), Professor Snow Barlow (AFFA) and Dr Paul McNeill (UNSW); an evaluation subcommittee comprising Professor Arthur Brownlea (Griffith University), Carole Renouf (ACA), Claude Gauchat (Avcare) and Professor John Lovett (GRDC); and an expert speaker subcommittee comprising Carole Renouf (ACA), Professor Ronnie Harding (UNSW), Dr Kevin Ward (CSIRO) and Professor Snow Barlow (AFFA).

Following advice received from overseas counterparts, the ACA and the Australian Museum established an initial project outline and timeframe suitable to the Australian context and budgetary constraints. According to newspaper reports in April/May 1998, the first Australian consensus conference was initially planned for October and then postponed to November 1998 (Green, 1998; O'Neill, 1998). While a range of sponsors had promised sufficient funds, some were slow in honouring their commitment thus forcing organisers to reschedule the conference for May 1999. At its first committee meeting in August 1998, the steering committee was informed of the federal government's timetable for drafting the new regulatory framework by one of its members, Virginia Greville (AFFA), who worked for a key federal government department involved in the drafting of the new regulatory framework. In order to precede, and therefore hopefully inform, the new regulatory

framework for gene technology due to be launched on 13 May 1999, the steering committee decided to hold the consensus conference in March 1999 to afford the lay panel the best opportunity to provide input into the regulatory decisions. This left the steering committee with just eight months to prepare for the consensus conference. Due to its extensive experience in planning and staging consensus conferences and the fact that this process is highly institutionalised in Denmark, the Danish Board of Technology normally begins planning a consensus conference only six months in advance. However, Joss (1995) recommends that preparations for a consensus conference begin at least twelve months in advance, particularly where a conference is to be held for the first time in a new cultural and institutional setting, as an extended period of preparation is necessary to allow for its effective conceptualisation. The speed with which the Australian consensus conference – a technique of which no one had any experience – had to be organised was therefore very great and could be expected to produce difficulties at several steps.

THE CAST/NETWORK CORE MEMBERS

The designated role of each of the groups that participated in the networks that made up the Australian consensus conference generally followed the script outlined in the standard set of protocols developed by the Danish Board of Technology. The core features of the protocols comprise: (i) an overview of the Danish consensus conference model; (ii) a list of important characteristics regarding suitable topics and the process itself; (iii) descriptions of the roles participants play; (iv) the order of succession including organisation and planning, the consensus conference proper, the final document and its dissemination; and (v) the identification of problems caused by the pressure of time and in the selection of participants. The protocols

advocate that the range of participants in the network must be familiar with their roles and tasks as this is essential to the successful functioning of the consensus conference process. Moreover, it is worth noting that the role participants actually play and the outcomes they expect from participation may deviate from the Danish script. It is essential therefore to distinguish between the values, assumptions and goals of the implementers and the actual participants. It may be that various participants have a different conception of participation and this may have repercussions for the course and outcomes of the consensus conference. It is assumed that participants have a variety of reasons for wishing to discuss the issues under consideration; they may also have differing values, assumptions and goals vis-à-vis the issue of participation. Stakeholders and other actor groups may abstain from participating because they cannot identify with the aims and goals established by the organisers (as was the case with the Australian Food and Grocery Council), thus putting in question the very aim of the consensus conference. These factors, as well as differences in personality and competences within the groups themselves, have the potential to destabilise the network of alliances. Furthermore, the latent hierarchy between experts/lay, organisers (steering committee and the facilitator) and lay participants has the ability to subvert the network, in spite of the level playing field supposedly created by the protocols. I shall therefore turn to the roles of the key elements in the network (in the order in which they were recruited) and describe their composition and relationships: organiser, project manager/conference coordinator, steering committee, journalists, publicist, facilitator, lay panel, professional writer, experts and evaluators.

Organiser

Joss (1995b: 104) states that “Ideally, a consensus conference should be funded and organised by an independent and publicly accountable national institution that is recognised as an instigator of public debate on science and society”. Museums are increasingly occupying the interface between science and the public, creating forums for discussion revolving around social issues and the Australian Museum’s mission to promote public debate on human interaction with the natural environment reflects this (Australian Museum, 1998b). In its choice of organiser, the Australian consensus conference model followed the British model – the Science Museum occupied the same organisational role in the UKNCC (Joss, 1995, 1998b) – and was deviant with respect to the Danish model. It was the role of the Australian Museum as organiser to provide, in the public interest, independent, committed, transparent and accountable leadership and management throughout the duration of the conference. The Museum’s own guidelines (informed by the Danish protocols) state that “it is critical that the organising body be, and be perceived as, impartial and uninvolved in the topic chosen for the conference” (Australian Museum, 1998c: 8)

Initially the Museum, funded by the federal government under the auspices of the Ministry for the Arts, appeared to be an ideal convenor and was not associated with any specific interest in the issue of gene technology. However, during the lead-up to the consensus conference, the Museum’s Director, Professor Michael Archer, attracted extensive media coverage with his controversial comments about the prospect of Thylacine (Tasmanian Tiger) cloning. While an interest in genetic technologies is not explicitly stated in the Museum’s mission to “increase understanding of, and influence public debate on, the natural environment, human societies and human interaction with the environment” (Australian Museum, 1999c),

it is in the Australian Museum's 1999 announcement of the establishment of the Rheuben Griffith's Trust. Launched to fund research into the cloning of the Thylacine, the Trust will work in conjunction with the Garvan Institute, New South Wales' premier genetic research institute, on this project (Australian Museum, 1999d). While the Australian Museum's involvement in cloning research appears to have had no direct impact on the consensus conference process, it did cast doubt on its perceived impartiality on the issue of gene technology.

The Museum therefore developed its own set of guidelines to detail the mission, accountabilities and tasks of the organiser, steering committee, experts, lay panel and the facilitator, and the recruitment strategies for the lay panel and expert speakers. The guidelines identify the general tasks of the organiser as: managing the project and finances within the agreed timeframe and budget; responsibility for planning and organising the communications strategy; facilitating sectoral interests on the steering committee and expert panel to ensure the independence of the lay panel's deliberations; promoting openness and transparency through the provision of publicly-available project documentation; and assisting the evaluation of the project as required.

With respect to the steering committee, the organiser was responsible for: establishing a committee whose members possess a variety of expertise relevant to the topic; providing an independent, respected and capable chairperson for that committee; servicing the administrative needs of that committee; drawing on the committee's expertise and contacts to facilitate the work of the lay panel; and ensuring that the committee worked towards consensus. The organiser was also responsible for recruiting, accommodating, supervising, and providing administrative support for the project manager, facilitator, lay panel and expert speakers. In

addition, the organiser was responsible for the planning and organisation of the consensus conference, as well as the production and dissemination of the product of that process, the lay panel's report.

Project Manager/Conference Coordinator

The Australian Museum provided the services of a (junior) staff member, Dana Jones, as a conference coordinator, in lieu of a project manager, for a seven-month period. Although this position was eventually funded by the steering committee. There is little in the documentation drawn up for the Australian consensus conference that explains the role of either the project manager or the conference coordinator. The conference coordinator rates a brief mention in the outline of the role of the organiser, but only with respect to its provision of supervision and administrative support to the coordinator (Australian Museum, 1998c).

In the Danish context, the project manager is responsible for the day-to-day management of the consensus conference, including the recruitment of the facilitator and lay panellists, contacting potential expert speakers, managing the project's finances and media contacts and providing practical assistance with the production of the lay panel's report. Most importantly, the project manager should in no way influence the attitude or the focus of the lay panel throughout the course of the debate and particularly during the process of writing the report (Grundahl, 1995). Occasionally Carole Renouf herself assumed the mantle of project manager, blurring the boundary between project manager and steering committee/stakeholder member. Moreover, the bulk of the project management duties were undertaken by the steering committee in the Australian context. One explanation for the shift in responsibility may be that the Australian steering committee, consisting of 17

members, was larger than its European counterparts and therefore able to appoint numerous subcommittees to undertake various tasks, including the recruitment of the facilitator. However, due to the undocumented role of the project manager, problems emerged.

The protocols allow the project manager to attend the preparatory weekends to provide administrative support to the facilitator. The conference coordinator fulfilled this role at the Australian consensus conference. However, the coordinator developed friendships with some members of the lay panel spending time with them socially and in between meetings. They particularly looked to her in times of stress for emotional support. While the majority of lay panellists insisted the conference coordinator did not influence their views, one lay panel member thought that her personal association with the panel was unwarranted. That, the conference coordinator should have maintained a professional relationship with the lay panel was expected in order to ensure its independence.

Steering Committee

The role of the steering committee in the consensus conference was defined by the Australian guidelines as one of responsibility for the steerage of the project, whilst at all times maintaining integrity, rigorous impartiality, a broad plurality of views and an adherence to the international protocols for consensus conferences. The steering committee was accountable to the Australian Museum, while providing assistance to the Museum's conference coordinator. A critical factor to establishing credibility within the organisational make-up of a consensus conference is the creation of an impartial and broadly representative steering committee. If the host organisation and the project manager/conference coordinator have had no previous experience in

organising a consensus conference, as was the case in both the Australian and UK consensus conferences (see Joss, 1998b) then they must look to the steering committee for support. The steering committee, therefore, plays a key role in setting the agenda for the conference – a situation that resulted in a strained relationship with the lay panel of the UKNCC (Joss, 1998b).

The guidelines issued by the Australian Museum identify the criteria for composition of the steering committee as having between four and 12 members (the European equivalent is three to five) who, if representative of stakeholder interests, must represent a plurality of views. The benefits drawn from forming such a large committee may include opportunities for participant learning about other's points of view and about the value of the process per se. The presence of CRC and RDC representatives on the steering committee was, however, deemed political and controversial, generating criticism from other stakeholders including the Australian Food and Grocery Council (which declined membership) and the GeneEthics Network (which sought representation but was refused on the grounds of perceived bias). Accordingly, achieving a balance of government and non-government stakeholder interests is important to avoiding claims of bias. While the steering committee did represent a 'broad plurality of views' by virtue of its size, it lacked suitable representatives from government or biosafety agencies and from ethical and religious groups. Joss (1998b) has warned that a perceived imbalance in the composition of the steering committee may lead to criticisms of bias and attempts to influence the lay panel.

The steering committee members overwhelmingly stated that their interest in participating was due to the 'novel' process being used, with one member perceiving it as a "new method to promote informed debate in Australia" (S4). Another steering

committee member agreed that he was “interested in the methodology of the consensus conference. I want to evaluate how it might be applied to any future major issues. Based on that, I decided to get involved at the steering committee level” (S5).

Journalists

Two journalists, Kathy Graham and Robyn Stutchbury, were assigned the task of compiling the lay panel briefing paper from source material provided by steering committee members, in accordance with Danish practice. The journalists were encouraged to work from the source material alone, which covered the spectrum of views and attitudes pertaining to gene technology. The journalists were also provided with a brief that outlined the general requirements for the briefing paper, including its length, tone and content. However, the steering committee was dissatisfied with the final product and took it upon itself to complete the paper in order to compose a fair and balanced document.

Publicist

The role of the publicist, like that of the project manager/conference coordinator, was not documented in either the Danish protocols or the subsequent Australian guidelines. Consequently, there was some confusion as to where the responsibility for public relations lay. The Museum ignored explicit statements made in the protocols that defined the role of the organiser as responsible for planning and organisation of the public relations/media strategy, including availing its members of interviews and press conferences (Australian Museum, 1998c: 8). The Museum operated a public relations department and the steering committee assumed (based on the ‘Role of the Organiser’ outlined in the guidelines) that as part of the Museum’s pro bono contribution to the conference they would oversee the publicity.

The Museum argued that they were 'lean' in terms of resources, and though the steering committee negotiated a publicity budget of \$20,000, the Museum continued to shirk responsibility for publicising the consensus conference.

Though it was recognised that a comprehensive communications strategy was integral to stimulating public debate, the subsequent development of the strategy by the communications subcommittee still failed to adequately articulate the role and responsibilities of the publicist. An external publicist, Jude Bourguignon, was recruited to the consensus conference network in late 1998. However, insufficient resources, the lack of a clear expectation of the publicist's pro bono contribution and a breakdown in communication between the subcommittee and the publicist resulted in the publicist reconfiguring her role in a way that it did not include promoting the conference to the public in order to stimulate attendance. Though this objective was not explicitly stated, it was implicit in the general text of the communications strategy that this will be achieved. Further negotiations between the two parties failed due to a lack of time and money. There was not enough time to secure additional sponsorship funds to retain the publicist so responsibility for pre-publicity was eventually forced upon the Australian Museum, the ACA reminding the Museum of its obligations as outlined in the consensus conference guidelines.

Facilitator

The facilitator occupies a pivotal role in the successful operation of the consensus conference. The role of the facilitator involves smoothing the progress of the work of the lay panel, including managing its interaction with the expert speakers and the audience throughout the duration of the preparatory weekends and conference proper by focusing attention on the key questions relevant to the debate (Grundahl, 1995;

Australian Museum, 1998c). The degree of control that the facilitator exercises over the lay panel should be ascertained in agreement with the project manager and the lay panel in advance to the consensus conference. In this case the facilitator was accountable to both the Australian Museum and the lay panel in terms of ensuring that tasks were performed effectively and efficiently, while creating a suitable environment of group cooperation. The facilitator managed the preparatory weekends and acted as an intermediary throughout the consensus conference, assisting the lay panel in its deliberations and interactions with the expert panel and overseeing the report writing process. The Danish practice is for the facilitator also to chair the conference. However, the steering committee appointed a separate chairperson, though both worked side by side throughout the conference proper.

The role of facilitators and their interactions with lay panels are fundamental to the consensus conference process, and their relationship with the lay panel allows them the potential to exert more influence on it than even the steering committee. However, to date, no analysis has been undertaken to determine the best method of facilitation in order to avoid this. In the Australian case, members of the steering committee were invited to recommend suitable candidates for the position of facilitator, forming a subcommittee to oversee this matter. The facilitator subcommittee deliberated for some time on whether to choose an interventionist or a non-interventionist facilitator. They decided to delegate the decision between two short-listed candidates to the steering committee. The steering committee voted unanimously to appoint Sheena Boughen, an educator and interventionist facilitator, at the second steering committee meeting held on 16 November 1998 (Australian Museum, 1998e: 3). In spite of Boughen's past role as a Greenpeace activist her educative philosophy and interventionist skills – assisting groups to work through

their incompatibilities that may challenge their ability to reach consensus – was viewed as particularly pertinent to the role of facilitator. Nevertheless, the steering committee recognised the intrinsic risk in appointing a facilitator known to have strong political views as it would limit its own ability to control the influence such a facilitator would have on the process and on the lay panel’s deliberations.

Boughen was emphatic about a hands-on approach, involving team building exercises that aimed to transform the way the lay panel worked together to ensure that both the potential of the individual panellists and the group was realised. While the lay panel members generally found the team building exercises helpful, some commented they took up too much time from the already intensive preparatory weekends. The relationship between the facilitator and the lay panel can be a problematic one. In the case of the UKNCC, the lay panel suspended their collaboration with the facilitator, even going so far as to banish the facilitator from the report writing process (see Joss, 1998b). In this case, the facilitator’s approach was often described as “intrusive” or “overpowering” (Joss, 1998b: 316). While the Australian facilitator’s approach was generally applauded throughout the lay panel’s deliberations, one lay panellist reported the facilitator to be “highly directive and controlling throughout the preparatory weekends. The focus was primarily on her” (L3). The facilitator plays an important mediating role in the interactions between the lay panel and expert speakers and the experience of both the Australian and UK consensus conferences indicates that this role is fraught with difficulties, and highlights the need for clearer specifications of the designated role.

Lay Panel

It is essential that lay panel members do not possess expertise or a particular interest in the topic. Nonetheless they must have the capacity to be reasonably articulate, particularly when communicating with experts. Physical and emotional fortitude is also required to deal with the demands of the task. The role of the lay panel is also defined as one of commitment: commitment to the consensus conference process, to becoming informed (through discussion and debate with the experts and each other) about those aspects of the topic the panellists deem most important and to reaching a number of consensual recommendations. The Australian lay panel was therefore expected to gain a basic knowledge of the topic in advance to the preparatory weekends by reading the briefing material provided by the steering committee; compose a list of key questions and a related list of the appropriate expertise required to answer those questions; decide the final composition of the expert panel based on a list of expert speakers proposed by the steering committee; consider and evaluate the responses of the expert speakers to the key questions in order to develop a number of consensual recommendations; compose and deliver their report to conference participants within the allocated timeframe; and make themselves available for questioning by the media and evaluators (Australian Museum, 1998c). A steering committee member later suggested that the delegation of decisions to the lay panel, such as the selection of expert speakers, was “one of the most successful aspects of the conference” (S3).

Initially, due to budgetary constraints, participation on the lay panel was restricted to citizens of New South Wales. However, as further funding became available, the steering committee reverted to its original aim of establishing a national lay panel. The committee agreed that a nationwide selection process would

result in a diversity of backgrounds and a broad range of attitudes, though true representativeness was not really achievable by such a small panel. A lay panel subcommittee was charged with recommending to the steering committee the most appropriate procedure for lay panel selection aided by a discussion paper prepared by one of its members, Dr Lyn Carson, an expert in citizen participation in decision-making. The subcommittee discussed the benefits and drawbacks of methods used by their overseas counterparts, such as random selection and the placing of large advertisements in national papers revealing the topic to be debated. While some members of the steering committee were devoted to the idea of random selection, the majority favoured the idea of the committee adopting a hands-off approach, thereby passing on the responsibility to the host organisation, the Australian Museum. The Australian Museum, however, was not equipped with the resources or expertise to undertake such a task so CSIRO representative, Julian Cribb, suggested that the process be tendered to a market research company. Consequently, the steering committee requested the lay panel subcommittee oversee the tendering process.

In September 1998, Market Attitude Research Services (MARS) was appointed to conduct the recruitment of the lay panel. MARS undertook a recruitment process involving the random selection of lay panel members during October and November 1998. The first stage of the recruitment process involved the placement of small, neutral, unspecified advertisements in the public notices and employment sections of suburban and provincial regional newspapers in the selected statistically representative areas of Australia (Collins, 1998).¹⁹ Advertisements publicising “People required for citizen participation in a national science project which will affect us all” (Collins, 1998: 18) were run for one week during October

¹⁹ Overseas, the practice is to advertise in national papers as well. The decision not to advertise in major metropolitan dailies and national papers in Australia inevitably restricted the number and range of people who might have been interested in participating.

1998. MARS received approximately 200 calls. Respondents were narrowed down to 90 through a screening process determined by socio-demographic criteria such as geographic location, gender, age, ethnicity and aboriginality. A second step, short-listing, was undertaken during the first week of November and involved respondents undertaking a personal values and attitude assessment questionnaire which included questions on gene technology buried amongst other questions. Again, the task or the topic was not revealed. A random selection further narrowed the field to include a cross-section of socio-demographic features, values and attitudes towards gene technology. This final group was contacted and informed of the task, the topic and the commitment involved. Finally, the remaining respondents were sent a letter by the steering committee (on Australian Museum letterhead) informing them of the consensus conference process and its demands in more detail. Those wishing to participate signed an 'informed consent' form. A total of 15 respondents were recruited to the lay panel with five respondents kept in reserve. These members were confirmed on 19 November. Two panel members withdrew in December (one due to sickness, the other for jury duty) prior to the briefing process and the preparatory weekends and only one was replaced on the recommendation of MARS (Australian Museum, 1999d). The steering committee agreed to maintain the panel's anonymity until the first day of the consensus conference in March.

The lay panel recruitment process adopted for the UKNCC was similar in that it relied upon newspaper advertisements to attract participants. These advertisements, however, specified the topic and detailed the lay panel's tasks. In addition, organisers held a press conference and media representatives were invited to report the initiative. Joss (1995) concluded that by conducting the selection process in this manner, the respondents tended to be relatively informed and

knowledgeable citizens by virtue of the fact that they had read a newspaper or listened to the radio and submitted a written application. Joss also cautioned against disclosing the topic (a warning heeded by Australian organisers) as it may attract applicants with a strong predisposition for or against the issue at hand. As a response to similar concerns, the Danish selection process has evolved from the use of advertisements to the random selection of citizens from electoral rolls, who are then invited to apply in writing, stating their reasons for wanting to participate (see Andersen and Jæger, 1999).

The lay panel was not meant to be representative of the Australian population, just ‘a slice of Australian society’, yet the decision to select one urban dweller and one rural dweller from each of the bigger states resulted in a demographic imbalance and bias towards regional Australia, particularly along the highly urbanised East Coast. The lay panel comprised six men and eight women, ranging in age from 19-57 and educational background from Year 9 to university graduate. There was one indigenous person but no overseas born, non-English speaking background representative. A number of self-employed people on the lay panel made extreme sacrifices because of the time commitment involved (six working days in total), as did those in other employment categories, such as professionals, for whom time appears to have been a deterrent to participation.²⁰ A number of applicants had also expected to be paid for participation, as was the experience of those who had previously participated in focus groups.

MARS reported its recruitment process, in the form of a recruitment methodology, to the steering committee on 16 November 1998. In spite of this, there

²⁰ Interestingly, this is in direct contrast to the initial composition of the Canadian and New Zealand lay panels where the balance weighed heavily towards professional members. In the New Zealand case, ‘professional’ participants were asked to voluntarily withdraw to balance the socio-demographic distribution.

was confusion regarding the exact process used in the selection of the Australian lay panel. Minutes of the steering committee later record that some members of the lay panel had revealed at the first preparatory weekend that they had not answered an advertisement in a newspaper; that Market Attitude Research Services (MARS) selected four panellists from the company's database in order to meet the selection criteria (Australian Museum, 1999d). This was done without the approval and knowledge of the steering committee. But the Managing Director of MARS later insisted that all were genuine respondents to advertisements placed in papers: "There were no Lay Panel members recruited from any MARS in-house data base of focus group participants. I checked this thoroughly after this matter was raised with me by the Consensus Conference Coordinator, and such a procedure was not used. I confirmed this in my letter to them of 4 February 1999" (Collins, 2000). In spite of the inconsistent accounts of how the lay panel was actually recruited a steering committee member was satisfied that "there didn't appear to be a particular bias in the panel one way or another and in fact . . . that's pretty much borne out in their report, . . . it's stronger in places but . . . overall it echoes a lot of the notes struck by other lay panel reports on that issue" (S3). In retrospect, the steering committee was satisfied with the considerable diversity of the lay panel. However, in future, they have recommended that other options for the selection of the lay panel be considered.

When asked why they had responded to the advertisement calling for 'citizen participation in a national science project', half of the lay panel members indicated that they had initially thought the project involved market research. Three of the respondents confirmed that they did not respond to the advertisement, but were contacted directly by MARS. One panellist believed she was contacted because she

had previously participated in a small forum for St John's ambulance. A second panellist thought it was because he had previously taken part in a marketing survey to ascertain the public's perceptions of CSIRO. A third panellist had initially responded to a newspaper advertisement placed by MARS a year prior to the consensus conference seeking prospective participants for discussion and focus groups. His name was placed on a register and MARS contacted him when they were compiling the lay panel for the consensus conference. Among those who responded to the advertisement stated that they "wanted to give something back to society" (L4), or because "the issue of gene technology was quite hot at the time so I thought it might be gene technology and I have an interest in that issue" (L3).

The reasons given for participating were varied but all twelve lay panel respondents declared an interest in the consensus conference process as a key factor. Another panellist agreed partly out of curiosity and partly because he interpreted the process as something important in that "from a life experience point of view it seemed like a worthwhile thing to do" (L7). One lay panel member regarded the consensus conference as "an opportunity to participate in something that might be good for society in general" (L4). Other lay panel members were eager to participate as "there are so few opportunities to participate at this level of decision-making" (L3) and because there is a "possibility of contributing something to the way in which we govern" (L5). Four of the lay panellists had identified the issue of gene technology as the reason they had agreed to participate. Gene technology "was something I wanted to know about and I thought this would be the ideal way, to enter into discussions with scientists" (L6).

Professional Writer

The need for a writer to assist the lay panel was discussed at a facilitator subcommittee meeting held in December 1998. It was agreed that this role would be more demanding than first anticipated and that an experienced writer would be required. A budget of \$1,300 was set aside for this purpose. Blair Palese, former Director of Communications for Greenpeace International and colleague of Sheena Boughen, was appointed to the position of professional writer later that month. Palese attended the final day of the preparatory weekends and the report writing session to assist the lay panel with clarifying and refining the wording of their key questions and their list of consensual recommendations. The organisers recognised that carefully phrased questions are fundamental to engaging expert speakers and eliciting incisive responses and to capturing the interest of the audience and wider public, so the Danish role of ‘recording secretary’ was elevated to that of a textual expert. The professional writer must take particular care when refining the words of the lay panel as they may inadvertently alter the content or meaning of its report.

Experts

The steering committee had held a teleconference with Lars Klüver of the Danish Board of Technology and David Russell of the New Zealand Consumers’ Institute in August 1998 to discuss, among other things, the differing interpretations of ‘experts’ applied in consensus conferences: New Zealand adopted a narrow/technical definition, targeting well known or respected experts while Denmark allows a broader interpretation that elevates good communicators regardless of their public profile. A criterion for inclusion on the expert panel of the Australian consensus conference was an ability to effectively communicate to the lay panel; corresponding

to the Danish interpretation of expertise. Yet, leaders in the field and/or public figures noticeably dominated the final selection of expert speakers, some of whom avoided directly answering the questions posed to them by the lay panel, thereby displaying a lack of respect for the lay panel. This was in spite of the speakers being briefed by the speaker subcommittee and furnished with extensive briefing notes detailing their role, the 'rules of interaction' and the level at which to pitch their information. Feedback gained from the audience and the lay panel indicated that some expert speakers also failed to pitch their information appropriately to their target audience, and that they frequently went over their allocated time limit. The chairperson and facilitator who were charged with monitoring the time limits of expert's speeches often failed to do so.

Two separate groups of experts with differing roles and responsibilities were called upon to inform the lay panel during the consensus conference process. For the purpose of distinguishing between them, the experts who addressed the lay panel at the preparatory weekend were known as expert presenters while their consensus conference proper colleagues were known as expert speakers. While the role of the expert presenter at the preparatory weekends is poorly documented, the role of the expert speaker for the consensus conference proper is defined as providing the lay panel with information and evidence on which to base its answers to the key questions, according to predetermined timeframes and levels of communication. Expert speakers were required to present a short paper in response to a key question and to answer related and subsequent questions posed by the lay panel and audience. They were expected to communicate in an appropriate manner with the lay panel and to attend for the duration of the consensus conference (Australian Museum, 1998c).

It was initially decided to limit the number of expert presenters for each of the preparatory weekends to between two and four, and only to invite experts known to raise questions rather than advocate for any particular position. Seven experts representing a range of scientific, ethical and public policy perspectives were eventually invited by the members of the expert speaker subcommittee to address the lay panel on a corresponding number of topics across the two preparatory weekends. These experts were selected by the subcommittee because of their ability to communicate and elucidate the complex scientific issues to a lay audience.

Given the large size of the steering committee, members were called upon by the speaker subcommittee to nominate appropriate expert speakers for the conference proper to cover the broad range of issues raised by the topic. Each member was asked to complete a form detailing appropriate speakers based upon a number of established criteria. First, speakers must be good communicators, not necessarily the top person in their field, but able to communicate effectively and with respect to the lay panel. Second, the speakers (as a group) must represent a balanced perspective of the issues at hand, not just the two ends of the spectrum, but also a significant representation of the middle ground. A list of approximately 40 possible expert speakers was compiled during November and December 1998. Unfortunately, the number of suggestions put forward fell short of expectations. To counteract a shortfall of nominations, the overseas experience has been to conduct a public hearing and those interested in being an expert or nominating an expert can attend (Grundahl, 1995). However, in the Australian case, there was insufficient time or money to conduct this additional process. As a result, gaps in expertise among the speakers selected were noticeable.

The final selection of expert speakers included some the lay panel had not heard of previously, including the Director for the CRC of Weed Management Systems, Professor Rick Roush. A lay panellist was adamant that in future the process used in the selection of expert speakers should be controlled entirely by the lay panel. This would help to avoid possible criticisms of manipulation by either the steering committee or the facilitator. The uncharacteristic make-up of the steering committee thus ultimately had a bearing on the list of expert speakers put forward by individual members for lay panel selection (see also Joss, 1998b). A case in point was that only one bureaucrat was put forward for selection whereas government policy and regulatory issues proved to be the most prominent point of discussion and concern. Moreover, only after prompting from the lay panel was an ethical or religious perspective sought, while at no point was an indigenous representative considered. Furthermore, due to the limited number of names put forward to represent the 'bio-opponent's' point of view, one expert speaker was required to respond to three separate questions. Notwithstanding the speaker's good intentions or even his suitability to respond to those questions, this practice contravened the aim that the expert panel ought to represent an adequate diversity of views.

The expert speakers largely participated in the consensus conference because of their interest in the issue of gene technology. For some, it was an issue they felt strongly about. "I felt that there was not enough debate coming from the particular angle I come from" (E4). For others, it was an opportunity to get the issues out before the public, "this subject was very important to Australia and the consensus conference was likely to be one additional and somewhat novel and potentially useful tool in helping Australia come to a better state of knowledge about the whole area" (E5). One expert speaker interested in the process stated that it "seemed like an

ideal opportunity to move away from a polemic into something that was more constructive and much more driven by the needs of the people; the consumers, rather than experts. To me that was quite attractive” (E2).

Evaluators

I myself approached the steering committee in November 1998 to seek approval and access to the consensus conference to conduct a wholly independent analysis of its process and content. However, a number of practical problems were encountered. The steering committee formed an evaluation subcommittee that first met on 7 December 1998 to review the evaluation strategy and to discuss the role of the ‘independent’ evaluators in response to research proposals submitted by me and another researcher from the University of South Australia. The committee agreed to adopt an end-user approach to evaluation adapted to the clients’ needs²¹ (Brownlea, 1998). The clients, through their representatives on the steering committee, identified a number of questions that they wanted the evaluation to address:

1. “Is it worth running another national consensus conference given the experience with this one?
2. What value did we get out of it, as a country, for the effort we put into it?
3. What have we learnt about best practice and not-so-good practice for consensus conferencing in Australia?
4. How good a role model has the steering committee been, and its subcommittee processes and operating principles, with respect to building consensus within itself?

²¹ A Memorandum of Understanding drafted by the evaluation subcommittee on 20 January 1999 identified the clients as the steering committee, government departments, major research institutions and commercial organisations.

5. Would we implement the consensus conference process in the same way next time?
 6. Who should use this process, and when, and for what purposes? When would other models be preferred and pursued?
 7. How much credibility can be attached to the consensus conference report?"
- (Brownlea, 1998: 1).

The committee contacted us on 10 December 1998 to seek our consideration and critical comment on a draft Memorandum of Understanding outlining the relationship between the steering committee and the independent evaluators. The information contained in this email was cause for concern for both of the independent evaluators. The committee's evaluation approach ignored our proposals to conduct totally independent and comprehensive evaluation processes, where an objective stance could be adopted and each participant group, including the steering committee, could be evaluated without fear or favour. Throughout the negotiations with the evaluation subcommittee, the evaluator from the University of South Australia and I maintained regular email contact. Our combined concerns were expressed to the evaluation subcommittee and a teleconference between the members of the subcommittee and us was arranged for 17 December 1998. However, despite raising concerns about being coerced into an internal evaluation process, and reaching a verbal agreement with the subcommittee endorsing our independent evaluation agendas, three days after the teleconference the evaluation subcommittee forwarded a Memorandum of Understanding that indicated otherwise.

That Memorandum of Understanding proposed a set of working principles to guide our approach to the evaluation programme and our relationship with the

steering committee and participants. These principles broadly stipulated that we would act as non-participant observers during the process, but that access to all participants would be negotiated once they had completed their role. In addition, that our findings had to demonstrate credibility in the eyes of all participants, including the steering committee and sponsors; the findings would be published subject to the satisfactory negotiation of shared intellectual property. Finally, the steering committee would maintain independence from the evaluation process. Again, we protested that the essence of the Memorandum of Understanding was not in keeping with our independence and threatened to hinder our access to the process and participants alike.

The evaluation subcommittee's further response to the trepidation expressed by us was to embody in a second Memorandum of Understanding, issued on 21 January 1999, tighter restrictions on access to the process and its participants. The working principles were amended to reflect the perceived need to safeguard the independence of the lay panel from the evaluators. For example, the working principles stated that the "evaluators cannot assume attendance at any or all of the working sessions of the lay panel" and that "attendance and observation must be negotiated with the facilitator, who will act as the agent for the lay panel" (Evaluation Subcommittee, 1999: 2). Of note here is that all lay panel members signed a consent form in November 1998 listing a number of requirements they would have to meet relating to the evaluation of the consensus conference, namely that "it is likely that an evaluation researcher will want to talk to you at different stages of the process, to find out how you are going with it. You may also be asked to keep a diary during the process, because you[r] experience of it is an important test of it[s] effectiveness" (Australian Museum, 1998f: 1). Attached to this document

was a copy of the 'Role of the Lay Panel Members', again directing them "to make themselves available to the evaluators for questioning" (Australian Museum, 1998c: 3). The subcommittee, assuming that our interest in the consensus conference was purely in the process and not the content, considered it "appropriate for the evaluators to be present only at critical points of the process, e.g. when consensus is being developed, when issues are being confirmed, when team building is at a crucial stage" (Evaluation Subcommittee, 1999: 2). Furthermore, an addendum imposed upon us to address all of the evaluation questions, referred to us as "agents of the steering committee" who therefore "must be committed to answering the evaluation questions" (Evaluation Subcommittee, 1999: 2).

Further immediate negotiations with the evaluation subcommittee were not possible as the first preparatory weekend was scheduled to begin two days later in Sydney. However, permission to attend the two preparatory weekends as non-participant observers was rescinded at the eleventh hour, I was informed of this decision on arrival at the venue in Sydney. The facilitator's protectiveness of the lay panel and a continued misinterpretation of the role of the evaluator were later cited as the reasons by a member of the evaluation subcommittee. As a result of the breakdown in communication between the evaluation subcommittee and the independent evaluators, the steering committee, at its third meeting on 29 January 1999, agreed to start the evaluation programme afresh. This resulted in the subcommittee deciding to implement an internal evaluation program, tendering for suitable candidates to work to an established set of goals. We were subsequently informed that while we were now free to work to our own evaluation agendas, subject to committee approval, we would not gain access to the process until the conference proper, and access to participants and conference documents was

postponed until the conference's end. Furthermore, we were denied access to the audiotapes being made by ABC Radio (even though access had been previously established in the Memoranda of Understanding), who were granted exclusive access and rights to the coverage of the consensus conference from the first preparatory weekend. Interestingly, access to the so-called 'critical points of the process', that is the preparatory weekends and report writing session, that was considered appropriate by the steering committee in previous communications, was subsequently withdrawn for both the internal and external evaluators.

At this point in the negotiations, the independent researcher from the University of South Australia, frustrated by the erratic decisions of the evaluation subcommittee, withdrew her proposal to evaluate the conference. Equally frustrated, I submitted a second research proposal to the evaluation subcommittee outlining an amended methodology aimed at maximising belated access to the process, participants and related documentation. This proposal was discussed at an evaluation subcommittee meeting on 3 February 1999. Unable to agree upon the range of documents to be made available to me, the subcommittee referred the request to the steering committee. Notified of this decision by the chairperson of the evaluation subcommittee, I was informed that the results of my previous negotiations with the committee were annulled, although "this in no way precludes you from seeking to attend the consensus conference" (Brownlea, 1999). As discussed in the research methods section of Chapter 1, a number of types of access to the consensus conference process and its participants was eventually approved by the steering committee in late February 1999.

The failure of the steering committee to adopt the research proposals of the independent researchers resulted in the implementation of two separate 'internal'

evaluations of the first Australian consensus conference. The Australian Museum appointed consultants P.J. Dawson and Associates on 10 February 1999 (just prior to the second preparatory weekend) following a tendering process to undertake an ‘internal’ evaluation focusing on the “consensus conference as a tool for public involvement [in] policy debates” (McKay and Dawson, 1999: 2). Avcare, the National Association for Crop Protection and Animal Health, which had a stake in a positive outcome, sponsored the Phase 1 evaluation of the first Australian consensus conference. An Avcare representative, Claude Gauchat, held a key position on both the steering committee and the four-member evaluation subcommittee. Avcare represents the manufacturers and distributors of products developed for crop protection and animal health, in particular, Monsanto Australia and Aventis Cropscience. A lay panellist remarked that the official evaluators were unhappy to respond to her question of “who was funding the official evaluation?” (L5). Consequently, she suspected that their report was written with the steering committee and its makeup in mind. Indeed, the decision to direct sponsorship from Avcare towards the official evaluation drew criticism from among the expert and lay panels. In future consensus conferences it would therefore be preferable, from an equitable standpoint, to avoid an obvious conflict of interest when evaluating conference outcomes, particularly where the neutrality of the steering committee and sponsors is of paramount concern.

The internal evaluation was hampered by the late appointment of the evaluators between the first and second preparatory weekends. Nevertheless, the official evaluators were not permitted to attend the second preparatory weekend; rather, they were introduced to the lay panel the evening before. The aim of this introductory meeting was to enable the lay panel members to enquire about the

evaluator's task and to ask questions concerning the evaluation process. The late introduction of the Phase 1 evaluators and implementation of the evaluation process had a disconcerting effect upon some of the lay panel members. One panellist found the introduction of the evaluators in the second preparatory weekend distressing. "They should have been there from the beginning. We were already trying to deal with so much and here we were writing questions for the evaluators trying to think back to the month before. We did not get to bed until 1.00am . . . I felt very overwhelmed . . . They [the steering committee] were just pushing and expecting too much" (L14).

A second tendering process was conducted to appoint the evaluators for the Phase 2 evaluation. Dr Alastair Crombie and Dr Colin Ducker (specialists in adult education and public participation) were contracted to undertake a second internal review of the first Australian consensus conference on 17 September 1999. Their task was to "critically examine the impact of the consensus conference on sectors vital to the interests of the conference stakeholders and organisers" in the 12 months following the conference (Crombie and Ducker, 2000: 1). The Grains Research and Development Corporation (GRDC) whose representative, Professor John Lovett, was a member of the steering committee and the evaluation subcommittee, sponsored the Phase 2 evaluation. As with Avcare's sponsorship of Phase 1, the GRDC had a stake in a positive outcome. The GRDC is one of the world's leading grains research organisations, responsible for investing in research and development for the greatest benefit to its stakeholders, including graingrowers and the Commonwealth. The GRDC links innovative research with industry needs and envisions a profitable, internationally competitive and ecologically sustainable grains industry. The GRDC's unsuitability as a sponsor of the evaluation process was made apparent by

an initial suggestion put forward by one of the two industry representatives on the evaluation subcommittee in relation to the Terms of Reference of the Phase 2 evaluation. The industry representative sought to include a “key question that industry wanted answered regarding the success of the consensus conference in terms of engineering public acceptance of gene technology” (S3). It was thought at the time this statement was made (in August 1999) that other members of the evaluation subcommittee had vetoed its inclusion as it conflicted with the underlying philosophy of consensus conferences to empower members of the public to gain an informed understanding, not to gain their acceptance. However, the Terms of Reference for the Phase 2 evaluation (finalised in September 1999) reveal that the evaluators were instructed to investigate and report on “the extent to which the outcomes are assisting the Australian agrifood industry towards achieving public acceptance of the science” (Crombie and Ducker, 2000: 1). The objective then attached to the consensus conference process by the industry representatives on the steering committee was that of persuasion or manipulation rather than consensus. The evaluation was in some respects therefore geared towards industry’s goals and endorsing government and industry policies.

HOW THE CORE NETWORK MEMBERSHIP IS STABILISED BY ALIGNMENT DEVICES

The Power of Protocols

Latour (1997) instructs the analyst to follow scientists through society, to observe their actions rather than to analyse their final products. His reasoning being that “instead of black boxing the technical aspects of science and *then* looking for social influences and biases, [he] realised . . . how much simpler it was to be there *before*

the box closes and becomes black” (Latour, 1997: 21). Thus by observing the actions of the actors that circulate within the consensus conference network rather than focusing on the product of their interactions (the consensus statement), moments of conjunction may be identified. Scientists employ an array of alignment devices, including texts and money, in order to construct a black box. Texts such as the protocols play a particularly important role as they help to transform an opinion into a fact. Therefore, the Danish consensus conference model, which began as a process of trial and error, has been transformed (through the texts it employs) into a fact through its recurrent and successful implementation since 1987. Specific guidelines such as those contained within the script of the consensus conference protocols, create black-boxed actor profiles. The protocols have become what Latour labels ‘tacit knowledge’ and reinforced through a process involving the enrolment of allies. The Danish protocols now encompass more-or-less standard criteria for the implementation of the consensus conference model worldwide.

Accordingly, the Danish consensus conference model is an immutable mobile: it has been successfully applied in numerous social, political and institutional contexts while organisers have remained relatively faithful to the original criteria established by the Danes. However, the Danish protocols may not always be perfectly suited to the case at hand. The host organisation may have insufficient funds to conduct a process in a particular way, or it may simply be that for cultural reasons, modifications are necessary in order to guarantee successful implementation (such as making allowances for three national languages in the Swiss PubliForums). These organisers introduce new elements, alignment devices such as texts (a recruitment methodology based on locally-determined socio-demographic criteria) and money (in the form of sponsorship) to the protocols, subtle

variations that are better suited to the case at hand while still retaining the essence of consensus conference process. The mobilisation of these new elements by the conference organisers transforms the consensus conference network and those elements that circulate within it. Each time the protocols are put into practice they face a trial, and with each passing trial, the text garners more credibility. The text of the Danish protocols is now powerful enough that it is able to mobilise the people and props necessary to stage a faithful reproduction of the consensus conference model in a range of institutional, political and cultural contexts.

Berg (1998: 227) defines protocols as “preformed recommendations issued for the purpose of influencing decisions” that contain sets of instructions designed to guide the user through a specific sequence of events. “By analyzing decisions before the fact, they prevent the . . . chaos that would otherwise result from having to rationally decide every time again from scratch” (Berg, 1998: 227). The protocol is not an inert device, but a formally structured immutable mobile that transforms the order it transports in distinctive ways. An investigation of the production and implementation of the protocol as an alignment device, focussing on the script the device embodies, reveals how the script delineates the roles and tasks of the actors including organisers, steering committee, lay panel, facilitator and expert speakers in the consensus conference process (Akrich, 1992; Akrich and Latour, 1992). The script’s control over the actors it defines extends beyond the written text of the protocol. Once it has been put into practice, the roles and tasks of the actors alter in ways not explicitly elaborated in the script: particular social, political and institutional contexts, for example, influence the modes of interaction between the various actors.

The protocols are a homogenising device used to create order from disorder, to realign the heterogeneous elements that make up the consensus conference network so as to reproduce the Danish mode of practice. The protocols articulate which actions the various actors must perform, when and where. The steering committee knows that it is responsible for supplying the lay panel with unbiased and adequate briefing materials prior to the consensus conference to enable it to identify key issues. Likewise, the lay panel is aware of its responsibility to gain a basic understanding of the subject by reading the briefing materials and attending the preparatory weekends. The protocols fulfil a coordinating role, performing more than just a standardising role (of procedures and actors). It guides the network actors through sequenced paths of action, geared towards achieving a single policy input, a consensus statement. Through the articulation of eligibility, roles, responsibilities and specified modes of order, the spatio-temporal actions of a range of actors are brought together and coordinated (Star, 1989; Callon, 1991).

Essentially, the Danish protocols embody a script that requires many of the diverse elements that combine to form the consensus conference network to behave in a uniform, stable and predictable way. The heterogeneous elements (actors, entities and alignment devices) contained in this script are thoroughly intertwined. All actors enrolled in the consensus conference network must adhere to the schedule dictated by the protocols if the consensus conference is to be successful. The various heterogeneous actors are transformed to make their behaviour definite, uniform and predictable. The network of actors and entities constituting the consensus conference has to be made adequately stable for the protocol to function effectively (Callon, 1991). In the implementation of the consensus conference protocol, network practices are restructured so as to fit the requirements of this formal alignment

device. To achieve all this, however, the diverse elements must subscribe to the protocol's script. According to Berg, the implementation of a protocol is a process of ongoing, continuing negotiations, where "the practices are transformed and the tool itself acquires its final shape – the two are inextricably linked" (Berg, 1998: 235). The resultant application of the protocol reveals traces of the negotiations that helped to shape it. The protocols ultimate composition is the "highly *contingent* outcome of all the struggles that were fought" (Berg, 1998: 235). Protocols, by their very nature, are political. Embedded within their scripts are detailed instructions on who makes what decisions, when and for whom. Furthermore, the script determines which actors are granted access to the process and which are excluded.

Complete control by the protocols, however, is never guaranteed. In adjusting a particular practice to a protocol, the protocol itself is also inevitably transformed. The Danish script, in the twelve years prior to the Australian consensus conference, had necessarily evolved to adjust to resistances brought about by different cultural, social and organisational contexts in which the protocol had been incorporated. So the script followed by the actors of the first Australian consensus conference was a very different construction to that first used by the Danes in 1987. The script utilised by the organisers of the Australian consensus conference therefore embodied those resistances that could not be overcome in the different practices in which the script had been incorporated. The developed script was the result of numerous transformations, from the criteria used to enrol particular lay citizens in the lay panel while excluding others, to the representative make-up of the steering committee. Variations to the original Danish script do not follow a direct evolutionary line. With each new application of the script, minor adjustments and modifications were made. So the version of the script performed in the Australian context was not merely a

combination of the Danish script with Australian variations but a hybrid containing traces of previous consensus conferences and their determined efforts.

Recalling the consideration of a protocol as a immutable mobile rather than an inert device, it can be argued that by the very nature of its inflexible structure, the Danish protocols create political hierarchies and empowerment through material arrangements and the conferment of representative spokespersonship. Procedural arrangements, and the role of network participants in these, are idiosyncratically reshaped according to the context in which the protocol is put into practice. Protocols, through their rigid structure, enforce a hierarchical system through the implementation of specific rules contained in texts. Organisers use the consensus conference protocols to define the lay panel as ignorant citizens, where it is “essential that no member of the lay panel is an expert in the topic or represents special interests in the field” (Grundahl, 1995: 33). Conversely, members of both the steering committee and expert panel are defined as ‘authoritative’ and ‘knowledgeable’ on the subject.

Also embedded within the text of the protocols are decision-making powers: who (or what) is allowed to speak for whom. Only the organisers and members of the steering committee and lay panel are granted decision-making powers in their own right. Both the organisers and the steering committee have key organisational responsibilities that include establishing and maintaining an impartial environment within which the lay panel can formulate key questions, map the composition of the expert panel and compose their recommendations. Other network actors such as the facilitator and expert speakers perform mediating and informational roles respectively, thus playing a supporting role to the lay panel. In the case of recruiting the citizens to the lay panel, decision-making power was delegated from the steering

committee to MARS who then deferred to the socio-demographic criteria. Rather than the steering committee or MARS deciding who was to be granted access into the conference network, various quantitative and geographic- and population-derived values determined eligibility.

Moreover, while certain decision-making powers are granted to the lay panel they are also limited by the protocols. The obdurate network controlled by the protocols leaves little room for influence by the lay panel throughout the consensus conference process. However, the lay panel of the UKNCC exercised their right to compose their recommendations in the absence of the facilitator whom they banished from the report writing process for being too intrusive (see Joss, 1998b). Therefore, to ensure the successful functioning of the protocol, individual actors have little or no control over the course of the events. In the order contained in the protocol the actors are repositioned: inevitably, the requirement for stable and predictable network elements predisposes the silencing of potential sources of contingency (Star, 1989; Berg, 1998). Thus the consensus conference network is stabilised as the result of reinforcing political hierarchies and creating empowerment through material arrangements and the conferment of representative spokesmanship. These recurring patterns help to prevent threats to the determination embedded in the script of the protocol.

What additional textual devices (written and oral), then, also helped to render the Australian consensus conference network, and the heterogeneous elements it encompassed, stable? What actions ensured its effectiveness in the Australian context? Meetings also played an important stabilising role by creating spaces for socialisation of the lay panel into the key lexicon. In fact, successive meetings constituted the core organisational structure of the consensus conference. Steering

committee meetings allowed its members to establish a shared lexicon on the topic at hand. The preparatory weekends helped to link expert presenters with lay citizens, enabling the latter to appreciate, and become accustomed to using, some of the basic expert vocabulary. The academic/research experts' input into the preparatory weekend helped to create a level of shared understanding/concepts so that discussion could proceed in a more orderly way. The consensus conference served to socialise the lay panel into expert discourse through their co-presence with the expert speakers. So words, as Callon et al. (1986b) have suggested, are a means of linking people.

Through the recruitment methodology prepared by MARS, lay citizens were granted access to the Australian consensus conference process according to their ability to navigate a number of obligatory passage points: (i) they had to locate the newspaper advertisement calling for citizen participation in a national science project; (ii) they had to register their interest with MARS; (iii) they had to navigate the socio-demographic profile established by MARS; and (iv) they had to agree to the conditions of participation by signing an informed consent form. Each of these four stages of the enrolment process for the lay panel represented a conduit or obligatory passage point through which the lay citizens had to pass in order to advance to the next stage of selection. These conduits relied on the strategic placement of texts and technological artefacts. Embedding the methodology's demands in material arrangements ensured that the recruitment methodology became an integral and unavoidable part of the consensus conference process.

Money

Money too plays an important role in shaping the consensus conference process. The Australian Museum was unable by itself to finance the consensus conference and additional funds had to be sourced from a range of sponsors. The steering committee minutes track the progress of securing funds and how they were distributed thus enabling observation of how they affected the relationship between the (neutral) organiser and (mostly stakeholder) sponsors. The first steering committee meeting identified the need to find additional sponsorship with confirmed contributions totalling just \$120,000. Further sponsorship was sourced, however, the steering committee still faced a budget shortfall of \$20,000 at the second committee meeting. The minutes of the third committee meeting recorded a persistent shortfall of \$4,000 in the receipt of sponsorship funds. An amount of \$175,000 (half of that usually budgeted for overseas) was eventually secured and though it was more than the steering committee thought it originally needed, it still was not enough. Therefore, in an effort to cover the cost of catering, the committee agreed to charge \$150 for registration, although some free passes would be handed out (mainly to school groups) for seats in the upstairs gallery of the Senate chamber.

The Australian Museum, it was eventually revealed, did not have the financial or human resources to undertake the consensus conference so funding was obtained from a number of sponsors, with seed funding provided by the Myer Foundation²² while the majority of sponsors were federal government funded Research Development Corporations (RDCs), Cooperative Research Centres (CRCs) and industry. Of the twenty-eight sponsors, only two, ACA and the Myer

²² The Myer Foundation is a private, family-based charitable foundation that provides funds for programs responding to community needs, and for the development of new ideas. The foundation promotes, amongst other community concerns, social development through informed debate.

Foundation, were not affiliated with either government-based or industry-based gene technology research and development. The Myer Foundation contributed \$49,100 (an amount later matched by CSIRO) to the initial budget of \$94,000, but due to the limited resources of the Australian Museum, the steering committee eventually secured the additional funds needed from CRC and RDC sources (Australian Museum, 1998d, S3). A steering committee member noted that “when the Australian Museum originally agreed to come on board [we] had no idea that they were . . . so close to the bone in terms of their own resources” (S3). As well, the lack of human resources meant that the ACA representative was placed in the compromising position of performing the dual role of project manager and steering committee/stakeholder member. It was later suggested by a steering committee member in a post-conference interview that perhaps, in retrospect, the Australian Museum was not the right choice to host the consensus conference, claiming that its “commitment ended when the money ended” (S3). In hindsight, perhaps the Australian Museum was “a suitable choice to house the consensus conference concept administratively, just not emotionally” or financially.

Insufficient funds as well as time also meant the organisers omitted a constructive step of the organisational process. As is the case in European consensus conferences, before compiling the list of experts to address panellists at the consensus conference, the steering committee usually conducts a process known as the ‘hearing of interested parties’. The hearing serves to provide interested parties with an opportunity to contribute to the consensus conference process through proposing “interesting and essential aspects of and approaches to the subject which should be covered by the conference; [and] suitable experts in the field” (Grundahl, 1995: 35). The responses of the interested parties are then used to assist both the

steering committee and lay panel in identifying key issues and to match appropriate speakers with those issues. The omission of this hearing meant that those parties either denied representation on the steering committee or amongst the expert speakers were deprived of an appropriate forum for contributing to the development and shaping of the consensus conference network. Furthermore, the lay panel could have benefited from the wider spectrum of issues likely to be identified by the interested parties and their opinion of suitable expert speakers.

Conclusion

As discussed above, the Danish protocols guide the network of heterogeneous actors through sequenced paths of action aimed at producing a single policy input, a consensus statement. Through the articulation of roles, responsibilities and specified modes of order, the script of the protocols require network entities to behave in a uniform, stable and predictable way (Star, 1989; Callon, 1991). However, complete control by the protocols is never guaranteed. The Danish script must necessarily evolve to adjust to resistances brought about by new cultural, social and organisational contexts. Minor adaptations have been made in order to accommodate new topics, varying levels of resources and institutional, political and cultural idiosyncrasies. In particular, the specific organisational context of the first Australian consensus conference meant that certain aspects of the consensus conference proper were omitted, condensed or altered due to a lack of sufficient time. These variations to the Danish script were in some cases successful, in others, not. Nevertheless, apart from minor amendments made in response to different cultural and institutional contexts, the procedures set out by the Danish Board of Technology were generally followed very closely.

4. Workshopping the Script: First Step Towards Enrolment

INTRODUCTION

Preparations for Danish consensus conferences commence six months in advance of the conference. During this period, the steering committee meets several times and the lay panel attends two preparatory weekends. Prior to the first preparatory weekend, the lay panel is sent a briefing paper designed to instruct it on the topic, a description of the model and a conference schedule. Only the lay panel, project manager and the facilitator attend the first preparatory weekend, usually held two to three months before the consensus conference. According to the Danish protocols, the objectives of the first preparatory weekend are: “to introduce the lay-panel members to each other; to introduce the method and to explain the role of the facilitator; to provide the lay panel with information on the topic that may form the basis for drawing up the key questions for the conference . . . ; to formulate the key questions; and to indicate the type of experts that the lay panel would like to answer questions at the conference” (Grundahl, 1995: 36).

At the beginning of the weekend each of the lay panellists give a brief description of themselves and their reason for participating. The project manager then greets the lay panel and describes the consensus conference process and its organisation. The panel is also briefed on the level of media interest in their role and is asked not to enter into discussions with the media prior to the release of their report to avoid publicly stating a position on the topic that they may later want to

change. One or two expert presenters, generally academics, who expand upon the issues introduced in the briefing materials, address the lay panel. Adequate time is also set aside for discussion and cross-questioning of the expert presenters, managed by the facilitator. Following the departure of the expert presenters, the panel take part in ‘brainstorming sessions’, where panellists state their expectations, concerns and queries with regard to the topic. Informed by the issues raised in the briefing paper, expert presentations and brainstorming sessions, the panel begins preliminary discussions on the formulation of the key questions. The panel strives to delimit the scope of the key questions and decide upon an appropriate number of questions to ask. The protocols view eight to ten key questions as a manageable number, in addition to a set of corresponding sub-questions.

The focus of the lay panel then shifts to the selection of an expert panel for the consensus conference proper. The facilitator introduces the lay panel to the principles used in selecting appropriate expert speakers (the protocols omit to explain what these are). Based on this information and their list of key questions, the lay panel specifies the types of experts and points of view they would like represented on the expert panel. Using a comprehensive list of experts provided by the steering committee as a guide, as well as their own specifications, the lay panel identifies a preliminary list of expert speakers. Additional expertise other than that covered by the list provided may also be requested. Finally, the lay panel establishes the agenda for the second preparatory weekend, including requesting a list of topics it would like covered.

The second preparatory weekend is usually held one to one and a half months before the consensus conference. This weekend provides the lay panel with an opportunity for further exploration of the issues. One or two additional expert

presentations are conducted at the request of the lay panel (the protocols report that these presentations usually explore the ethical and legal aspects of the topic). The formulation of the key questions continues, the panel alternating between group work and plenary sessions as directed by the facilitator. The wording of the key questions and sub-questions is agreed upon in further plenary sessions and finalised by the end of the second preparatory weekend. The lay panel enters into further discussion on the list of experts and the range of expertise required for the conference proper and formulates its recommendations. Based on the recommendations of the lay panel, the steering committee finalises the composition of the expert panel, which usually consists of 12-15 experts. The project manager notifies the selected experts and provides them with their key question/s and sub-questions on which they must base their presentation/s.

The Australian organisation followed the Danish model fairly closely but not in all respects. While the Australian organisers intended to follow the Danish practice of hiring a journalist to compile the briefing paper, complications arose which required that the steering committee step in and write the paper itself. Furthermore, the presence of a professional writer and the facilitator subcommittee during the preparatory weekends had a disruptive effect on some members of the lay panel who objected to their intrusion. The first steps towards expanding the Australian consensus conference network beyond the steering committee and identifying the range and content of its discussions were taken by creating a briefing paper and information dossier for the lay panel and holding two preparatory weekend meetings at the Hyde Park Plaza Hotel in Sydney on 22-24 January and 12-14 February 1999. The overall aims of this stage of the consensus conference process

were: to bring panellists together; to recruit the expert speakers; and to define the range of permitted discussion and establish a shared lexicon.

BRIEFING THE PARTICIPANTS

The lay panel briefing paper is one of the most significant alignment devices utilised in the consensus conference network. Designed by the steering committee to provide a shared lexicon and guide the lay panel's discussions, the briefing paper has the potential to shape the uninformed lay panel's frame of reference on the topic, thereby directly influencing its agenda setting and decision-making processes. A lay panel lacking confidence in its ability to come to consensus may fail adequately to analyse and then synthesise the information provided by the steering committee. Consequently, the Danish protocols indicate that of paramount importance is a briefing paper that is unbiased, allowing lay panel members to develop an understanding of the range of views and attitudes relating to the topic, while no one view is expressed in preference to another (Grundahl, 1995). While it is recognised that, as with any controversial issue, some positions must always be excluded and some assumptions made, the aim is to provide a balance of viewpoints rather than overwhelm the lay panel with unwieldy detail. Accordingly, a journalist generally compiles the briefing materials from existing literature. In keeping with the Danish protocols, the Australian steering committee agreed that its briefing paper would "address the range of key issues; set a broad framework; represent diverse views (including the 'left'); and encourage [panel] members to ask questions (and assist in identifying questions)" (Australian Museum, 1998d: 3).

The Nature and Content of the Briefing Paper

Initially prepared by two journalists, the briefing paper included preliminary material provided by steering committee members, Dr Kevin Ward (CSIRO), Virginia Greville (AFFA) and Professor John Lovett (GRDC). This source material covered the spectrum of views and attitudes to the topic, and highlighted the major issues. The steering committee urged the journalists to work from this source material alone and discouraged them from seeking additional sources of information. The journalists assigned this task were provided with guidelines by the steering committee that stipulated the briefing paper's length, pitch, tone, structure and content, including the process governing its compilation (Australian Museum, 1998a). The guidelines established a length of between 12-15 pages utilising language of roughly high school level. In order to trigger further exploration of the issues the content was expected to express a range of perspectives while highlighting areas of consensus and conflict. That the paper adopt a global perspective to provide the panellists with a broad frame of reference was also considered important. A balanced, fair and impartial tone, not favouring any particular point of view over another, was paramount to establishing the credibility of the lay panel's deliberations.

The steering committee also provided a preferred structure for the paper's introduction and succeeding sections. The introduction would provide a general description of gene technology and briefly illustrate its numerous applications to plants and animals in the food chain. The remainder of the paper would be structured into short segments corresponding to a number of major issues raised by gene technology in the food chain. Examples listed included: (i) benefits and risks (increased production versus human health and the environment); (ii) regulatory

efforts versus the pressure for free trade; (iii) intellectual property and patenting impacts on developing countries; (iv) risk assessment; (v) the role of multinationals and their influence over the food chain; (vi) ethical and moral issues; (vii) public concerns and debate; and (viii) provisions for consumer information and choice (voluntary/mandatory and labelling).

The first draft of the briefing paper was due to be presented to the steering committee by 4 December 1998 (Australian Museum, 1998e). However, the journalists' inability to grasp what was required of the briefing paper and a lack of time resulted in steering committee members, Carole Renouf (ACA), Professor Snow Barlow (AFFA) and Dr Kevin Ward (CSIRO), writing the paper in order to establish a fair and balanced document and to consider comments proffered by their steering committee colleagues (Australian Museum, 1999d). The briefing paper was eventually completed in the first week of January, just two weeks before the lay panel was due to attend the first preparatory weekend. However, the steering committee's involvement in the writing of the briefing paper placed into question the perceived impartiality of the paper's content. Two of the paper's three authors represented government research and development organisations, and their colleagues dominated the steering committee, raising concerns that the paper might have presented a favourable view of gene technology. As it turned out, another steering committee member, Julian Cribb (CSIRO), himself a journalist was dissatisfied with certain aspects of the final document: his comments were, however, received three days after the document was distributed to the lay panel. In response to his reservations, the steering committee issued a statement to the lay panel at the first preparatory weekend stating, "this paper does not necessarily reflect the views of [all] sponsors and steering committee members" (Australian Museum, 1999d: 3).

Rather, they intended the briefing paper to represent a broad range of views, which might or might not have been supported by members of the steering committee or sponsoring bodies.

On 5 January 1999, two weeks before the first preparatory weekend, the lay panel members received the 23-page briefing paper that outlined the trends, current status, developments, conflicts and attitudes pertaining to gene technology in the food chain. Copies of the briefing paper were later sent to expert speakers upon confirmation of their participation in the conference proper. The briefing paper focused on the major issues raised by the topic facing Australian society, as initially identified by the steering committee in the journalists' guidelines (Australian Museum, 1999c). Different arguments and points of view were expressed simply as those held by 'supporters' or 'critics' of gene technology and often exemplified by a case study. Intended to assist the lay panel in gaining only a basic understanding of the issues and a feeling for the spectrum of arguments and points of view, the briefing paper was to be supplemented by contributions from a range of experts with varying perspectives on gene technology at two preparatory weekends and at the conference itself.

The Australian Museum also distributed to the lay panel a collection of newspaper clippings on gene technology, as well as a number of magazine articles. However, only some members of the lay panel chose to read this information; others were concerned that they would be unduly influenced by an inherent media bias.²³ Some members of the lay panel initiated their own search for information using the internet and local libraries. While one panellist found the briefing materials useful,

²³ White's (1998) analysis of trends in mainstream reporting of biotechnology in the Sydney Morning Herald throughout 1995 concludes that scientific reporting is not without bias. White warns that the information fed to the public is not objective but constructed from information supplied by private corporations and public organisations. Thus, media reporting of science only serves to 'legitimate' mainstream views.

she “found other avenues of information beside the briefing paper after the first preparatory weekend” (L14). Another lay panel member also collected extensive amounts of information that he then distributed to some, though not all, of his fellow panel members. A number of lay panellists expressed a preference for this information over the briefing paper in the post-conference interviews. Some panellists, feeling overwhelmed by the influx of information, limited their intake mainly to the preparatory weekends and the speeches given by the expert presenters. The steering committee became concerned about the (in)filtration of unaudited information to the lay panel. The facilitator, in particular, was cautious not to endorse the distribution of unauthorised material by refusing a request to photocopy it. The materials were distributed regardless, thus rendering the efforts of the facilitator (as the steering committee’s mediator) to delimit the group’s lexicon ineffective.

Overall, the majority of lay panellists responded positively when surveyed on whether the information and briefing materials provided by the steering committee had met their expectations. One panellist was impressed with the briefing paper, “it was quite thorough, . . . a really good introduction . . . provid[ing] a very good balance of the pros and cons” (L3). Her colleague agreed: “it raised more questions than answers, which was good” (L4). Conversely, one panellist thought “the whole thing tended a little on the negative side right from the beginning” (L13) while another was of the opinion that “there could have been more written information . . . there was a lot of information out there that we didn’t get to hear about” (L2).

The Effect of the Briefing Paper's Content and Terminology on the Network

The script of the lay panel briefing paper contained guidelines that created a delimited profile of the topic under investigation that aimed to provide a shared lexicon and a guide to discussions for the lay panel. A list of issues and the spectrum of arguments raised by gene technology applications was defined by the steering committee. However, the briefing paper was not only the result of the identification by the steering committee of what issues were worth further investigation by the lay panel, but also the result of previous research on gene technology. The briefing paper was what Law (1986) described as a 'physical manifestation' of previous research, a distillation of many years of gene technology expertise, of extensive research and laboratory testing, of publication, arguments and counterarguments. Analysed and synthesised into a user-friendly format suitable for informing lay opinions it epitomized a simplified black box of gene technology issues.

In compiling the briefing paper, the steering committee created a highly mobile expert able to impart knowledge to 14 geographically diverse lay citizens. Accordingly, the briefing paper, like the Danish protocols, can be thought of as a set of preformed recommendations issued for the purpose of guiding decisions (Berg, 1998). While the briefing paper did not contain a specific set of instructions per se, it did establish a conceptual and methodological framework designed to guide the user, the lay panel, through a sequential learning process. By presenting the lay panel with a neatly defined package of gene technology issues, and the spectrum of arguments therein, the steering committee aimed to prevent the lay panel from seeking and defining additional issues outside of the scope of the briefing paper, thereby establishing the network's solidarity around a shared lexicon and its meanings.

While the Danish protocols functioned to transform the lay panel actors in the preparatory weekends network to make their behaviour definite, uniform and predictable, so too the briefing paper aimed to make their lexicon and, therefore, their discussions definite, uniform and predictable (Callon, 1991). Like the protocols, the briefing paper was a regulating device developed by the steering committee to distil balanced and ordered information from a wide range of views and assertions including pretence, speculation and misinformation on gene technology issues. Yet, efforts by the steering committee (and further implemented by the facilitator) to limit the range of permitted discussion and establish a shared lexicon were ineffective. The introduction of unauthorised materials by a lay panellist had a destabilising effect on the operation of the conference network. The introduced materials penetrated the boundary defining the range of permitted discussion. One palpable effect of this was the pursuit of an extraneous line of questioning by some panellists, particularly aimed at the Monsanto representative, at the conference proper. Furthermore, alliances within the lay panel were destabilised as the information was distributed to some, but not all, members of the lay panel, thereby creating new, exclusive micro-alliances within the panel itself. Furthermore, the extent of the information, official and unofficial, meant that some pieces of information were not read, so not all panellists were successfully recruited into the shared lexicon.

THE NATURE AND ORGANISATION OF THE PREPARATORY WEEKENDS

The two preparatory weekends were attended by only some of the network actors identified in the previous chapter while others were prohibited from doing so. Those granted access to the included the lay panel, facilitator, conference coordinator, expert presenters, a professional writer and members of the facilitator subcommittee.

Access was granted more or less according to the Danish protocols. While it is customary for the preparatory weekends to be conducted behind closed doors to preserve an impartial ‘knowledge acquisition’ process, the exclusion of the evaluators by the facilitator was unusual, though limited access was eventually granted to the official evaluators at the second preparatory weekend.

A requirement for participation in the lay panel at the consensus conference was availability to attend the weekends that of course involved taking time away from work and family (Australian Museum, 1998c, f). These sessions, designed to give participants an opportunity to become informed about the topic and to decide which aspects of it were important to them, resulted in the lay panel’s identification of key issues and related questions it wished to explore at the conference. The lists of issues and questions were subsequently used by the lay panel as indicators for the types of expertise considered necessary for the conference proper. In the interim, seven experts representing a range of scientific, ethical and public policy perspectives were invited by the members of the speaker subcommittee to address the lay panel on a corresponding number of topics across the two preparatory weekends. The preparatory weekend meetings were a key alignment device: bringing people together is a way of promoting team spirit (with the assistance of the facilitator and conference coordinator) among the newly formed panel (Australian Museum, 1998f). The first meeting was used to socialise the lay panel into the key lexicon, while the second meeting helped to link experts and lay panellist enabling the latter to appreciate, and become accustomed to using, some of the basic expert vocabulary.

The First Preparatory Weekend: Sydney, 22-24 January 1999

The morning of the first day afforded the steering committee the opportunity to describe (via the facilitator) the conference process and its objectives, the roles and responsibilities of participants including the various protocols governing the conduct of, and interaction between, participant groups. The first weekend functioned as an extension to the introduction to genetics provided in the briefing materials (received by the lay panel two weeks earlier), as well as providing insight into social and ethical responses to gene technology. Experts were selected because of their ability to communicate and elucidate complex scientific issues to a lay audience. The first of two topics addressed during this weekend focused on ‘Basic Biology’ (Associate Professor David Briscoe, School of Biological Sciences, Macquarie University) and defined such key terms such as ‘heredity’ and ‘genes’ and explained the consequences of genetic engineering and consuming DNA. The second, ‘Science, Society, Media and Ethics’ (Annie O’Rourke, Institute of Sustainable Futures, University of Technology, Sydney) demonstrated how the ways in which discourse is framed could affect lay responses. The experts continued to make themselves available to the lay panel throughout the afternoon to clarify additional points raised in the panel’s discussion and identification of key issues. To expedite this complicated process the facilitator divided the panellists into groups of four to five to encourage detailed discussion and ensure the coverage of a preliminary list of issues.

The smaller groups merged on the second day to delimit, refine and agree upon the number of issues that represented the combined interests and concerns of the panel. The panel agreed on ten key issues that they wished the expert speakers to clarify at the conference in order to formulate their recommendations for the report. Prominent among the panel’s concerns were regulatory issues, in particular, the

processes of decision-making regarding gene technology. The impact of regulation on Australia's relationship with its trading partners was a key concern, as was the identification of what constitutes an 'acceptable risk' and, in particular, risks to the environment and human health. The panel therefore wanted confirmation that policy-makers would be asked to consider a broader range of issues, including ethical and moral issues and potential alternatives to gene technology, when formulating GMO policies. The panel also wanted the monopolistic practices of certain multinational companies, prominent in the media at the time, curtailed through the implementation of new regulations. Furthermore, strategies for ensuring increased levels of public awareness and participation in GMO issues and the provision of labelling and choice to consumers when buying genetically modified food were of paramount concern.

The facilitator informed the lay panel of the general criteria used in selecting appropriate experts for inclusion on the expert panel for the conference proper, including: "being abreast of the latest knowledge; having a good overview of the topic; having good communication skills; and being receptive in debates" (Grundahl, 1995: 34). Based on this information and their list of key issues, the lay panel identified its preliminary specifications for the types of experts and points of view required. Attempts were made by the panel to match its requirements with a list of more than 40 potential experts compiled from the personal recommendations of steering committee members²⁴. The biographical details of some of those listed were also provided to the lay panel. A greater number of experts had initially been contacted by the project manager prior to the preparatory weekends to ascertain their availability to attend the consensus conference proper and their position on gene technology. They were informed of the conditions of participation, such as

²⁴ In comparison, a list of 120 potential experts speakers was accrued for the UKNCC from the personal recommendations of the steering committee and from 'brainstorming sessions', the British equivalent of the Danish 'hearing of interested parties' (Joss, 1995).

responding to clearly specified questions, keeping their presentations short and of their mandatory attendance throughout the conference. Approximately one quarter of these had withdrawn, as they were unable to commit to the dates required. The lay panel later requested the addition of a 'religious speaker' to fill a noticeable gap in expertise among the expert speakers (Australian Museum, 1999d). The steering committee agreed to its request. At this stage, the steering committee had not provided any guidance to the lay panel vis-à-vis the appropriateness of individual speakers regarding their communication skills or expertise.

Finally, the lay panel asked the steering committee for the inclusion of nutritionist and steering committee member, Rosemary Stanton, amongst the expert presenters scheduled to address it at the second preparatory weekend (Australian Museum, 1999d). The steering committee declined this request on the grounds that steering committee members should be excluded from participating as experts (Australian Museum, 1998d). The lay panel also conveyed its preference for grouping together the presenters in the second preparatory weekend rather than staggering them, as was done in the first weekend. In addition, the lay panel wanted the presenters to declare their points of view on gene technology up front to make their perspectives on the topic known. Finally, the lay panel established the agenda for the second preparatory weekend.

The lay panel's discussions during this first preparatory weekend focused on defining the list of key issues to be addressed at the consensus conference proper. In doing so, the panel, while relatively faithful to the range of issues initially defined by the steering committee, added to its agenda an investigation of the actual processes of decision-making regarding gene technology. Members wanted to determine the level of lay, ethicist and stakeholder participation in these processes. By insisting on

the inclusion of these materials, the panel effectively redefined the boundary of permitted discussion for the consensus conference proper.

The Second Preparatory Weekend: Sydney, 12-14 February 1999

The evening before the second preparatory weekend began the facilitator arranged a meeting between the lay panel and members of the facilitator subcommittee who tried to quell the panel's suspicions of predetermined agenda-setting by the steering committee. The aim of this meeting was to repair a section of the conference network perceived by the facilitator to be weak, and to ensure the clearly separate identities of the network actors. Meetings of this kind are not a standard practice in consensus conferences. Some fellow steering committee members were not comfortable with this arrangement believing that all members of the steering committee should have participated in the meeting if it was to take place. Indeed, the meeting was also the cause of some discontent among the lay panel. One panellist was of the "understanding that the steering committee wasn't supposed to come and talk to us . . . The [representative] from the WWF spoke to us . . . and he took a reasonably large role in answering content questions, which I didn't think was appropriate" (L3). The two Phase 1 evaluators were also introduced to the lay panel at the beginning of the second preparatory weekend by the chairperson of the evaluation subcommittee.

The topics covered by the experts during the second preparatory weekend were characterised by more thorough investigations into specific applications of gene technology, in particular, the social, political, economic and environmental implications these might have for society (Australian Museum, 1999f). The morning session of the first day was shared by Dr T.J. Higgins (Division of Plant Industry,

CSIRO) who discussed the issue of 'Gene Technology in Plants and Animals' and Dr Richard Jefferson (Director, Centre for the Application of Molecular Biology to International Agriculture – CAMBIA) who spoke about the 'Application of Molecular Biology to International Agriculture'. Higgins and Jefferson presented different views on the current application of gene technology to plants and animals, its potential applications and the possible risks and benefits posed by such applications. Later that day, Dr Paul Brown (School of Science and Technology Studies, University of New South Wales) discussed 'Science, Uncertainty, Risk and the Precautionary Principle'. Brown explained the social construction of science and its relevance to decision-making by focusing on the role played by uncertainty, risk, probability and proof. He also introduced the precautionary principle as a key principle of ecological sustainable development and a response to scientific uncertainty. The morning session of the second day was assigned to Associate Professor Jan McDonald (School of Law, Bond University) who addressed the issue of 'International Trade Constraints'. McDonald explained how these constraints affected Australia's policy choices within the framework of national sovereignty versus harmonisation. She also discussed the sensitive issues of market dominance by multinationals and the effect of intellectual property rights on the developing world. The afternoon session, on 'Ecology and Biodiversity', was presented by Professor Andrew Beattie (School of Biological Sciences, Macquarie University) who discussed the potential impact of novel organisms on biodiversity/ecological integrity and the ability to judge the likelihood of damaging impacts. He also addressed the practice by multinationals of linking genetically engineered organisms to manufactured agricultural products (e.g. pesticides). The especially sensitive issue of bioprospecting and its impact on developing countries was also addressed.

Intense deliberations among the lay panel to establish the key questions continued after the expert presentations on the first day as the lay panel was again divided into small groups. Each group was assigned two to three key issues by the facilitator and charged with formulating a number of key questions and sub-questions. The preliminary list of key questions was refined on the second day by the panel as a whole, to ensure that each question reflected the opinions and interests of each of the panel members. A professional writer attended this final day of the preparatory weekends to assist the lay panel with clarifying the wording of their key questions. Carefully phrased questions are fundamental to engaging expert speakers and eliciting incisive responses and to capturing the interest of the audience and wider public. The international protocols allow for eight to ten key questions; the Canadian and Danish gene technology consensus conferences held concurrently with the Australian consensus conference comprised six and ten questions respectively. The lay panel of the Australian consensus conference developed a list of eight key questions:

1. What constitutes an acceptable risk of introducing genetically modified organisms into the food chain?
2. What are the fundamental issues affecting the environment in relation to genetically modified organisms, and what are the potential negative impacts of gene technology on living organisms?
3. What would happen if Australia said 'no' to allowing gene technology, particularly in the areas of agriculture, the environment and our relationships with other countries who [sic] will allow gene technology?

4. What are the ethical issues involved in altering the fundamental building blocks of life through gene technology, including the issues of ownership, control and manipulation?
5. Why have multinational corporations been allowed to decide the fate of genetically modified organisms in the food chain internationally thus far, and what are the dangers of this?
6. Could you outline which treaties and trade agreements Australia is subject to that affect our ability to make or change our decisions about gene technology in the food chain?
7. What information about genetically modified organisms should the public be made aware of at all stages of food production, from paddock to plate, rather than at the point of sale alone?
8. How will consumers be provided with the information necessary to enable them to make a well-informed choice to buy or not to buy genetically modified food?

The lack of time and information available to the lay panel regarding the selection of the most suitable expert speakers meant the panel had to delegate the selection of a number of expert speakers to the facilitator and steering committee. Consequently, the final composition of the expert panel for the consensus conference included some the lay panel had not heard of or whom they had not chosen, for example, the Director of the CRC for Weed Management Systems, Professor Rick Roush. Eventually, 13 expert speakers were invited to address the lay panel at the consensus conference proper. Two to three expert speakers, representing a range of perspectives, were designated to respond to each key question and related sub-

questions with some speakers assigned up to three key questions. The number of expert speakers chosen fell within the range of 12-15 recommended by the Danish protocols (Grundahl, 1995).

Although the lay panel had defined the regulation of gene technology in the food chain and the processes of decision-making surrounding it as key issues in the first preparatory weekend, its failure to formulate specific key questions to investigate regulatory issues effectively took them off the conference agenda. Moreover, as the final selection of expert speakers was determined by the list of key questions, there were no speakers invited to discuss regulatory matters and the decision-making processes surrounding it at the conference proper. Furthermore, the process of assembling the expert panel was impeded by a lack of time, forcing the lay panel to delegate its final composition to the facilitator. Finally, the meeting held between the lay panel and the facilitator subcommittee had a destabilising effect on the consensus conference network. This deviation from the Danish protocols resulted in a subcommittee member fielding questions that were the responsibility of the expert presenters which, as I discussed above (p. 129), was not appropriate as steering committee members should be excluded from participating as experts.

PARTICIPANTS' VIEWS OF THE PREPARATORY WEEKENDS

From the outset of the preparatory weekends, the lay panel's relationship with the steering committee and the facilitator was fraught with ambiguity. On one hand, the panel was genuinely grateful to have been selected to participate in what some referred to as a 'life changing experience' and 'an important event'. On the other hand, some were rather resentful of what they perceived as the steering committee's 'predetermined agenda' governed by its intermediary, the facilitator. Interestingly,

while the facilitator's 'controlling nature' and constant intervention in lay processes was also the focus of much of the panel's discontent, the facilitator's ability to successfully 'negotiate and manage the group's dynamics' was perceived to be (overall) the most successful aspect of the preparatory weekends. The facilitator's ability to motivate and to focus the minds of the lay panel was highly regarded by one panellist who thought "the facilitator did a really good job of bonding us all together . . . we all had a very clear sense of purpose . . . we were a team, we were all in this together [and] everyone had something to offer" (L1).

Undoubtedly, the interactions between the facilitator and the lay panel throughout the preparatory weekends elicited the most impassioned responses from panel members. Those who viewed the facilitator's interactions with the lay panel positively commented on "the facilitator's clear sense of purpose" (L1) and "exceptional [ability] in identifying the likely problems that occur in group dynamics" (L7). Some viewed the facilitator's ability to get the panel to "work together as a team" (L9) and "to encourage communication channels" (L14) as extremely helpful. One panellist found the facilitator's handling of the panel's interactions difficult in terms of establishing a sense of interaction between the panel members, particularly, when "members of the panel disagreed about things . . . the facilitator would step in, stop the discussion . . . and provide a definitive answer. So, my sense was that our facilitator was just highly directive and controlling of our discussions and the focus was primarily on her" (L3). A panellist admitted to increasing cynicism of the process brought about by the lay panel's inability to control the agenda due to time constraints enforced by the facilitator. "I felt we were being railroaded, and while [the facilitator] was very good at what she does, . . . I felt as if we were being driven. There definitely wasn't time to discuss amongst

ourselves . . . and I really resented that. I felt behind that was another agenda, that of the steering committee . . . driving us to arrive at a predetermined conclusion” (L11).

Over half of the lay panel members were of the opinion that there were equal levels of interaction amongst lay participants: “as a group we all got a chance to have a say. I don’t think any particular individual . . . had too much influence on anyone else” (L2). One panellist, however, was particularly critical of the levels of interaction during the small group exercises. “There were key individuals who dominated those discussions and at one stage there were two individuals that nobody wanted to work with . . . and unfortunately that had a really bad impact on the consensus conference proper where we had a huge blow up between one member and this particular person who[m] everyone else had identified as someone no-one wanted to work with” (L3).

While the majority of lay panel members’ expectations of the expert presentations had been met, the lack of candour demonstrated by some experts was a cause of concern for some. One panellist assumed “they would be honest and straight down the line – instead the expert speakers had tunnel vision and were out to deceive. They assumed we were naive” (L6). A second panellist felt that there were situations where the expert presenters deliberately avoided giving a direct answer to a direct question, which made him suspicious. “Some were more open about the subject while others tend[ed] to be a little bit secretive or in some cases even a little bit offended that they would be asked such a question. [As though it was] beneath their dignity” (L5). A third panellist admitted that information provided by one member of the group also made her feel suspicious of what the experts were saying and that at no point did the experts do anything to address the panel’s suspicions. To her, the experts’ appeared conceited, it was a case of “don’t worry, we’re scientists,

you can trust us” (L3). When, on the second weekend, the panel was addressed by Andrew Beattie (Macquarie University) and Richard Jefferson (CAMBIA), the panel “received confirmation of the information being fed into the group by the member which . . . meant that we threw out the baby with the bath water in terms of evaluating the other experts’ information” (L3).

It was also noted by the facilitator that, for reasons of personality and style, certain expert speakers were more influential than others and consequently they were not questioned as closely as their less influential colleagues by the lay panel (McKay and Dawson, 1999). The official evaluators, however, reported that this occurred on both sides of the debate and was therefore considered not to be detrimental to the process. Nevertheless, the appropriateness of the content, length and pitch of the expert presentations was deemed important by the lay panel. A panel member found that the content of the experts’ presentations was generally too scientific; “I don’t think they got their points across properly to where we fully understood the implications”. Consequently, he thought “the speakers were more pro the technology. I wouldn’t say [they presented] a really balanced view” (L2). The range of topics covered also came under scrutiny with some panellists feeling that while the scientific angle was sufficiently covered, “the intellectual property side was not properly covered . . . there was not enough emphasis on that”. Moreover, “. . . the moral and religious aspect was not covered at all in the preparatory weekends” (L13).

The formulation of key questions was central to the role of the lay panel, yet limited time on the final day meant that it had to entrust the facilitator and the professional writer with the final wording. While the majority of panellists were satisfied with the process used for the formulation of questions for the consensus

conference, the lack of time in refining the questions was widely regretted. “Things were rushed too much, especially on the last weekend, the last day. We had to get too much [done] to get an input from everybody so it was left to little groups of three to four to decide on issues that the whole group were [sic] actually represented on” (L2). The delegation of the formulation of key questions to smaller groups resulted in the marginalisation of members who thought that the formulation of questions was a whole of group process: “[for each of] the questions . . . asked there were four to five key areas that people didn’t have any input into at all . . .” (L3). Conversely, the process used for formulating the key questions was viewed favourably by one panellist who thought “[it] refined in our heads what the issues were and what we interested in. So, when it came to writing the report it was pretty clear . . . what we were looking at. That really focused our minds on what we had to do and prepared us quite thoroughly” (L1).

Half the members of the lay panel felt they had not been given enough time to prepare questions for the conference. Due to the lack of time the facilitator often intervened, “making executive decisions that should have been the role of the lay panel. . . . It seemed that she would ask a question, ask what we think, but in the end it would always be, ‘why don’t we go this way,’ . . . I felt locked out of the [preparatory] weekends” (L11). The same panellist also admitted to feeling that the panel was being led towards a predetermined outcome, “that we had to arrive at x, y and z because the questions . . . certainly didn’t come from us. [On] the second weekend, . . . I particularly wanted to have something included and I wasn’t able to, . . . I kept bringing it up all weekend and the facilitator kept saying we’ll deal with that later and in the end she said there’s no time for it now” (L11). The lack of preparation time to formulate key questions adequately also had a detrimental affect

upon the panellists' confidence levels. One panellist was aware of the purpose of time constraints "but it felt like [the formulation of questions] was shoved in basically at the last five minutes and done off the top of our heads. We had done a lot of scouring [for information] ourselves, but maybe if we had more speakers and more time to prepare the questions then I would have been more confident in [formulating] the questions" (L10).

Time constraints at the end of the second preparatory weekend also impeded the lay panel's attempts at choosing appropriate expert speakers for the consensus conference from the list provided by the steering committee. A lay panel member who wished they had had another day to reach a decision "found the final few hours of the preparatory weekends really stressful, and we still had to decide who were going to be the speakers. . . . We ended up having to leave it to the steering committee" (L1). The lay panel's task of choosing appropriate speakers was made even more difficult by the lack of detail provided by the steering committee. The panel was "given a list with brief descriptions of speakers Basically, what we did was quickly look through those lists, get into groups and . . . we were given ten minutes . . . to quickly choose which speakers would suit. So, it really wasn't much time and we knew nothing about them" (L10). Another panellist also found the lack of detail frustrating as summaries of only some of the expert speakers were provided, "I would like to have known more about the proposed experts' views and their stake in the subject" (L2). Accordingly, one panellist felt "unsure that we chose wisely from the initial pool of candidates. The steering committee were [sic] unhappy with our final selection and made their own suggestions" (L7). Another panellist did not welcome intervention in this process by the steering committee and the facilitator, thinking that the lay panel "would select all of the speakers. The final selection

included some we had not heard of. We had to rely on the steering committee and the facilitator to select speakers, which was not what we agreed to” (L3).

Nevertheless, one lay panellist was of the opinion that the selection provided by the steering committee was sufficient, “I think there was probably a pretty good selection . . . None of us knew who would be good [speakers] so we had to be guided by the steering committee and I think they gave us enough choice (L9). Although the panellist later conceded that selecting the expert speakers was the ambit of the lay panel and “in hindsight, I did think maybe we should have spent more time on it”. A second lay panel member agreed with the opinion that the steering committee was better equipped to choose the expert speakers, “because [the lay panel] were . . . looking in from the outside, we didn’t know who these scientists were. If the steering committee is a balanced committee covering all angles, then a conflict of interest [should be avoidable]” (L2). The same panellist, however, later concluded that the process of selecting suitable experts, particularly, the facilitator’s intervention, was one of the least successful aspects of the consensus conference. According to him, “the facilitator basically decided 90 per cent of who we were going to have and who we weren’t going to have. . . . because of the time constraints, she just had miles too much influence. It was even being discussed after people had gone home, . . . by the facilitator and a couple of other panel members, about who the best speakers would be” (L2).

As the description of the process used in the selection of expert speakers reveals, the lay panel was frustrated by the perception that it was being ‘channelled’ along certain paths due to a lack of sufficient time and information to perform its role. The steering committee and facilitator became the panel’s obligatory passage points. Because of the rigid time constraints, albeit unintentional, the lay panel was

forced to look to the steering committee and the facilitator for support in order to perform its role. Although the lay panel's role was defined by the Danish protocols and subsequently adopted by the steering committee, the steering committee prevented the lay panel from performing its specific role by hindering access to the appropriate information. A comprehensive list of expert speakers, including adequate biographical information on their particular expertise, would have enabled the panel to make its selection without deferring to the facilitator. It is also the steering committee, according to some members of the lay panel, who ultimately end up controlling the agenda, and not the lay panel as suggested by the protocols: "There was just not enough time. I eventually became cynical of the process as I felt the lay panel was being driven by the facilitator and that the steering committee had a predetermined agenda" (L11). Thus, in spite of the network's aim of establishing equality among all participants, textual devices such as the protocols, and a partial list of expert speakers perpetuated the latent hierarchy within the network. As I discussed in Chapter 3 (pp. 100-111), although the protocols aim to create a level playing field for all participants, its script is weakened by the latent hierarchy between experts/lay and organisers and lay participants. To perform its role successfully, the lay panel had to rely on the adequate provision of information by the steering committee and this was not forthcoming.

CONCLUSION: MOVING THE NETWORK IN THE PREFERRED DIRECTION

This investigation of the production and implementation of the briefing paper as a strategic alignment device, focussing on the script the paper embodied, revealed how its script guided the lay panel's deliberations throughout the preparatory weekends (Akrich, 1992; Akrich and Latour, 1992). Thus, we are able to conclude how far the

steering committee, via the briefing paper, guided the lay panel's discussion and its outcomes, moving the preparatory weekends' network in the preferred direction. An examination of the major issues raised by the topic, as identified by the steering committee in the journalists' guidelines and further defined in the briefing paper itself, and the list of the key issues and subsequent key questions identified by the lay panel, suggest that the steering committee was successful in guiding the discussions of the lay panel. The list of eight key questions established by the lay panel for use in the consensus conference proper was identical to the eight issues initially identified by the steering committee in the journalists' brief. Thus the repetition of forceful words, consistent with co-word analysis, has allowed the translation of the lay panel's interests to be traced (Callon et al., 1986b). The script's control over the lay panel, however, extended beyond the written word of the briefing paper. Once it was put into practice the role of the facilitator and that of the expert speakers, as 'intermediaries' of the steering committee, was to ensure that the lay panel remained focused on the predetermined issues (Callon, 1991).

However, a number of lay panellists and expert presenters mounted challenges to the steering committee's deterministic approach to the preparatory weekends. Those amongst the lay panel who doubted the balance, validity or scope of the briefing information provided to them sought alternative avenues of information, one even distributing it amongst the group. Consequently, the micro-alliances within the lay panel itself were weakened as not all members were the beneficiaries of the supplementary information distributed by one of its members, and those that were not felt marginalised. The steering committee and the facilitator were ultimately powerless to prevent the distribution of this material that was predominantly anti-gene technology. Moreover, limited control over the content and

delivery of the expert presentations meant that some experts failed to sufficiently elucidate the issues to the expectations of the lay panel and of the steering committee. Some network actors actively challenged the steering committee's attempts to delimit the lexicon thereby altering their role and tasks in ways not explicitly elaborated in the script.

The lay panel is situated at a strategic point in the consensus conference network and as a consequence, ultimately, the validity and the efficacy of the consensus conference depends upon the ability of the lay panel to "provide direction on the issue in order to encourage a fair and balanced decision-making process without undue influence from vested interest" (Lay Panel, 1999: 1). In order for the panel to achieve this aim, its members must be able to analyse the information presented to them in the briefing materials provided by the organisers and by the experts, who represent a spectrum of arguments regarding gene technology, while avoiding any potential influence exerted by other consensus conference network actors. An expert who addressed the lay panel during one of the preparatory weekends noted "the extent to which panellists had developed their knowledge, understanding and confidence to question experts' submissions" (McDonald, 1999: 4). However, a close examination of the network of actors brought together throughout the preparatory weekends and their connection by an array of alignment devices demonstrates that other network actors incontrovertibly guided the lay panel's discussions and decisions.

To place the constant negotiations and conflicts that have shaped the preparatory weekends network into context it may be useful to think of the consensus conference in terms of the unstable coexistence of theory and practice. In theory, texts and other alignment devices are designed to shape people's responses,

but in practice, the way meetings/presentations evolve ensures that the consensus conference network will also be a site for constant conflict. The consensus conference process, outlined by the Danish protocols, is composed of a series of textually and historically stable identities. That is, the conference consists of a series of seemingly stable and distinguishable actors and entities that each play a specific role scripted by the protocols. Nevertheless, as the evolving discourse of the consensus conference suggests, some network actors may feel constrained by their defined roles and the stable structure of the consensus conference network. So there coexists another consensus conference at the level of practice, which has different characteristics. In this construction, network actors and entities embrace complex, unscripted roles, and instabilities inherent to their interactions emerge.

The strategic use of documents and meetings enabled the organisers of the first Australian consensus conference to exercise what Law (1986) described as 'long-distance' control over the preparatory weekends. Though neither the Australian Museum nor the steering committee was on hand to ensure the effective operation of the preparatory weekends, both were confident that the alignment devices it had put into circulation would create the necessary network linkages. Reminiscent of the way in which scientists manage their laboratories by influencing their peers, universities and grant agencies by using instruments and scientific results (Callon, 1986b; Callon et al., 1986a; Latour, 1986), the organisers similarly sought to manage the consensus conference process by influencing the actors it aimed to enrol, specifically the lay panel, with alignment devices. To create the appearance of an impartial and therefore credible process, the organisers managed the preparatory weekends from a distance using a mixture of alignment devices including meetings, texts and money. Therefore, as this thesis suggests, in order to follow the process of

translation it is beneficial to practice *generalised symmetry* by talking of meetings, texts and money in the same analytical terms.

5. Staging the Performance: Contested Scripts and (De)Stabilisation Devices

THE SCRIPT OF THE DANISH CONSENSUS CONFERENCE MODEL

While some actor-networks embody fluid and informal ‘spaces of negotiation’ others, like the consensus conference network, are more regulated ‘spaces of prescription’. The Danish consensus conference model is a highly prescriptive arrangement bound by formal protocols, conventions and established procedures that carefully prescribe formal interactions between network actors. The patterns of interaction between (policy) network actors are important for (potentially) reducing the width of the issue spectrum under discussion.

The consensus conference proper, according to the Danish script, is usually held over three to four consecutive days. The first day is dominated by each of the expert speakers delivering a presentation in response to a key question developed by the lay panel. Some expert speakers may only be assigned one key question while others will be required to respond to several, depending on how the final mix of expertise corresponds with the number of key questions. Usually three expert speakers are chosen to address value-oriented questions, such as those addressing ‘ethics and morality’, whereas two expert speakers are generally chosen to respond to questions that are more empirical (Fixdal, 1997). Experts are allocated 20 to 30 minutes to communicate their particular knowledge of the issue, any areas of uncertainty, and their vision of possible solutions, followed by an opportunity for the lay panel to ask a few questions (Grundahl, 1995). Provision for the experts to raise

additional points not identified by the lay panel or addressed by other speakers is made only if time permits. Up to 15 expert presentations are made in the course of the first day (Grundahl, 1995). It is therefore imperative that the chairperson or facilitator in charge of moderating the events ensures that the expert speakers are concise and the supplementary questioning by the lay panel is focused. At the end of the first day, the lay panel retires to reflect on the information provided in response to the key questions, identifying those that have been explained to their satisfaction and those that require further clarification. A supplementary list of questions, aimed at eliciting clearer and more comprehensive responses, is agreed upon. The questions, listed in order of sequence, are then divided amongst the lay panel members.

Expert speakers are singled out to respond to supplementary questions posed by the lay panel on the morning of the second day of the consensus conference. A wider forum that also allows the audience to question the expert speakers and, on occasion, the lay panel, follows. The informal structure of these sessions requires the facilitator or chairperson to focus the attention of the expert speakers on the questions asked and to clarify, where necessary, the questions raised by the audience. In the afternoon the lay panel adjourns to begin assembling its recommendations. Using the key questions as the foundation for its report, the lay panel reports its vision of the issues discussed, evaluates the various options, and states its recommendations. The report writing process is generally long and arduous, often extending well into the night. The lay panel is assisted in its task by a facilitator, whose role it is to focus the minds of the panel, to ensure that each has a say and to identify when a line of discussion is expended. To expedite this process, the panel is often divided into smaller groups and assigned two to three related key questions

(Grundahl, 1995). The results of the group work are then reported back to the panel in regular plenary sessions. While every effort is made to achieve consensus on the issues under discussion, the Danish protocols recognise that minority opinions should be allowed when broad divergences in opinion occur (Grundahl, 1995). Group dialogue on differences of opinion is encouraged to achieve the widest possible consensus, rather than a process of negotiation where minor opinions are traded for 'majority rules'. While consensus amongst lay participants is an integral element of the Danish model of consensus conferencing, the first Dutch consensus conference on *Genetically Modified Animals* (1993) did not list achieving consensus amongst its main objectives (Klüver, 1995; Mayer, 1997). Rather, the Dutch lay panel reported a minority and majority position on the issue. An evaluation of the Dutch consensus conference found that a diversity of opinion had developed within the lay panel resulting in a decline rather than an increase in consensus (Mayer, 1997). Nevertheless, the Danish Board of Technology has persisted with striving to achieve consensus, believing that it provides an interesting and valuable alternative to conflict-oriented debate central to most social debates (Klüver, 1995).

On the third and final day, the lay panel presents its consensual recommendations in the form of a report. The report is distributed among all conference participants prior to the lay panel members reading their recommendations. The expert speakers are provided with the opportunity to correct any technical or factual errors contained in the report, though they may not alter its tone or content. The audience is then invited to join the expert speakers as they address and discuss with the lay panel the conclusions drawn in its report. This draws to a close the official programme of the consensus conference. Later that day, media representatives are invited to interview members of the steering committee,

lay panel and expert speakers at an informal press conference. An important part of the consensus conference process scheduled to take place after the event is the publication and wide-dissemination of the report by the organisers. As ordinary citizens construct the recommendations, no one particular interest is represented. Likewise, the lay panel's report has no one particular target, but hopes to inform parliamentarians, public policy-makers, scientists, stakeholders and the general public. A final document, including the amended lay panel report (as per the suggestions of the expert speakers relating to technical and factual errors), a brief overview of the consensus conference process and topic and a list of each of the participant groups, is distributed to members of the Danish Parliament, media representatives, interest and stakeholder groups and the general public.²⁵

I now turn to the Australian performance of the Danish consensus conference script which, as we will see, contained various modifications. It is doubtful, however, that the modifications will generate another model, itself to be reproduced in Australia or elsewhere.

THE AUSTRALIAN PERFORMANCE

While the Senate is usually seen as the more sedate of the two houses in terms of debate, there were still times the personalities came to the fore and discussions became heated (Commonwealth of Australia, 2002).

This statement could easily be used to describe the events that took place in the Senate Chamber in Old Parliament House in Canberra over three days from 10-12

²⁵ In 1995, Danish consensus conferences were extended to four days to allow additional time for the compilation of the lay panel's report to overcome the exhaustive effects associated with the three day program (Fixdal, 1997). Rather than subjecting the lay panel to an overnight report writing session, the panel undertake these duties during the third day, thus deferring the reading and discussion of the conclusions to the fourth day.

March 1999. The Senate Chamber, as the location for the consensus conference, presented the ideal venue to construct a socio-political theatre-in-the-round in which the audience surrounds the main performance area (see floor plan below). The physical and configurational informality of theatre-in-the-round is said to promote more dynamic interaction with the audience leading to increased rapport between the actors and the audience.



Floor plan of the Senate Chamber in Old Parliament House, Canberra. The lay panel is seated in the inner row of the right-hand side of the chamber; the expert speakers are seated opposite in the inner two rows of the left hand-side of the chamber

Several categories of actors performed in this unique event. Seated on the old red leather benches on opposite sides of the centre stage were the lead performers, the lay and expert panels. Positioned prominently at the head of the chamber in front of the ornately carved speaker's chair were the conference managers, the chairperson

and facilitator. Audience members were seated in the rows that radiated from behind the lay panel and expert speakers and in the upstairs galleries. Audience numbers averaged 150 for each of the three days and included members of the steering committee (not all were in attendance), government, industry and scientific sector representatives, some political staffers (most notably from the Australian Democrats), as well as a regular rotation of school groups in the upstairs galleries. Half a dozen members of the press, including ABC Radio/Television and Channel Nine crews and local (Canberra) newspaper reporters, were afforded a bird's-eye view from the upstairs gallery at the head of the chamber. As the chairperson called upon the members of the expert panel to deliver their speeches, they stepped up to the central table that dominated the centre stage.

The 'rules of interaction' outlined in this chapter perform an organisational and managerial function in the consensus conference network. The restrictions on interaction embodied in the script of the Danish protocols, and enforced by the chairperson and facilitator, narrowed the spectrum of discussion of the first Australian consensus conference. The cast assembled in Old Parliament House, their *potential* patterns of interactions (everyone having equal access to everyone else in both oral and written form) and their *actual* patterns of interaction represented some drastic restrictions on what was theoretically possible (and, in the case of written communication, what *did* happen in overseas configurations of the Danish script). For example, in the Australian case, the audience was not allowed to address the lay panellists directly, the expert speakers were prevented from thanking the lay panel at the conference's end, and the media was only allowed to interview select members of the steering committee and lay and expert panels. Occasionally, however, the

rules of interaction, particularly during the conference breaks, were breached without difficulty or serious consequences.

The sequencing of conversation that dominates the lay panel's cross-questioning of the expert speakers implies, according to the literature on conversation analysis, that conversation constitutes a before and after relationship that is relatively ordered (Silverman, 1998). A question demands an answer in response, *ipso facto*; the question always precedes the answer. Thus, the formal interactions inherent in consensus conference networks establish a hierarchical relationship between those that ask the questions (the lay panel) and those that are called upon to answer (the expert speakers). Questions and answers are also 'discriminatively related': that is, a questioner defines (or discriminates between) appropriate respondents (Silverman, 1998). Thus lay panellists had to direct any question regarding regulatory issues to a preselected expert respondent even though another speaker present was, as a member of the Genetic Manipulation Advisory Committee, better situated to respond but was prevented from doing so because of the 'rules of interaction'. Conversation analysis also recognises that a response may not be appropriate or even forthcoming. Where an appropriate response does not occur it is treated as noticeably absent, resulting in remedial efforts and negative inferences by the questioner (Goodwin and Heritage, 1990). For example, the repeated failure of Dr Bill Blowes to address the issues asked of him by the lay panel during formal cross-questioning sessions resulted in one panellist pursuing an answer from him informally outside of the chamber (remedial efforts). Dr Blowes's perceived evasiveness drew extensive criticism from amongst all categories of participant (negative inferences).

Day One: the Expert Speakers Take Centre Stage

The morning of the first day began with the official welcome to participants of the first Australian consensus conference by the chairperson of the steering committee, Sir Laurence Street. Sir Laurence emphasised that the selection process for the lay panel had been ‘sterile’ (i.e. without taint of bias), announcing that independent consultants employed by the steering committee had appointed the panel. Sir Laurence also lauded the rigorous nature of a consensus conference enquiry, where lay citizens lead an informed public debate. The Minister for Agriculture, Fisheries and Forestry, Mark Vaile, then delivered the opening speech at the conference, urging those present to ‘consider the economy’. The Minister declared “Gene technology is an issue of enormous significance to Australia, particularly to agriculture and food, but also to the health and pharmaceuticals industries, to the environment and the environment industry, to trade and to consumers both domestically and internationally” (Vaile, 1999: 2). While the Minister acknowledged that there might be risks, he argued that Australia could not afford to turn its back on the opportunities provided by gene technology: “Any risks must, and can, be managed and controlled” (Vaile, 1999: 3). His unwavering support for gene technology was evident in his comments regarding gene technology’s significance in anticipating future sources of competitive advantage, particularly for agriculture. In addition, his mention of the position the United States holds as a key trading partner and the world’s largest exporter of agricultural products clearly indicated that the Australian government was committed to avoiding any alienation of key and influential trading partners.

The benefits to the economy posed by gene technology applications flagged by Vaile in his opening speech presented the issue as essentially decided. His

comments were perceived as a clear indication of the Government's fixed position on gene technology and ironical comment from one expert speaker that they were "a metaphor for the attention [i.e. zero] to be paid to the consensus conference by the government" (E12). A lay panel member later labelled the Minister's speech as "one of the least successful aspects of the consensus conference" (L1). Indeed, a number of fellow panellists considered the Minister's speech tactless, that it "revealed the government had an agenda" (L3) and "confirmed the government had already made up its mind" (L10). Another panellist took exception to his 'naive' comments, "I took it as many others did, that he was trying to tell us what we should find" (L4).

Prior to the official programme getting underway, the facilitator, Sheena Boughen, explained to the audience the consensus conference process and its adherence to international protocols established by the Danish Board of Technology. The facilitator reported that throughout the preparatory weekends the lay panel had ably demonstrated its ability to detect bias and distinguish fact from fiction when addressed by the expert presenters. Furthermore, she explained that the lay panel had agreed to strive for overall consensus rather than present a majority and minority view. Thus, any minority views would in effect be suppressed and not be reported.

The first day of the conference was distinguished by the expert speakers responding in turn to the eight key questions and related sub-questions posed by the lay panel members. The experts were briefed by the project manager prior to the consensus conference and notified of their responsibility to adhere strictly to the points raised by the lay panel's questions. Two or three expert speakers addressed each key question. Each speaker was allocated 15 minutes to address the lay panel, followed by a 30-minute discussion to enable the lay panel to ask additional questions prompted by the presentations and to seek clarification where needed. The

Danish procedure of allowing individual expert speakers to answer more than one question was adopted in the Australian consensus conference, where four of the thirteen experts addressed two or more key questions each.

In the course of the first day, over a 10-hour period, 18 presentations were heard. The role of the chairperson was to ensure that the expert speakers adhered to the time schedule and did not speak out of turn. Concomitant to the chairperson's role throughout the consensus conference proper was the facilitator's role of managing the interactions between the expert speakers and lay panel members, while focusing attention on the key questions. Furthermore, the chairperson and facilitator were responsible for ensuring that the expert speakers pitched their presentations at the appropriate level, as instructed by the project manager. However, at least one expert speaker felt that there were times when other speakers sidestepped the questions being asked and "no one really seemed to pull back to the questions at hand" (E6). The members of the audience were non-participant observers on this first day.

The lay panel and expert speakers retired to separate hotels for the evening. The lay panel reconvened over dinner and, with the facilitator's assistance, began to dissect the experts' responses to their questions. They identified questions and points that required further clarification and began the process of compiling supplementary questions to assist them in answering the main issues they had identified prior to the conference. Once the list of supplementary questions had been completed, the panellists decided who was going to ask each of the questions, to whom the questions would be addressed and the order in which they were to be asked.

The Danish script exercised a significant degree of control over the lay/expert interactions during the course of Day 1, aided by the chairperson and facilitator who

acted as ‘traffic controllers’. Only if time permitted were the experts allowed to raise points supplementary to those identified by the lay panel. As well as the formal meetings that dominated the consensus conference network, less obvious were the informal meetings that occurred during conference breaks or behind closed doors. Informal meetings, such as the one held between lay panel members on the evening of the first day to formulate a supplementary line of questioning for Day 2, was just as, if not more, important for socialising the lay panel in the key lexicon. It enabled the panel to reiterate the major points discussed by the expert speakers during that day and helped focus the panel’s line of supplementary questioning.

Day Two: the Arduous Task of Reaching Consensus

The second day of the conference began with the lay panel posing its supplementary questions, in the form of cross-questioning, to the expert speakers. The lay panel’s questioning was hesitant at first but grew in confidence as the morning session progressed. Throughout this session the distribution of questions between opponents (16) and advocates (13) of gene technology was relatively balanced although, interestingly, one expert speaker representing the advocate’s point of view was overlooked because the lay panel was dissatisfied with her overly bureaucratic presentation. The second session involved further cross-questioning of the expert speakers, this time by the audience. However, the audience was not allowed to address the lay panel directly in this or any other session. The distribution of questions favoured the advocates (20) over the opponents (14) of gene technology and a certain amount of propositioning in the questions asked by the audience was apparent. Though not scheduled in the conference program, the lay panel conducted a further brief cross-questioning of the expert speakers, prompted by issues raised by

the audience's line of questioning. Again, the speaker representing the advocate's point of view who was overlooked in the previous session was bypassed on a question relating to her presentation. The question, instead, was directed to an outspoken opponent. With the benefit of hindsight, one of the panellists concluded that the lay panel was not strategic enough in its follow-up questioning of the expert speakers. She revealed that the lay panel did not have enough time to prepare a comprehensive and strategic secondary line of questioning. Consequently, individuals pursued their own lines of questioning which were often unrelated to the task at hand. Most notably, was one panellist's dogged pursuit of Dr Bill Blowes, a senior executive with Monsanto, which resulted in Blowes's premature departure from the conference. By the morning of Day 3, Blowes's seat was empty. These sessions required the chairperson and facilitator to be meticulous in their duty to focus the attention of the experts on the questions, and to moderate the questions posed by the audience.

My informal discussions with the lay panel during the course of the lunch break, just prior to the report writing session, indicated that the general feeling among the panel was one of frustration. The panel was frustrated by a lack of time and opportunity, as dictated by the facilitator, first, to complete their cross-questioning of the expert speakers and, second, to reflect on the morning's developments. Some expressed a desire to take a quiet, private walk before the report writing session.

The lay panel retired at 2.00pm to begin preparations for the report writing process. Throughout the afternoon and evening of Day 2 the lay panel prepared its recommendations, assisted in this process by the facilitator, conference coordinator and a professional writer. The facilitator's task was to focus the panel and to smooth

and expedite the progress towards consensus. The protocols confirm that the facilitator “will need excellent pedagogic and psychological skills to ensure that every panel member has a say” (Grundahl, 1995: 37). Indeed, the facilitator’s expertise in group learning and development, including the development of effective interpersonal skills was seen as particularly suited to her task. The professional writer assisted with the wording of the recommendations, while the conference coordinator provided administrative and (informally) emotional support, which some panellists found invaluable while others thought it inappropriate. The key questions were used as the framework for the report. To facilitate the writing process, panellists were divided into small groups, each charged with drafting recommendations for two to three related key questions. The recommendations were then subjected to wider discussion in regular group plenary sessions, where only those recommendations receiving unanimous support were included in the final report.

The report writing process was particularly arduous since it began late in the afternoon on the second day of the conference and continued through the night until 7.00am. The report was due to be presented to the audience and media at 10.00am on the third day. One lay panellist reported that the overnight report writing session was extremely difficult; one panellist cried, one walked out, two fought, and a disagreement occurred between the facilitator and a lay panel member regarding the final recommendations. The lay panellists were exhausted and most did not last the distance. This resulted, in the words of one lay panellist, in “agreement by exhaustion” (L3), or as another referred to it, “consensus by attrition” (L11). Although time pressure is an important element in focusing the minds of the lay panel, a possible solution is to amend the process, perhaps extending it to four days,

as was done in the Danish consensus conferences since 1995, or to reduce the number of key questions and the corresponding number of expert speakers involved. Joss (1998b), however, notes that despite the addition of an extra day to compose the recommendations, the lack of time pressure resulted in the Danish lay panels applying the finishing touches well into the night and following morning.

A frequent observation on the report writing session was the effect time constraints had on the interactions among the lay panel members. One lay panel member observed, “when it came to the finish the stronger personalities, those with the stronger views, won out because others for the sake of time or sick of arguing, gave up their points of view” (L2). A second panellist maintained that the report writing session was “the most harrowing, difficult and most unpleasant part of the consensus conference” (L13). Physical and mental exhaustion resulted in conflict and emotional exchanges between the lay panel members. One lay panellist remarked, “once the hours started to drag on people were getting tired and irritable, and they just wanted to go to bed. In fact, some did go to bed and not everyone was there at the final hour” (L5). However, before lay panel members were allowed to leave, the facilitator made sure, given that some of the panel were unable to go on, the remaining panel members were trusted to make decisions on behalf of those who wanted to leave. Nonetheless, one lay panel member was “worried what we would end up with when I did go to bed for my one hour sleep. In the end, I just answered yes, no, yes, no to the various points so that I could leave” (L10). A case in point was the panel’s indecision regarding the issue of where to house the regulatory body for gene technology. Members agreed that they did not want it aligned with the Agriculture portfolio, but had not conclusively decided on an alternative. The question was put aside and by the time the lay panel returned to it, most of its

members had gone to bed and those left felt they did not have the authority to make such an important decision.

The requirement of overall consensus among the panel had a palpable effect on the panel's deliberations and subsequent recommendations. A case in point was the repeated and emotive call for a 5-year moratorium by an opponent of the technology, an appeal that was not supported in the lay panel's report. While an expert speaker concluded that the omission of a five-year moratorium on the introduction of genetically modified organisms was due to the astute observations of the lay panel in recognising personal agendas, one lay panel member admitted to being strongly supportive of a moratorium but "had to accept that we are fourteen people and we had to come to a compromise" (L14). The panellist admitted to finding the compromise difficult, particularly as she was one of the few who lasted until 7.00am the next morning. Nevertheless, she also agreed that the decision to relinquish the moratorium was balanced by concessions made by others on further issues.

Day Three: Public Disclosure Frustrated by Poor Closure

The morning of the third and final day of the conference began with an address by the keynote speaker, former Minister and Australian Labor Party President, Barry Jones. In his address, Jones concluded that there were two categories of issues that distinguished political outcomes. The first were 'litmus' issues, such as the death penalty, where opinions are markedly polarised. The second category involved 'spectrum' issues, such as youth suicide, where opinions are situated at many points along a spectrum. The issue of gene technology in the food chain, he concluded, was a spectrum issue. Jones hypothesised that the consensus conference model, a model

that embraced a spectrum of opinion, concerns and interests in its deliberations, was therefore an appropriate model for the task at hand.

Following Jones's address the third day was characterised by the presentation of the lay panel's consensual recommendations. Prior to the formal presentation of the lay panel's report, copies were distributed to all conference participants, audience members and the media. The lay panel members took turns in reading the preamble, introduction and each of the ten issues and subsequent recommendations that were outlined in their report. A brief discussion of the lay panel's recommendations by the expert speakers and the audience then ensued. However, as in the earlier cross-questioning session, the audience was only permitted to address the expert speakers. It is also customary, according to the Danish protocols, to allow the expert speakers to correct any technical inaccuracies and misunderstandings but not the actual content of the report (Grundahl, 1995). However, this procedure was not followed. Nor was the common practice of allowing the expert speakers to join the lay panel members and steering committee in answering questions posed by the media in the post-conference press reception, which took place after lunch. On the afternoon of the final day, the report was presented to the Senate President, Senator Margaret Reid. The parliamentary secretary then sent copies of the lay panel report to every Australian Senator, and a copy was placed in the parliamentary library.

Many of the few remaining participants who witnessed the presentation of lay panel's report to the Senate President expressed disappointment at Senator Reid's comments. After receiving the report on behalf of the Australian Parliament, she held it up and indicated she would put it in the parliamentary library. The lay panellists, in particular, were deflated by Senator Reid's casual dismissal of the product of their hard work. An expert speaker revealed he too was mildly disappointed at Senator

Reid's intentions. "I felt that after the initial publicity there didn't appear to me to be any ongoing mechanism of bringing the findings and recommendations of the lay panel to the decision-makers and regulators, and that was going to bury it" (E5). While those present were quick to label Senator Reid's approach to the ceremony as one of casual indifference, I was later informed that the Senator had not been properly briefed on the significance of her role by the steering committee (Fitzgerald, 2001). The articulation of the consensus conference network to the political arena was, therefore, defective. By contrast, in Denmark, where there are long established links between consensus conferences and political institutions, politicians appear to have a high level of understanding of the process and of their role in that process. A report that evaluated how Danish parliamentary members perceive and make use of consensus conferences found that parliamentarians had a "broad awareness of, and interest in, consensus conferences" and the majority were able to identify the model's aims (Joss, 1998a: 8). Consequently, political participation in Danish consensus conferences is relatively high and politicians have a clear understanding of the role they play in communicating the product of the consensus conference network to the political arena.

The omission in the conference program of any mention of the presentation of the lay panel's report to the Senate President following the lunch break on the final day was a significant organisational oversight. While this could have been rectified through a formal announcement by either the chairperson or facilitator, this possibility was also overlooked. Consequently, the significance of what might have been an occasion for successful formal closure was lost as most conference participants had left, believing the proceedings had already ended. Adding to the confusion was the absence of a 'cooling-down period', an opportunity for all

conference participants to discuss informally (perhaps over lunch) the issues raised by the panel's report and for participants to convey their appreciation of the lay panel's hard work (as was done in New Zealand).

Not surprisingly, therefore, many participants, both lay and expert, believed the conference organisers handled the closing stages of the consensus conference poorly. An expert speaker, disappointed with the way the conference was wound up, believed that "it ignored the intensity of the whole thing. When people are thrown together to undertake this kind of process, [it] is demanding intellectually, morally, and in all other sorts of ways. We were dismissed, and not allowed to say thanks to the lay panel" (E11). Another speaker concurred, feeling that his "usefulness had been outlived and the passion and energy from both sides was unintentionally swept aside" (E1). A number of expert speakers who tried to say goodbye to the lay panel, whose members were attending a private lunch hosted by the steering committee, were actually escorted from the room by the chairperson. When, after this lunch, the lay panel's report was presented to the Senate President, only four or five expert speakers remained to witness the event.

Furthermore, the normal practice at the end of consensus conferences of allowing the media to interview members of the steering committee, lay and expert panels at an 'informal' post-conference press reception was, in the Australian case, highly orchestrated. In other cases, all members of these three participant groups have been invited to attend; however, in Canberra only four self-appointed steering committee members and select members of the lay (four) and expert panels (two) were nominated to speak by the facilitator. A lay panellist was extremely disappointed by the identification early in the process, by the facilitator and publicist, of the 'housewife', 'yuppie' and 'pretty young thing' to act as the public face of the

lay panel. As a consequence, she felt that “having the media there reinforced that some people’s views are more important and more valid than others. It reinforced those whom we had to defer to and that, in my opinion, biased the process” (L3).

The failure to organise a common and clear closure involving all participants signified that the idea of single network unified as a community for the consensus conference had in fact evaporated before the presentation of the report to Senator Reid. Senator Reid’s indication of where the report would end up was a further powerful signal of the failure to provide a satisfying outcome for which all participants could feel a sense of achievement. Thus, denying the rite of closure to some participants but not others, particularly across the lay/expert divide, helped to preserve the inequality that the whole consensus conference was supposed to minimise. This distinction was also drawn between the audience and the lay panel, even though the latter acted as the former’s representatives (in an actor-network sense) at the consensus conference. Some might also argue that as representatives of the wider public, the lay panel should be open to scrutiny by its audience.

Network Life After Canberra?

At the time I conducted the post-conference interviews in July/August 1999, four to five months after the consensus conference, six lay panel members had maintained post-conference contact with at least one other panel member, while two had maintained contact with both the facilitator and conference coordinator. For one panellist, the sense of camaraderie he felt within the lay panel led him to “keep in touch with three or four [lay panel colleagues] on a regular basis” (L5). As a result of their involvement in the consensus conference, several panellists were invited to participate in analogous events across Australia in 1999. Steering committee

member, Ronnie Harding, invited a panellist to speak at the XIX Pacific Science Congress in Sydney while a lay panel colleague was invited to participate in a ‘hypothetical’ at the University of Western Australia. Another panellist was invited to join a focus group established by Agrifood Awareness Australia as well as a proposed national ethics committee for CSIRO (which eventually did not go ahead so as not to replicate the new Gene Technology Regulator’s planned community consultative committee). A further two panellists were appointed to CSIRO Institutional Biosafety Committees, with one becoming “a member of the Institutional Biosafety Committee of the CSIRO animal production facility at Prospect” (L9). Other panellists initiated contact with consumer advocacy organisations represented on the expert panel at the consensus conference with two panellists becoming members of the GeneEthics Network. One lay panel member capitalised on her increased understanding of gene technology by “getting involved in a debate with the local council” as soon as she got home (L14). It is common among small groups brought together in extreme circumstances to form a bond through shared experiences. The intensity of the lay panel’s deliberations, particularly during the report writing session, helped to establish close bonds between some members that have continued beyond the life of the conference network. Some network members, as a result of their participation, also felt a responsibility to communicate their experience beyond that network and consequently several lay panellists were invited or sought to share their points of view with wider audiences.

The steering committee and a number of expert speakers also contacted the lay panel following the consensus conference. The steering committee and the ACA both wrote to the panel commending them on their contribution, the ACA informing

the panel that “parts of their recommendations had been put into practice by some organisations” (L6). Dr Jim Peacock, expert speaker and CSIRO representative, sent the lay panel a copy of a speech that he wrote that discussed the value of the consensus conference and the lay panel’s input. The panel also received a ‘statement of position’ on gene technology from CSIRO in response to their participation in the consensus conference. In a letter addressed to the lay panel, Dr Bill Blowes revealed how bewildered he was by its mistrust and negative attitude toward Monsanto. He cited the depth of dislike and mistrust towards his organisation as the main reason for his premature departure from the consensus conference. Dr Blowes’s remarkably frank letter also addressed the importance of transparency; of being “seen to do the right thing by the Australian community” in order to alleviate community concern (Coffey, 1999). Dr Blowes “humbly apologised to the lay panel members and said that he would do his utmost to make his company listen to the public a lot more” (L6) and acknowledged that “the consensus conference made him realise that he really did have to listen to public opinion . . . that people do take the media seriously and he now has to work very hard to overcome that rather than just relying on his company’s reputation” (L1).

While the general duties and responsibilities of the steering committee ceased at the conclusion of the consensus conference, the four steering committee members who comprised the evaluation subcommittee remained active until the submission of the Phase 2 evaluation report in February 2000. Some steering committee members were disappointed with the diminished responsibilities of the committee as the process progressed; “the role of the steering committee became less and less relevant as time went on which I think was a pity in some ways” (S4). Regrettably, the lack of funds to promote media support and enrol public interest resulted in the premature

dismantling of the steering committee. Nonetheless, some steering committee members maintained informal network relations with their colleagues beyond the consensus conference. One steering committee member reported that he had been invited to speak about the consensus conference by his Avcare colleagues. Avcare later developed a set of responses to each of the consensual recommendations that were sent to the lay panel and steering committee members. Another committee member stated that the consensus conference had helped him establish “much better contact with the range of organisations that committed to the steering committee that [was] very useful to my organisation and hopefully theirs. I’m not suggesting that we agree with each other any more on some matters, but we have a better understanding of positions” (S4). He also revealed “several of my colleagues were at the consensus conference. One had taken four dairy farmers along with him and without exception, they all thought it was a worthwhile investment” (S4).

Moreover, the majority of expert speakers maintained contact with a small number of lay panellists or, interestingly, with their diametrically opposing expert colleagues. One speaker reported receiving “a couple of letters from the lay panel independent of the conference” (E4) while his colleague, who placed himself at the centre of the spectrum of opinion, was invited by two expert panel colleagues to speak at conferences in Canberra and Cooma later that year. Another speaker was of the opinion the consensus conference had increased dialogue between people who are generally seen as nominal opponents and nominal proponents of the technology. He stated “I’ve been corresponding and communicating quite a bit with Scott Kinnear of the Organics Federation of Australia since the consensus conference, and though we continue to disagree on almost everything, maintaining correspondence with [him] has been worthwhile” (E6).

INTERACTION IN PUBLIC AND PRIVATE AMONG THE CAST

The highly prescribed nature of the formal interactions between participants required a delicate balancing act, carefully managed by the conference's 'traffic controllers', the chairperson and facilitator. All sorts of balances must be achieved and maintained to ensure the consensus conference network can deliver its outcomes. Balancing lay and expert interactions is particularly problematic. The presence of the traffic controllers was to ensure that the lay panel's formal exchanges with the expert speakers occurred in such a way that the independence of the lay panel was not compromised, while at the same time ensuring that the rules of interaction did not stifle the sense of open debate. The lay panel was also instructed by the facilitator to refrain from entering into informal discussions with conference participants during the conference breaks, yet these occurred regardless. What, then, were the effects of the highly structured formal discussions and the unmoderated informal discussions on the lay panel's discussions? In the following section I shall summarise the assessment of the participants themselves.

Lay Panel/Expert Speakers

The highly structured nature of the formal interactions between the expert speakers and the lay panel throughout the consensus proper was a cause of some annoyance for half of the respondents. In particular, the structure of the first day was viewed as predominantly frustrating. Lay panellists were disconcerted by: first, the 'recalcitrance' of some expert speakers to avoid directly answering the questions posed to them; second, their powerlessness to investigate the obvious frustrations of expert speakers who reacted adversely to other speaker's comments or who were simply better qualified to clarify a particular point; and, third, their inability to

comment on a response to another panellist's question. Although it was recognised that achieving balances in interactions would be a difficult process to control, it was suggested that perhaps time limits placed on responses, or an opportunity at the end of each session to tie up loose ends on factual points, were possible solutions.

Numerous opportunities were wasted when experts veered away from their task and addressed issues they thought the lay panel wanted to hear. Some speakers were less than rigorous in the filters they applied, "there was some opining and also, to some extent, an attempt to confuse through omission" (E9). Many were seen as merely acting as spokespersons for their organisations and therefore unable to separate ideology and spin from a more factual kind of analysis in response to the question asked. A lay panel member also remarked that she "assumed that everybody on our list was used to public speaking, but that was not apparent" (L9). These criticisms were not aimed specifically at either the advocates or opponents of the technology but at individual speakers. A number of expert speakers failed to heed the advice of the speaker subcommittee regarding what was expected of them and the level at which they should pitch their information, which according to one steering committee member, demonstrated a lack of respect for the lay panel and for the process. Despite being briefed, one steering committee member noted, "there were some [expert speakers] who really didn't answer the question in the way the lay panel had hoped they would. The most visible being Bill Blowes" (S1).

Prominent among the comments concerning expert speakers who avoided the issue or sidestepped the question posed to them by the lay panel was Dr Bill Blowes's (Monsanto) response to the question: 'What are the fundamental issues affecting the environment in relation to genetically modified organisms and what are the potential negative impacts of gene technology on living organisms?'. One lay

panel member “personally had a quite a few battles with him at the conference on points he simply did not want to answer and he went to great pains to avoid” (L5). The panellist asked Dr Blowes if his company believed its products were safe to humans. He answered yes, so the panellist asked him how he knew, and he admitted that he did not have that information. The panellist later approached Dr Blowes outside the Senate chamber and demanded an answer. Overnight Dr Blowes obtained an answer from his colleagues in North America and informed the panellist of Monsanto’s response the following day. While the panellist now had an answer to his question he informed Dr Blowes he would ask it again in the chamber. When asked why he replied, “I know the answer but the people in there don’t know the answer” (L5). Another lay panel member agreed with the perception that Dr Blowes “failed to address anything that we asked him. He had this half-hour window of opportunity to set the record straight on Monsanto and at least present their case a little more favourably and I felt he failed to do that” (L7). The panellist was particularly disappointed as he “wasn’t anti-Monsanto before [he] attended the conference but during the course of the conference [he] started to have doubts about the validity of his [Bill Blowes] position and statements because he just seemed to be practising avoidance strategies” (L7). An expert speaker concurred, labelling Dr Blowes’s presentation “disappointing, there was a lack of honesty, candour, and a lack of a genuine attempt to answer the question” (E1).

Conversely, Dr Jim Peacock (CSIRO) was generally applauded by his colleagues and other survey participants for his exemplary presentation that was well substantiated in terms of what had gone before. “It lacked emotion and colour and was simply the presentation of facts contained in the assertions”. Indeed, the respect and consideration afforded to them by some expert speakers and audience was

commonly observed by the lay panel. They generally found that the process of “interacting with experts and dealing with complicated issues was empowering” (L1) and “a privilege” (L5) and an “experience not to be missed” (L14). A panellist was worried that “the experts would treat us like a bunch of school children and instead, in most cases, we were treated with respect” (L9).

Respondents were particularly disappointed by the structure of the debate, feeling that it was difficult for arguments to be developed and explored when expert speakers were not allowed to volunteer information at appropriate times. The interactions between the expert speakers and the lay panel were defined by a question and answer format rather than the debate that had been expected. A lay panel member bemoaned the absence of dialogue in the consensus conference process in favour of experts arguing their positions. Accordingly, her panel colleagues regarded the points of view of the expert speakers (generally) as being too polarised, and would have preferred the representation of more neutral points of view. In their opinion, convincing expert speakers were distinguished by the way they presented their case rather than the content of what they were presenting. A steering committee member concurred, “it was almost as if there were only two positions taken up and very little movement in between in terms of arguments, issues and ideas that were explored” (S2). In fact, one expert speaker felt that initially he had been “cast in the role of a stirrer” by the steering committee, invited to participate to give the other side a hard time (E3). Another speaker commented that “indirectly it became an adversarial process where people were making bold assertions that could not be resolved” (E11).

There is no methodology in place in the consensus conference process that enables these conflicts to be resolved. Although a number of respondents recognised

that these constraints were placed there to protect the lay panel from being influenced by over-zealous expert speakers, it was agreed that a strong chairperson in that situation should have been able to control the debate and protect the lay panel. Some panellists suggested that it would be useful for expert speakers to clarify their position by identifying at the outset where their point of view on gene technology was situated along the issue spectrum. It was suggested that the pre-submission of speaker's notes to the steering committee could therefore be useful for two reasons: first, it would provide the steering committee with a quality assurance mechanism to allow them to check if the speakers were in fact addressing the question and providing factual information; and, second, it would allow the lay panel to preview the speakers' notes and to prepare their follow-up questions.

The lack of opportunity for speakers to rebut the comments of other speakers and lay panellists was the greatest cause of frustration among the respondents. In fact, some expert speakers felt they were being discriminated against by not being allowed to respond. A case in point was the number of comments made about the integrity of the regulatory bodies, the Genetic Modification Advisory Committee (GMAC) and the Australia New Zealand Food Authority (ANZFA). One expert speaker who was on the board of GMAC was noticeably agitated because he was perfectly situated to respond to the claims about these bodies but was prohibited from doing so because of the 'rules of interaction' stipulated by the protocols. It was felt that because of the question and answer nature of the debate, "the opportunity to correctly inform the lay panel about the regulatory bodies was overlooked, and the ramifications and implications of that flowed through to the final report" (E9). It was not possible to tie up loose ends and therefore resolve the issue satisfactorily.

International protocols generally allow for the inclusion of a rebuttal session on the final day. While overseas experience has shown that this is a difficult session to manage even-handedly, its omission in the Australian case created a certain level of discontent among the expert speakers. One expert speaker suggested the use of a ‘neutral analyst’ or ‘interpreter’ rather than a chairperson to manage the role of clarifying points in future consensus conferences would be more suitable. It could be beneficial to have a neutral intermediary to identify fact from opinion whilst refraining from summing-up. As well, the addition of a clearing session at the end of the consensus conference would have enabled the final report to go through a period of refinement. One of the expert speakers concurred: a possible way of “producing a more productive report would be to distribute a draft among expert speakers, affording them the chance to review it. It would provide an opportunity of clarification for the lay panel and also an opportunity for a report of greater import to develop” (E9). This procedure is commonly practised in consensus conferences in other countries but was omitted by the Australian organisers because of the perceived difficulty in managing such a session. The steering committee was concerned that some expert speakers might try to alter the substantive opinions expressed in the report rather than correcting technical inaccuracies.

Expert Speakers/Audience

On the morning of the second day of the consensus conference, the audience was invited to cross-question the expert speakers. This session was designed to engage further public participation in the consensus conference process, and to provide the lay panel with additional points of view useful for the compilation of its report. The audience was not allowed to address the lay panel throughout this session. Nearly

half of the respondents expressed dissatisfaction with the discussions engaged in by the audience during this session, mainly due to the limited amount of time allocated to the audience to address the experts. Of interest is that this number did not include any steering committee members as some of their organisational colleagues were among those audience members who questioned the expert speakers. One lay panellist felt that some audience members were excluded from this process due to a lack of time. Another panel member revealed that she did not benefit from the session because she felt that some members of the audience ‘got on their soapbox’. Another lay panellist concurred: “a lot of people asking questions were not asking questions, they were making statements or declaring positions” (L3). Respondents from both the lay and expert panels were of the opinion that some audience members had obviously been prepared by certain organisations to pose *dorothy dixers*.²⁶ The majority of expert speakers believed that some members of the audience had been primed to ask certain questions of them in order to score ‘political’ points and therefore presented comments dressed up as questions. One expert speaker regarded the audience’s questions as “clearly designed not to contribute to the debate but were carefully structured questions to push a particular issue designed to embarrass part of the expert panel” (E9).

Although the audience was not allowed to direct questions at the lay panel, one lay panel member felt that she should have been allowed to be questioned, “particularly if my words are then going to be told to the Australian public” (L3). She acknowledged that other lay panel members might not have felt confident enough to be questioned by the audience, but suggested that the facilitator could have asked for volunteers from among the lay panel as each question was posed.

²⁶ In Australian English a question asked in parliament specifically to allow a propagandist reply by a minister is known as a *dorothy dixer*.

It was recognised by the respondents that the audience's cross-questioning of the expert panel was also a difficult session to control. The session was distinguished by time constraints that restricted a large number of audience members from participating and by a certain amount of posturing from the audience. A common concern among the expert speakers when a genuine question was posed was the inability of the expert speakers properly to debate it or offer an opposing view. The responses to most questions were mainly one-sided as the chairperson would not grant the right of reply. A possible solution to this problem is to follow the procedure adopted by the organisers of the New Zealand consensus conference (prompted by the experience of the UKNCC) that required the audience to write down their questions on a piece of paper. Before being posed to the expert panel, the questions were scrutinised for their utility by the chairperson and facilitator. The Australian audience could have written their questions down during the morning session while the lay panel was cross-questioning the experts. Over morning tea, the chairperson and facilitator could have selected a small number of appropriate questions to be debated in readiness for the following session. This process would then have acted as a filter by preventing the audience from making bold statements of position while allowing pertinent questions to be debated thoroughly.

Informal Exchanges

I surveyed the steering committee, lay and expert panels on whether they thought the informal discussions, which occurred between some participants throughout the breaks in the conference program, were productive. While the lay panel was directed by the facilitator not to engage with other participants during the breaks to avoid being influenced in any way, a small number of lay panellists who disregarded these

instructions did indeed indicate that they found these discussions productive. A lay panel member revealed that “one of the things I wanted to do during the conference was to approach speakers and ask them to clarify issues and we were not allowed to do that. However, some speakers actually approached me and I found our conversations extraordinarily interesting” (L11). Two lay panellists remarked that generally the expert speakers were just as interested in talking to us as we were to them. Another found the informal discussions were a valuable opportunity to follow up experts’ reactions to other speakers, “the more knowledge we had, the better our conclusions” (L2).

The expert speakers also mostly agreed that the feedback worked both ways, with one remarking, “from the point of view of being an expert speaker I also found their feedback encouraging. I almost did not participate in the consensus conference but after having their feedback I was glad I did” (E4). For the expert speakers, the informal discussions were considered productive for two reasons. First, they found that the lay panel would ask questions they were too afraid to ask in the formal discussion. Second, the lay panel used the opportunity for informal discussions to clarify issues that could not be addressed in the formal proceedings because of the rigid structure of the debate. One expert speaker believed that the informal discussions used to clarify issues not thoroughly addressed in formal discussions “helped the lay panel move to more consensus rather than less consensus” (E1).

Although there was a concern that the lay panel might have been unduly influenced in some ways through informal contact with expert speakers and the audience, one expert speaker surmised that if it was on the basis of clarification and trying to better understand the issues than it can only be of benefit as there was limited formal time to have contact with speakers. Certainly, a common concern

expressed by the lay panel members was the steering committee's lack of faith in the ability of lay panellists to judge attempts at coercion and misinformation for themselves. It was also pointed out that the integrity and transparency of the informal discussions was ensured because at the end of each day the lay panel members met to discuss and examine the issues as a group.

Even though the idea of insulating the lay panel from other participants was supported by the steering committee, the majority of members concluded that the informal discussions between participants were productive. One steering committee member reasoned that "whilst I was pleased the lay panel [was] to an extent cocooned by the facilitator . . . , there were times when there was the opportunity for some quite animated discussion and you could see the [lay panel members] actually seeking out extra information from people" (S4). Another steering committee member established that from the feedback he received and from the times that he joined in, "it was as if the barriers were down, the positions were relaxed and the issues were engaged" (S2). Another concluded that the informal discussions were an important part of the public debate, "but a debate happening not at the coalface between the lay panel and the expert speakers, but between the stakeholders who share an interest in the topic" (S5).

Perceptions of the Performance of the 'Traffic Controllers'

A common concern among the expert speakers was that the consensus conference process "would be biased, manipulated or controlled" (E1) by the organisers, "a bandwagon for promoting the anti-technology view" (E9). Yet, placing the conference in the hands of the Australian Museum was considered appropriate by most. A further concern, among all three respondent groups, was the ineffectual

management of the expert speakers' sessions by the chairperson through missed opportunities, including focusing the experts on their questions and keeping them within their allocated timeframes. A number of lay panellists and expert speakers remarked that occasional personal interjections and surmising by the chairperson were excessive. An expert speaker saw little value in the position of chairperson: "in fact, I thought some of his rulings were inappropriate and out of place. I think the facilitator did a very good job mostly, but [the chairperson] was inappropriate" (E1). A particularly volatile interaction that occurred between the chairperson, an expert speaker and a lay panel member on the morning of the first day drew both criticism and support for chairperson's handling of the situation. While the lay panel member did not condone the petulant behaviour of the expert speaker, who claimed to identify with the concerns of the lay panel, the panellist was generally nonplussed by his remarks. After morning tea, the chairperson announced that the panel had utterly rejected the claims of the expert speaker, to which the speaker responded by banging on the table. The lay panel member was dissatisfied, first, with the chairperson's insinuation that he had consulted the panel and, second, for what was perceived as an "outrageous misuse of the process and his position as chair to manage [the expert speaker] in that particular way" (L3). Conversely, one of the expert speaker's colleagues, albeit representing an opposing point of view, was of the opinion that "the way the chairperson put [the speaker] in his place" was very satisfactory.

Similarly, the facilitator's performance was applauded and criticised in equal measure by respondents. Among her supporters were those panellists who thought "the facilitator did a very good job of making everyone believe that what they were thinking or feeling was important" (L14), "she was incredibly skilled in what she was doing. The facilitator impressed me enormously" (E2). Among her detractors

were those who thought she had “too much power in the decision-making process” (L2) and were concerned by the facilitator’s presence during the report writing sessions. “I was not aware that was going to happen. She was a strong woman and who knows what connections she had. I think that [the lay panel] would have been potentially stronger in what they said without the facilitator there” (E1).

In addition to the performance of the chairperson and facilitator was the performance of the conference coordinator and professional writer as intermediaries to the process. These intermediaries acted under the supervision of the facilitator to provide administrative and textual assistance to the lay panel to develop: first, carefully phrased questions which were fundamental to engaging expert speakers and eliciting incisive responses; and, second, a clearly articulated report able to capture the interest of the wider public and political domains.

One expert speaker was “very happy to have a writer, in fact, happy to have two writers because that removes the possibility of the writer’s prejudicing the outcome” (E1). The professional writer performed a small but constructive role in refining the wording of the lay panel’s report. The facilitator, who had worked with the writer previously, labelled the writer ‘reliable, helpful and politically aware’. Though this last point would seem extraneous to the writer’s role in the consensus conference network, it is possibly reflected in the comments of a lay panel member who “felt that a lot of the report was in [the writer’s] words and not in ours. There’s a fine line between putting the words together and using [your] own. Therefore, to some extent I think our opinions weren’t reflected in the report” L13. At least one lay panellist, then, thought that the shared lexicon established between the experts and the lay panel throughout the conference was subverted by the professional

writer, whose strong political views shaped the content of the lay panel's recommendations.

The Phase 1 evaluation report was particularly critical of the informal role played by the conference coordinator in providing 'emotional maintenance' to the lay panel in times of stress, particularly during the report writing session. Despite the criticism levelled at the conference coordinator in the report, she had the general support of the lay panel. One panellist remarked, "she did an incredible job of keeping everyone together as a unit, and without her input, we would not have got the result we did. She kept everybody's spirits up" (L5).

Achieving balance in the interactions that occurred during the conference was difficult for all participants. The rules of interaction that governed the exchanges between lay and expert, in particular, frustrated both panels' ability to properly engage in debate on the issues. In Danish consensus conferences, formal debate between the two panels is engaged in on the final day. However, the omission of this rebuttal session removed the only opportunity the lay panel had to clarify any outstanding issues. As a way of compensation, some panellists informally sought answers to the questions they could not pursue in the formally structured sessions. Expert speakers, too, found these informal exchanges useful, enabling them to offer additional points of view.

THE TEXTUAL PRODUCT OF THE NETWORK

The Lay Panel's Report

The product of the lay panel's extensive deliberations is a single consensual document that aims to carry the aspirations of the lay panel forward into political and wider public domains. The report resulting from the Australian consensus conference

is an 18-page document outlining the main issue areas, as previously identified by the panel, and its comments and recommendations (see Appendix 3). It begins with a brief preamble that offers an insight into the aspirations of the lay panel for the product of their consensus: “we may well be laying the foundations for a change in political process that can deliver the public an opportunity to contribute to the formation of the laws they are governed by, and in so doing, partake in the shaping of their own destiny” (Lay Panel, 1999: 1). An introduction follows that recognises that there are potential benefits as well as risks to be gained by the application of gene technology in the food chain, but recommends “a precautionary approach to this and all new technology issues [to] ensure that public interest rather than commercial interests determine our future course” (Lay Panel, 1999: 2). The main body of the report is divided into the ten (key) issue areas, associated key questions and sub-questions (for eight of the ten issues), the lay panel’s evaluation of each issue and its specific recommendations. A copy of the consensus conference program, listing the expert speakers assigned to each of the key questions and related sub-questions is attached, followed by a brief overview of the Danish consensus conference process and its evolution. Finally, lists of the lay panel members and the conference’s sponsors are also included, as is a glossary of terms used by the lay panel during its term of appointment. The report is longer than its Canadian (six pages) and Danish (13 pages) counterparts, yet apart from an introduction, neither the Canadian or Danish reports include the supplementary materials that are found in the Australian report, although the protocols claim this is usually done in the Danish case.

The lay panel’s report adopted a cautious approach to gene technology in the food chain. While it recommended a halt to all new commercial releases or unlabeled

importation of GM foods, it fell short of recommending a moratorium on current applications and field trials. The panel recommended the establishment of a new statutory authority, with wide representation and transparent and accountable decision-making processes, to conduct comprehensive risk assessments of new proposals and to oversee the labelling of all GM foods, regardless of their level or type of modification. A coordinated approach to gene technology regulation among the states and territories, while moving the responsibility away from the Agriculture portfolio was preferred. That an independent assessment to determine the viability and impacts of alternatives to GM agricultural products be undertaken was also suggested. The implementation of a decision-making model such as the consensus conference to bring together representatives from industry, government, consumers, experts and lay citizens was recommended as an alternative to the current framing of legislation in an adversarial context. Furthermore, the provision of better public access to gene technology information through the establishment of a gene technology information office that provided toll-free information services, information fact sheets, web sites and other public education methods was also recommended.

Comparison with Danish and Canadian Counterparts

The issue of gene technology in the food chain was the focus of no fewer than three lay panel statements deriving from different national consensus conferences and published in March 1999. As mentioned earlier (p. 19), in addition to the first Australian consensus conference on gene technology in the food chain, the University of Calgary, Canada, hosted a regional ‘citizens’ conference’ on food biotechnology from 5-7 March, and the Danish Board of Technology convened a

consensus conference on genetically-modified foods from 12-15 March. The Canadian citizens' conference was staged in response to increasing controversy surrounding the issue of biotechnology in foods. The organisers wanted to redress the absence of citizens at the 'technology table' while determining if the consensus conference model could be transposed in the Canadian cultural context (University of Calgary, 1999). The aim of the Danish conference on *Genetically Modified Foods* was to determine why scepticism of genetically modified organisms has persevered in Denmark since the first consensus conference on gene technology was staged in 1987 and how its citizens viewed the increasing range of genetically modified foods on supermarket shelves (Danish Board of Technology, 1999). The conference followed a vigorous public campaign instigated by the Danish Consumer Council in conjunction with biotechnology industry and retailers to promote value-oriented debate about genetically modified food (Einsiedel et al., 2001).

All three consensus conferences were held independently of each other. Like the Australian consensus conference, the citizens' conference was the first of its kind to be held in Canada, while the Danish consensus conference was the eighteenth held by the Board of Technology. The contemporaneous staging of these three conferences and their corresponding topics established an ideal basis for comparing and analysing how the three lay panels defined the issues at stake. The issues defined by the three lay panels fell under the broad umbrella of 'gene technology in the food chain'. The number of key questions identified varied between the three panels; with six in Canada, eight in Australia and 10 in Denmark. Despite the differing cultural contexts, the three panels clearly shared a number of mutual social, economic, ethical, even political concerns regarding the issue of gene technology in the food chain. All three agreed that gene technology held potential benefits for

society and that the opportunities it could offer should continue to be explored. However, each argued for a precautionary approach. Common advice shared by the three lay panels was the consideration of a multiplicity of beliefs, be they religious, ethical, cultural or moral in decision-making processes regarding gene technology.

The Australian lay panel defined the issue of gene technology in the food chain as “important to all Australians because it impacts directly on our health and environment” (Lay Panel, 1999: 2). The panel recognised that there were perceived benefits and potential hazards related to gene technology, but encouraged the exploration of the opportunities it offers. However, the lay panel endorsed a precautionary approach to all new technologies to defend public interests against commercial benefits. They recognised that the public’s interests are best served in decision-making processes through the consideration of cultural, moral and religious beliefs in conjunction with scientific analysis. Their express hope was that the Australian government would observe their recommendations when determining future regulations on gene technology in the food chain.

Many of the key issues raised by the lay panel’s recommendations (Lay Panel, 1999) were directly relevant to the national regulatory framework for genetically modified organisms (GMOs). The lay panel concluded that the existing regulatory structure consisting of the Australia New Zealand Food Authority (ANZFA) and the Genetic Manipulation Advisory Committee (GMAC) did not serve the interests of the community. In its place, the panel recommended the “formation of a new statutory authority . . . with well-balanced representation . . . whose outcomes and deliberations are public” (Lay Panel, 1999: 3). This statutory authority would be supported by funds obtained from substantial licence fees paid by companies wishing to commercially release genetically engineered products to

insure against risk. Companies caught violating the GMO safety regulations would have their licences withdrawn. The safety regulations would encompass strict codes of practice (subject to regular review) including uniform legislation across all States and Territories of benefit to, and protective of, the environment and community.

Recognising the multitude of interests that compete to lobby government agendas, the lay panel agreed that government decisions would be better informed through the establishment of a mechanism similar to the consensus conference model bringing together perspectives from industry, stakeholder and citizen groups. An inclusive dialogue encompassing different interests would, in the view of the panel, lead to better regulatory decisions.

The panel approached gene technology regulation from the point of view of what constitutes an ‘acceptable risk’ and, therefore, recommended that any decisions taken by regulatory bodies should take into account social and environmental issues as well. They recommended a halt to all new commercial releases and unlabelled importation of genetically modified organisms until the establishment of the new authority. This is consistent with the findings of the Danish panel. It also wanted to ensure that known risks associated with the production of GM food were accessible by the public. Both the Australian and Danish panels recommended the payment of a levy on all GMO applications to insure against risk, and for authorisation to be withdrawn if the codes of practice established by the regulator are violated.

The issue of threats to biodiversity posed by gene transfers was raised by the panel. It recommended that strategies such as the establishment of an adverse reactions register be developed to prevent environmental problems or disasters linked to the application of GMOs. The Danish lay panel, too, was predominantly concerned with the risks posed by the production of GM food to biodiversity and

ecological sustainability. In particular, the panel was concerned that the development of new strains of GMOs entailed a risk to other organisms through gene transfer or even losing existing genes forever. The Canadian panel concurred with the establishment of a risk assessment process, suggesting that it should incorporate multidisciplinary peer-reviewed research. However, the Australian panel's overwhelming concern for human health was most notable in their recommendation that "the regulation of GMOs should not be moved to Agriculture, Fisheries and Forestry Australia" (Lay Panel, 1999: 5). Both the Canadians and the Danes also addressed specific questions to their expert panels regarding this issue, their concern focusing on the effects of consuming GM food. The concern that an increased resistance to antibiotics caused by GMOs was common to both panels. While the Canadians recommended a joint public awareness campaign conducted by industry, producers and government to address public anxiety and apathy, the Danes recommended a case-by-case evaluation of risk to human health for each application for GMOs to establish a high safety margin.

The implications of disallowing the importation of GM foods into Australia were also considered by the Australian panel. The panel recognised that there were benefits to be gained by introducing new technologies, but warned against not exploring the opportunities presented by alternatives to GMOs. A failure to investigate and invest in the opportunities presented by alternatives to gene technology would, in their opinion, result in Australia missing key market opportunities. The panel recommended that an "independent assessment of the viability and impacts of choosing non-GMO options" on industry, producers and trade be carried out (Lay Panel, 1999: 6). The Danish panel concurred recommending, "research, development and information efforts be made to

guarantee that consumers will still have real access to non-GM foods” (Danish Board of Technology, 1999: 8).

The Australian lay panel recognised that it was difficult to comprehensively identify the range of moral and ethical issues. However, their consideration “must assume a prominent role in decision-making about gene technology” (Lay Panel, 1999: 6). Reflecting the high level of concern held by the Canadian citizens’ panel was its recommendation that “a Code of Ethics reflecting Canadian values must be developed by the Canadian Biotechnology Strategy Advisory Committee with input from all stakeholders to govern food biotechnology products” (Citizens' Panel, 1999: 4). The Canadian panel further recommended that the Code of Ethics form an integral part of the regulatory process governing food biotechnology. Ethics as an integral part of regulatory processes for GM foods was also the focus of the Danish recommendations. The Danish lay panel recommended the establishment of a Council of Gene Ethics, similar in purpose to the Canadian Code of Ethics, and would include the points of view of stakeholders and consumers. The Australian lay panel was relatively vague on this issue, recommending only “that an ethicist be involved in the formulation of major decisions regarding GMO policies” (Lay Panel, 1999: 6).

The concentration of ownership of food resources by a handful of multinational companies was a major concern of the Australian panellists. In particular, they were concerned by “the move towards agricultural research being predominantly influenced and funded by the very companies that stood to benefit the most from GMO technology” (Lay Panel, 1999: 6). To safeguard against corporate interests dominating world food production, the lay panel called for an investigation by the Australian Consumer and Competitive Commission (ACCC) into

monopolistic behaviour in the food industry. Furthermore, the panel recommended the establishment of protocols to ensure public involvement in the allocation of research funds to guarantee that public as well as commercial interests are served. The concern that economic decisions made in favour of these corporations were to the detriment of social and ethical considerations was common to all three panels. The Canadian citizens' panel called for their government to undertake an assessment of the social and economic impact caused by concentrated ownership on the food industry as well as a review of patenting laws and their application. The Danish panel also raised the issue of the role played by patents in creating monopolistic markets. To prevent the stranglehold patents place on markets, the panel recommended that patency licenses be limited to a maximum of five years. The Danish panel also proposed that GM food technology be provided free of charge to developing countries while noting, as did the Canadian and Australian panels, the challenges posed by this technology to developing countries.

The blanket claim put forward by GM advocates that GM food offered a solution to the issue of world hunger was strongly rejected by the Australian lay panel. As well, the panel cautioned against Australia pursuing a solely economic agenda in its negotiations regarding the Biosafety Protocol. Rather, the panel recommended that Australia adopt a precautionary approach to treaties and international trade agreements that would recognise the issue of liability and promote the identification and labelling of GM products. Furthermore, the panel recommended that Australia "initiate and support international treaties that protect those vulnerable from exploitation by bio-prospecting companies" (Lay Panel, 1999: 7). The Canadian panel also demonstrated an obvious concern for the implications of 'treaties and international trade agreements'. Equal consideration was given to

supporting treaties that protect individual countries' cultures and ethics to the mandatory labelling of all GM food products in Canada. Curiously, the Danes did not touch on the issue of trade constraints even though politically it is an acknowledged concern. Einsiedel et al. (2001: 10) paraphrasing Jelsøe et al. (1998), suggest the reason for this may be "due to the intense public debate over biotechnology in recent years and the broader, and very critical, debate about the consequences of industrialised farming practices in Denmark in the last 10 years".

That methods of public participation become an institutionalised and integral component of Australia's biotechnology strategy and be considered an equal and important component in all decision-making processes regarding GM issues was a key recommendation put forward by the lay panel. The importance of access to GM information for all citizens was also discussed. Furthermore, the panel recommended the allocation of resources to conduct an evaluation of the impact of the consensus conference in twelve months time. This issue was also a concern shared by the Canadian panel who recommended that "public participation be ongoing in many different formats" (Citizens' Panel, 1999: 3) while the Australian panel recommended that the "government should establish a mechanism similar to the model of the consensus conference, to bring together [stakeholders] consisting of industry, consumer groups, critics, other experts and Australian lay people" (Lay Panel, 1999: 4). Interestingly, while the Danish panel considered issues of public awareness (in relation to enabling consumers to make an informed choice), no specific reference was made to continued citizen participation in decision-making processes, such as the consensus conference. A logical explanation for this would be that participatory processes, including consensus conferences, are an established practice in Denmark: a situation not replicated in Canada or Australia.

Finally, the Australian lay panel strongly supported the comprehensive labelling of all GM foods, regardless of the type and level of modification, to allow informed consumer choice based on health, religious, moral and ethical beliefs, thereby unanimously rejecting the use of the term ‘substantial equivalence’²⁷ in determining labelling requirements. The staging of further public debates before agreeing on specific labelling requirements was also recommended. The Danish panel called for a minor addition to the existing requirements established by the European Union, recommending that information on how “gene technology was applied in the production of a product and to what extent” be included (Danish Board of Technology, 1999: 7). The Canadian panel did not make any specific recommendations with regard to labelling, but did recognise that it was an important issue and called upon the Canadian Biotechnology Strategy Advisory Committee to “develop and implement an effective labelling policy” (Citizens' Panel, 1999: 4).

The recommendations of the three lay panel reports demonstrate that similarly constructed networks, which share a number of common concerns about a particular issue, are also capable of producing different outcomes. This variation in outcomes is a reflection of the different socio-political contexts in which the conferences were held. A analogous comparative study of the same three consensus conferences by Einsiedel et al. (2001) agrees that differences between the panels were most discernible with regard to the issue of treaty and trade obligations and on the issue of alternatives to genetically modified food. As producer-exporter countries, Australia and Canada are conscious of their obligations to trading partners, in particular, the United States. Einsiedel et al. (2001: 10) concluded that the Danish

²⁷ The Australian lay panel defines the term ‘substantial equivalence’ as “a comparative technique used for risk assessment. When faced with a novel or modified food/food product, you search for its nearest equivalent amongst existing organisms used as food or sources of food” (Lay Panel, 1999: 18).

panel's silence on this issue was because of "the intense public debate over biotechnology in recent years and the broader, very critical, debate about the consequences of industrialised farming practices in Denmark in the last 10 years". The differences in outcomes on the issue of alternatives to genetically modified food, in particular, the promotion of organic farming as a viable substitute, were heavily influenced by the presence of organic farming advocates on the expert panels of the Danish and Australian conferences. Consequently, the Danish and Australian lay panels wanted their respective governments to pursue research into viable alternatives to genetically modified food, while the Canadian panel did not raise this matter.

CONCLUSION: A UNIFIED NETWORK?

The Australian performance of the Danish consensus conference model described in this chapter revealed how the Danish script delineated the roles and tasks of the conference participants (Akrich, 1992; Akrich and Latour, 1992). Over three months in 1999, a network of alliances was constructed between formal elements (panels) of a consensus conference to achieve a single goal: a consensus statement. Occasionally, however, network alliances were subverted by unofficial micro-alliances between individual members of the different panels or by the unwanted introduction of other actors. For example, the production of unauthorised materials for the lay panel by one of its members essentially brought the original authors of those materials into the array of participants and the wider consensus conference network, even if semi-clandestinely. The effect of this subversive act was a redefinition of the range of permitted discussion and to destabilise (if only temporarily) efforts by the organisers to define the boundaries of the shared lexicon.

Thus constant balances, negotiations and compromises, managed by the conference's 'traffic controllers', were vital to counteract the difficulties of stabilising the consensus conference network and preserving the terms on which the alliances were initially negotiated and achieved. Balancing the independence of the lay panel with its crucial interactions with the expert speakers was particularly problematical. The assessment of the participants on the effects of the highly prescribed nature of the formal discussions between the two panels was that the rules of interaction had in fact stifled any sense of an open debate, claimed to be the basis of the consensus conference process. Yet some lay panellists, in disregarding the instructions of the traffic controllers by seeking information from the expert speakers informally, generally found these exchanges provided opportunities for debate that were lacking in the formal sessions.

Law (1994) suggests that a central network-builder, in this case the conference organisers, governs the combination and interaction of materials in a network as it seeks to supervise, represent and hold together diverse spaces and moments in time on its own terms. The network-builder must 'align' the network in order to resist forces and challenges from dissenters that may lead to destabilisation. Alignment devices are therefore critical in determining who is admitted to the network and who is excluded, what is discussed by network actors and what is not, and what course of action must be taken.

Thus the requirement, in the Australian case, to produce a single consensual document, rather than one that contained majority/minority reports, resulted in the 'birth' of a new network entity that aimed to carry the aspirations of its authors onwards into political and wider public domains. Thus, in actor-network terms, the lay panel's report can be described as an actor in its own right. Actor-network theory

helps us to understand that a text may represent its authors' attempts at determining outcomes and outlining how its aspirations may be achieved in accordance to stated objectives. The lay panel's report is an example of such a text. As with most reports it sets out what most of the issues are, as defined by the lay panel and makes recommendations on how they should be addressed.

Texts such as the lay panel's report effectively consolidate the carefully engineered consensus. It represents the labour, empowerment and knowledge acquisition of the lay panel and acted as a barrier to those panellists whose views were not consistent with the majority. Nevertheless, the consensus conference network, a seemingly stable construction with its prescribed protocols and routes for negotiation, was evidently not durable, but was actually unstable. While alignment devices such as written (protocols, briefing paper) and oral (expert presentations) texts may help to preserve the network's social order, power, scale, even hierarchy, other texts (unauthorised materials introduced by a lay panel member) may be used to undermine its cohesiveness.

Furthermore, the poor form of closure instituted by the conference organisers and managed by their traffic controllers, failed to provide an outcome for which all participants could feel a sense of achievement. Although consensus conferences are designed to minimise the differences between its heterogeneous participants in achieving a consensual outcome expressed in terms available to all, in fact distinction between the different groups are constantly reaffirmed. The significance of the failure to organise a common and clear closure involving all network participants was a signal that idea of a single network unified as a community for the occasion had in fact vanished even before the presentation of the report to Senator Reid occurred. Moreover, the indication by Senator Reid that she would 'place a

copy of the report in the parliamentary library' was a further eloquent sign of the failure to provide any outcome for which all participants could feel a sense of achievement.

6. The Reviews: Results of the Evaluations

A common misconception – one perpetuated by the organisers of the first Australian consensus conference – is that consensus conferences are designed to directly influence political decision-making processes. They are not. Rather, they are designed to present an informed position that is relevant to both political and social decision-making. Unfortunately, expectations of the impacts of consensus conferences are often unrealistic. According to Klüver (2000) an important condition for the staging of a consensus conference is the appropriate and realistic definition of impacts. A consensus conference should not be evaluated alone in terms of its impact on political decision-making, but should take into consideration, amongst other things, the wider impact of the process upon participant learning, communication between participant groups and stimulating public debate. Organisers undertaking their first attempt at staging a consensus conference, in particular, should match their ambitions to their experience and resources, including time constraints. More importantly, these expectations should be communicated clearly to conference participants, the media and the public to avoid disappointment.

Taking into consideration its inaugural status, the extent to which the first Australian consensus conference was likely to have an impact needs to be measured against realistic expectations. Unfortunately, the objectives and goals established by the steering committee were in some cases misleading, resulting in the false expectations of, and undue pressure on, the lay panel (Mohr, 2002). From the outset, the intended impact of the consensus conference was subject to different definitions.

An article published in *Consuming Interest*, a magazine published by the Australian Consumers' Association (ACA), claimed that the lay panel's report "will feed into the Commonwealth/State process for developing a new regulatory framework for gene technology" [my emphasis] (Australian Consumers' Association, 1999: 23). However, an earlier article published in the *Sunday Herald Sun* quoting the same ACA representative, predicted a less explicit outcome: "Sometime next year, we are due to see new legislation to establish a national regulatory framework for gene technology - the consensus conference *could* inform that legislation" [my emphasis] (O'Neill, 1998: 51). As these examples show, the organisers themselves seem to have been unsure of the precise objectives of the consensus conference.

More common among the actual outcomes of consensus conferences are numerous indirect and unmeasurable impacts, particularly in relation to public debate. While some impacts are easily identifiable, others may be much more difficult to track. Effects registered outside of political decision-making processes are generally harder to detect since they are not as publicly documented. However, simply because an outcome is not direct does not mean that it will have less of an impact. Indeed, Klüver (1995) takes into account the role played by consensus conferences in stimulating public debate, acknowledging that the least measurable impacts may well have the most influence. Nevertheless, a lack of identifiable outcomes is a problem for any organisation with limited time and resources to spend on a consensus conference. The staging of further consensus conferences may therefore only be justified if in fact outcomes can be measured and the balance is clearly positive.

In the following sections I discuss the various evaluations, internal and external, of the Australian consensus conference. First, I focus on the officially

commissioned evaluations and the conclusions drawn. Second, I discuss my own evaluation, semi-officially sanctioned, of the impact on different groups including participants, politicians/political process and the wider public.

EVALUATIONS

Unlike all other areas of consensus conferences, the Danish protocols are silent on the role of self-evaluation. The official evaluation process of the first Australian consensus conference – regarded as an integral part of the entire proceedings – produced two separate internal-review documents: Evaluation Reports Phase 1 and 2. The late introduction of the evaluation process, including the breakdown in communication between the evaluation sub-committee and the independent evaluators (discussed in Chapter 3), and an evaluation budget shortfall resulted in the steering committee redefining the official evaluation process to incorporate two phases. The Phase 1 evaluation report focused on the efficaciousness of the “consensus conference as a tool for public involvement [in] policy debates” and was presented to the Australian Museum in May 1999 (McKay and Dawson, 1999: 2). The Phase 2 report, focussing on the “outcomes and impact of the consensus conference extending for twelve months from the date of the conference (March 1999)”, was completed in February 2000 (Crombie and Ducker, 2000: 1).

A range of pre- and post-conference testing of participants’ attitudes and values concerning various elements of the consensus conference was undertaken autonomously by Market Attitude Research Services (MARS)²⁸, the facilitator, the Phase 1 and 2 official evaluators and myself. MARS conducted pre-conference

²⁸ It should be noted that the number of lay panel participants put through pre-conference attitude and value testing by MARS was 15, as this was the original number intended for the panel. Consequently, the percentages given are based on this number.

testing as part of the final selection process to ensure the widest possible socio-demographic distribution of (initially 15) lay panel members. The facilitator conducted an informal pre-conference litmus test to ascertain the lay panel's (now 14 members) general attitudes toward gene technology in the food chain at the beginning of the first preparatory weekend. The Phase 1 evaluators tested the 14 lay panel member's attitudes and values at the beginning of the second preparatory weekend (by correspondence) and immediately following the consensus conference. Post-conference interviews with members of the steering committee, ABC Radio and MARS as well as the organiser, facilitator, writer, and publicist were also conducted. The Phase 2 evaluators conducted a post-conference survey of participants' perceptions of the outcomes and impact of the consensus conference in September/October 1999. Of the 47 survey participants, 11 were lay panel members, seven were expert speakers and 12 were steering committee members while the remaining 17 respondents were audience members who hailed from government, industry and the media. The respondents were interviewed with regard to the conference's outcomes, contribution to public awareness and understanding, and effect on stakeholder relationships. My data, as indicated in Chapter 1, are drawn from post-conference questionnaires and subsequent interviews with 28 respondents from the steering committee, lay and expert panels.

Phase 1 Evaluation

The Phase 1 evaluation report on the consensus provided a feedback mechanism for the organisers. The Phase 1 evaluators concluded that despite the shortened lead up time to the consensus conference, the steering committee's adherence to the international protocols (for the most part) and consultation with their overseas

counterparts, indicated that the consensus conference model was successfully transplanted in the Australian socio-political context. In particular, a number of ‘critical success factors’ were identified as the foundation of the Australian consensus conference: “impartiality of the host institution; eminence of the chairperson; broad representation of interested parties on the steering committee; deep commitment of all members of the steering committee to the process and the willingness of one of their number to provide considerable organisational services; international protocols which gave credibility to this social and political experiment in the Australian context; skills of the facilitator; skills of the writer and the publicist; and commitment of the lay panel to the process” (McKay and Dawson, 1999: ii). Overall, the evaluators delivered an overwhelmingly positive appraisal of the actions of the organisers, steering committee, chairperson, facilitator, professional writer and publicist but one that failed to take into account the actual difficulties encountered in performing such roles for the first time in a new institutional and cultural context.

The evaluators also determined that key decisions made by the steering committee helped to stabilise the lay panel that was, at times, lacking faith in its ability to navigate the consensus conference process. For example, the evaluators saw the appointment of a skilled facilitator as critical to shielding the lay panel from the influence of outsiders and to delivering an unprejudiced consensus outcome. The commitment to the process demonstrated by the steering committee helped to exemplify the significance of the lay panel’s responsibilities. A case in point was the delegation of responsibility to the lay panel for the selection of expert speakers, even though amendments by the steering committee may have resulted in a more balanced selection. The stabilisation of the lay panel network was made more tenable by the introduction of select and powerful texts, such as the consent form, to the network by

the steering committee. The briefing paper, in particular, endowed the lay panellists with the knowledge and interest to investigate the issues further. The evaluators viewed the contributions of the expert speakers, particularly those heard throughout the preparatory weekends, as most informative. The knowledge gained from this documentation led the lay panel to focus on a particular concept, the precautionary principle, around which they shaped their uncertainties.

Among the more significant recommendations of the Phase 1 evaluators was the preference for a larger rather than smaller steering committee. This would allow for the delegation of responsibilities to sub-committees while providing a wider knowledge and expertise base. However, no recommendations were forthcoming regarding the issue of the demand for steering committee membership as the price of sponsorship despite recognising the criticisms this attracted in the results of the evaluation. The need for amendments to the processes used in the selection of lay panel members, key questions and expert speakers were also listed. The evaluators recommended that careful consideration be given to alternative methods of selection, either the use of random selection from electoral rolls, or if advertising were used, then the placement of advertisements in national dailies as well as regional, suburban and ethnic language newspapers. The evaluators also recommended that the number of key questions be reduced to expedite the report writing process. In addition, the steering committee predetermine a comprehensive selection of expert speakers representing a cross-section of expertise in the issue area and provide comprehensive biographical and annotative detail to assist in the selection process.

A further recommendation was the introduction of a neutral analyst to assist the lay panel in identifying points of agreement and disagreement (McKay and Dawson, 1999). It is not clear whether this role is in addition to the role of the

chairperson and/or facilitator, or at their expense. It was also recommended that all members of the lay panel and steering committee, as well as the evaluators, be allowed to participate in the press conference. However, no mention was made of the participation of expert speakers in such an event, despite their objections to being excluded and their inclusion by overseas counterparts. The incorporation of a follow-up process in the communications strategy was also recommended. Finally, the evaluators recommended the early appointment of evaluators enabling comprehensive documentation of the process from the planning and preparation stage through to the outcomes and impact of the consensus conference on the wider society.

Phase 2 Evaluation

The focus of the Phase 2 evaluation report was an examination of the “impact of the [consensus conference] on sectors vital to the interests of the Conference stakeholders and organisers” (Crombie and Ducker, 2000: 1). In essence, it was designed to measure the extent to which industry’s goals were met. The Phase 2 evaluators, however, delivered a more temperate appraisal of the conference than their Phase 1 counterparts, concluding that while its staging and outcome lent significant support to the decisions subsequently embodied in the federal budget announced in May 1999, there was no substantiating evidence to conclude that the panel’s recommendations had any direct impact.

Some of the major conclusions to emerge from the Phase 2 evaluation concerned the main impacts and ramifications of the consensus conference process. The evaluators concluded that the lay panel’s recommendations lent significant support to the key policy decisions on biotechnology in the federal budget. The

conference was held too late to have possibly affected influence on the drafting of these decisions, but federal Ministers have (allegedly) attributed influence to the lay panel's report on the decisions relating to: (i) the regulator being a statutory body and located within the health agency; (ii) GM food labelling as determined by the Australia New Zealand Food Standards Council (ANZFS); and (iii) the provision of substantial funding to the development of a biotechnology public awareness strategy (Crombie and Ducker, 2000). For these reasons, the evaluators considered the consensus conference timely as it heightened public awareness and attracted government attention.

The evaluators also concluded that the lack of financial resources hindered the effective follow-through of the conference's recommendations and thus its overall impact. Despite this, agencies such as CSIRO, Biotechnology Australia and the IOGTR demonstrated strong interest and support for further implementation of the model. The successful espousal of the model was, however, somewhat reliant on finding it a suitable and permanent home, as in Denmark, and the evaluators recognised this fact. Finally, the evaluators recommended the wide dissemination of their report to conference participants and to all government committees, councils and agencies with an interest in biotechnology. To their knowledge, this was not done (Crombie, 2001).

The lay panel's recommendation that resources be identified and allocated to produce a follow-up report to evaluate and monitor the impact of the consensus conference process served to pressure the conference organisers into implementing and funding the Phase 2 evaluation, which at the time the lay panel report was released in March 1999, was still undecided. However, as mentioned previously, whilst funds were secured from the GRDCs to conduct the evaluation, neither these

resources nor the communications strategy provided adequate means to distribute the outcomes. Resolutely, the Phase 2 evaluators drafted a number of recommendations regarding the circulation of the evaluation report, proposing that: the report be presented to the consensus conference steering committee for it to deliberate on the report, its conclusions and recommendations; the executive summary of the report be sent to everyone on our database; the full report be placed on the project website; and the report be sent to members of the Commonwealth Biotechnology Ministerial Council, the Biotechnology Consultative Group, Biotechnology Australia, the Interim Office of the Gene Technology Regulator, ANZFSC, ANZFA, and other key bodies that are identified by the steering committee (Crombie and Ducker, 2000). The evaluators later confirmed that the organisers, despite their assurances, conspicuously failed to distribute the report widely to key decision-making bodies and interested parties (Crombie, 2001).

Regrettably the official evaluations were not as effective as they could have been because of a lack of coordination by the conference organisers. In the following section, I discuss participants' views on a range of issues: the subject of the conference topic – genetically modified food; the conference itself; achievement of the steering committee's goals; and the wider impact of the consensus conference. As the single element common to each of the formal and informal evaluations was the determination of the lay panel's attitudes to genetically modified food and whether its introduction posed more benefits than risks, changes in participants' views spanning the pre- and post-conference testing can be also identified. Otherwise, the data presented originates from my post-conference questionnaire and interviews of all three participant groups: lay panel, expert speakers and the steering committee.

VIEWS OF PARTICIPANTS

Genetically Modified Food

One of a series of statements to which the sample of applicants to join the lay panel were asked to respond by MARS in order to elicit their opinion of a range of science, research and development issues before they were informed of the topic, was: “I feel that genetically modified food may provide more benefits than risks” (Collins, 1998: 26). In response, eight panellists believed that benefits provided by genetically modified food may outweigh the risks, while six were undecided. One lay panellist contested this statement. The results of the litmus test conducted by the facilitator after the panel had read the briefing paper and conducted their own research indicated that the lay panel’s “attitudes to gene technology in the food chain” were evenly divided between favourable, unfavourable and yet to form an opinion (McKay and Dawson, 1999: 23).

The degree to which the lay panellists’ attitudes had shifted as a result of participation in the consensus conference was difficult to gauge as the Phase 1 evaluators did not have access to the lay panel at the time of their selection. Instead, they had to rely on the retrospective views vouchsafed by the lay panellists during the second preparatory weekend. Also, the evaluators were not privy to the earlier testing conducted by MARS and accordingly did not ask the same questions but focused on the lay panel’s expectations of the *process* and whether this had been changed by their experience so far (McKay and Dawson, 1999). However, the majority of responses proffered by the panellists pertained to their views on the *issues* under discussion, with three distinct trends emerging. Panellists indicated a heightened awareness of not only the complexity of the subject but also the

importance of their role in discriminating fact from fallacy. Also, their earlier confidence in the food they ate was now eroded, as was their trust in scientific good will. The conclusions drawn by the official evaluators from the post-conference testing were not quantitatively substantiated; consequently only general statements were provided to indicate the broad direction of the lay panel's views.

As I was only permitted to approach participants after the close of the consensus conference, the data presented in this chapter relate to their pre-conference perceptions as they were recalled retrospectively. Of the participants surveyed, the majority (64%) indicated that prior to the consensus conference they considered themselves 'informed' on the issue of gene technology in the food chain. Unsurprisingly, while all of the expert speakers fell within this category, nine of the 12 lay panellists considered themselves uninformed as did one steering committee member. Participants' primary sources of information on the issue of gene technology in the food chain prior to the consensus conference were newspapers (57%), scientific publications (50%) and magazines (50%). The members of the lay panel regarded newspapers as their most useful source of information, while scientific publications proved popular with the expert speakers and the steering committee members favoured magazines. Five lay panel members indicated that they had no regular source of information.

I asked participants if their sources of information prior to the consensus conference process led them to see that there were more benefits or risks associated with the genetic modification of food. Those who perceived that there were more risks (36%) outnumbered those who perceived more benefits (21%). However, the majority (43%) were, at that stage, still undecided. The opinions of the expert speakers were evenly divided between genetic modification of food providing more

benefits or risks and those who remained undecided. None of the steering committee members perceived more risks associated with the genetic modification of food while two perceived more benefits. The remaining four committee members were undecided. None of the lay panel members reported that their sources of information led them to perceive more benefits, while seven perceived more risks. A further five panellists remained undecided. Although participants were asked to provide answers to this question in retrospect, it can be assumed that consideration of the information provided in the briefing paper, the preparatory weekends and expert presentations as well as the 'Monsanto file' distributed by a member of the lay panel, affected the lay panel's attitudes and values. Changes to attitudes and values are evident as the pre-conference testing conducted by MARS indicated that eight panellists were of the opinion that the benefits provided by genetically modified food may outweigh the risks compared to none in my survey. The majority of panellists had in fact reversed their views in the direction of seeing, greater risks. It would be reasonable to assume, however, that at the time of its selection the lay panel was relatively balanced, representing a range of views and opinions on gene technology in the food chain. While the perception of whether gene technology in the food chain posed more benefits than risks had changed dramatically, a reasonable number of panellists remained undecided throughout.

Having heard the arguments for and against genetic modification presented at the consensus conference, twice as many participants (57%) indicated that they would not buy genetically modified food compared to those who would (29%). Interestingly, not a single member of the lay panel indicated that they would buy genetically modified food, while nine indicated that they would not, confirming the panel's association of consuming genetically modified food with risk to human

health. The expert speakers were again evenly divided on this issue. Twice as many steering committee members indicated they would buy genetically modified food (four) as would not (two). However, the percentage of respondents who would buy genetically modified food if it was clearly and comprehensively labelled increased from 29 per cent to 39 per cent. While the provision of clear and comprehensive labelling did not change the opinions of the expert speakers, two lay panellists and a steering committee member who previously responded 'no' to buying genetically modified food, changed their answers to 'yes' if it was comprehensively labelled.

Respondents were evenly divided (36%) on the issue of whether, in the next 10-20 years, the benefits were likely to outweigh the risks of genetically modified food, while a significant number (29%) were unsure. Expert speakers again were evenly divided on this issue while the steering committee was significantly in favour of the benefits outweighing the risks by a margin of four to one. Six lay panel members, despite hearing the spectrum of arguments, were still unsure while five did not think that the benefits would outweigh the risks as opposed to one who did. Again, the majority of lay participants could not perceive future benefits from genetically modified food.

The majority (57%) of respondents indicated that their views on gene technology had not changed during the course of the process. As might be expected, few expert speakers and steering committee members reported a change in their views, while two-thirds of lay panel respondents contradicted this trend. The lay panellists' own assessment of whether their views on gene technology had changed during the course of the consensus conference appear accurate, considering the data. While a small majority of panellists prior to the consensus conference perceived more benefits, the dominant view changed in the direction of seeing greater risks

once the consensus conference was underway, changing again in the direction of indecision about future benefits or risks. Changes in points of view varied considerably among the lay panel. A panellist reported that she was initially “in awe of gene technology and its potential, but then after the first preparatory weekend . . . discovered there was a downside” (L6). Another “went in there open to gene technology, thinking that the good outweighed the bad, but left with the feeling that the bad outweighed the good” (L2). Conversely, other panellists reported changing their views in favour of gene technology. One panellist whose religious beliefs led her to believe that “in principle it is not a good thing, you shouldn’t mess around with nature”, realised that there were good reasons why gene technology could be used, if handled correctly (L1). The expert speeches also swayed a fellow panellist’s opinion, “before [listening to the speakers] I was very worried but now I realise there are some benefits and, really, people should be given free choice” (L10). Another panellist’s point of view vacillated before settling in the middle. One expert speaker who didn’t feel particularly committed to one end of the spectrum or the other, “felt that [he had] been positioned very much in one particular camp [by the steering committee]” (E2). Consequently, he found himself bearing the mantle of that position by making his case a lot stronger than he originally wanted too. However, since the conference, he felt that his “position has moved back to a more balanced place”. Two steering committee members, while not expressing a particular view on gene technology, revealed that they had “learnt a lot through the interactions of the different stakeholders” (S5), particularly “issues about the nature of the research, the type of research and the limitations of the research” (S1) leading them to support the precautionary principle approach.

Unfortunately an accurate assessment of the changes to lay panellists' attitudes and views on genetically modified food is not possible as their answers were provided for this survey in retrospect; after they had been exposed to the briefing materials, preparatory weekends and expert speeches. Nevertheless, when compared with data drawn from MARS' pre-conference testing, conducted when participants were not yet informed of the topic, significant changes are evident. Panellists' own assessments of whether their views had changed, however, appear accurate as half indicated that their views had changed during the course of the process. As expected, the data also confirm little or no change in the views of the experts on genetically modified food. The steering committee, like the lay panel, adopted a precautionary approach to gene technology. The dominant view of the steering committee before the conference was that there were more risks than benefits associated with the genetic modification of food. After the conference, however, the dominant view changed to more benefits outweighing the risks in the next 10-20 years. It would be reasonable to assume that the views of the two non-industry members of the steering committee were the ones that did not change.

The Conference Itself

Participants were also asked to look back over their experience of the consensus conference and to consider whether their initial views, objectives and expectations of the conference, had in their opinion, changed. Almost two-thirds (64%) of survey respondents indicated that, in retrospect, they considered consensus conferencing to be a worthwhile means of achieving public participation in decision-making. Of those in support of consensus conferencing, however, a quarter indicated that a combination of consensus conferencing and other forms of public debate would be

more effective. Some members of the steering committee had communicated to their organisations the contribution of the lay panel. Both Monsanto and CSIRO wrote to the panellists informing them that their recommendations were being considered and in some cases, put into effect (for example, a lay panel member was invited to join a CSIRO ethics committee by expert speaker, Dr Jim Peacock). One lay panellist believed that the knowledge acquired by the lay panel was not reflected in the media and, as a result, the media did not assist in increasing the public's knowledge of the issues. For that "we need a whole range of mechanisms" (L2). An expert speaker agreed: "the consensus conference [process] only reveals part of the picture, particularly for complicated topics like gene technology. We need to use as many different avenues of public consultation as possible. Workshops and stakeholder meetings at regional and local levels need to be engaged in as well" (E8).

An expert speaker admitted, "the idea of a consensus conference was attractive on first inspection" (E9). However, underneath he felt "it was flawed in a number of ways that prevented it from contributing substantially". One of his concerns was that the lay panel, selected for their lack of basic understanding of the issue, found it extremely difficult to come to terms with the complex issues that required a high degree of technical knowledge. Consequently, he thought too much credence was given to consensus conferences as a mechanism for developing sound policy advice. That notwithstanding, he thought the lay panel did an excellent job given their background knowledge and the time in which they had to inform themselves on the issue. Another expert speaker believed that an inherent fault with consensus conferences was the process itself. "It seemed to me that the whole thing became a little too self-conscious of the process. More was made of the process than

perhaps should have been and less of the subject matter . . . it was a little too structured and became a little artificial” (E5).

A steering committee member commented that the consensus conference “proved the Australian community has the maturity to deal with this process and this issue” (S1) and an expert speaker reported he had heard mention of the consensus conference in many places after the event from industry groups and scientists. However, another steering committee member suspected that “they may have failed to encourage others to take up the model” (S3). One expert speaker, who had participated in two consensus conferences, was “still not sure if they accomplish their goals” and he went on to cite the “lack of basic communication due to the rigid structure of consensus conferences” as the main reason for his scepticism (E3). Another expert indicated a preference for the use of several forms of debate. Depending on the issue, he suggested that perhaps a combination of approaches would be appropriate so as to capture expertise was not properly captured during the conference. Though the same expert speaker admitted to learning a lot through interactions with other stakeholders, he found the “mud-slinging, misinformation, biased views and recalcitrance of certain organisations disappointing” (E2). A third expert speaker revealed that, in future, he would choose another form of public debate over a consensus conference because the conference became too self-conscious about its own process and therefore too structured and artificial.

A significant majority (90%) of respondents indicated that the consensus conference had met their initial expectations. With the exception of the two members whose expectations were not met, the consensus conference had exceeded the expectations of almost the entire lay panel. One expert speaker considered the “educational process [of the lay panel] very productive. They started as blank pages

and what went on to that page was very balanced and detailed” (E12). Another was not “expecting to be emotionally moved by the consensus conference, [but] as the lay panel presented its recommendations, . . . was overwhelmed” (E2). The steering committee also approached the consensus conference with a significant degree of apprehension fuelled by increasing sensationalism in the media, particularly surrounding ‘Frankenstein foods’. Fortunately, “to the credit of the lay panel, even though the media was awash with that sort of stuff they sailed through it and gave such a balanced report” (S4). So, despite the acrimonious debate in the media, the lay panel “produced a report that could withstand scrutiny” (S2).

Nevertheless, even though the initial expectations of the overwhelming majority were met by the consensus conference, fewer (82%) stated that they would participate in another consensus conference given the chance. For one member of each of the lay and expert panels a major hindrance to participation in future consensus conferences was what they perceived to be significant procedural problems associated with consensus conferencing. The lay panel member indicated that unless the issues of time constraints and more personal space were addressed, she was hesitant to “put that amount of energy into something again” (L14). A further two lay panel members and an expert speaker were unsure of their commitment to participate in future consensus conferences as it would depend on the issue, their interest in the topic and hence their ability to contribute.

Interestingly, the participants surveyed were divided regarding the appropriateness of the timing of the consensus conference. Half of the respondents were of the opinion that the staging of the consensus conference was timely, while ten thought it was held too late, three too early and one lay panellist was unsure. The majority of lay panellists (seven) thought the conference was held too late while the

opinions of the expert speakers (seven) and steering committee members (four) indicated they thought it was timely. Among those who felt the conference was held too late, an expert speaker stated that “perhaps 1998, leading up to the Health Ministers’ conference” would have been better, “ideally ... to beat regulatory conditions” (E1). Others concluded the conference needed to be held at least three years earlier than it was, to make an impact on decision-making. One lay panellist thought the timing was just right, “corresponding with growing public awareness of the technology” and “because of the labelling recommendations over recent weeks” and the “current headlines regarding gene technology” (L6). Indeed, with regard to the issue of labelling the timing of the conference was seen as particularly pertinent. The Australian New Zealand Food Authority (ANZFA) was currently updating its Standard A18 pertaining to genetically modified food and its regulation and several respondents commented on this. One expert speaker agreed that politically the timing may have been right, but from a public understanding point of view, it was perhaps a little premature. Another expert speaker regarded the timing as perfect because it “corresponded with the February 1999 ministerial round table on GM issues”, followed by the federal budget focus on biotechnology (E2).

Participants were asked to reflect on their experience of the consensus conference and to identify the most important thing they gained from participating. For the majority of lay panellists the consensus conference was a really rewarding experience, an opportunity to be taken seriously and to feel as though they could influence decision-making processes. One panellist indicated that the consensus conference confirmed his “fundamental belief that ordinary individuals, given ample opportunity to gain an understanding, can cope with extremely complex issues and come up with very sensible recommendations” (L4). A colleague concurred, “the

fact that as an individual you still can have an impact . . . that you can make a difference” (L7). Others cited personal development and increased knowledge of the issues as their reward. Panellists insisted that they have “become less apathetic and realise that you can change things, that public pressure can influence decisions” (L1), that “it has taught me to be more assertive” (L6) and “the knowledge I have I can now pass onto others” (L2).

For one member of the expert panel the consensus conference was “a rewarding experience . . . it gave me a better understanding of the nature of the people who are against this technology and the reasons for their opposition” (E9). Others recognised that “it is important to be part of public debate. I took my role very seriously and worked hard to prepare for it” (E8) while her colleague “gained an awareness that we need to go out and communicate these issues to the public” (E1). One speaker was of the opinion that as the issues under discussion were environmental, social and ethical, they were the province of citizens and not experts and the consensus conference proved that “well-informed citizens could make perfectly sensible, straightforward and socially responsible judgements about this technology” (E11). A colleague was impressed by the lay panel and its ability to ask what were very important questions and to use those answers in a very constructive way in the recommendations, “confirming . . . that people who aren’t necessarily experts can arrive at very well-informed decisions when information is given to them in a balanced and more accessible way” (E2). Another expert speaker admired the lay panel for their commonsense. He remarked that though they were “subjected to the oratory of . . . extremes [they] were capable of coming up with a final report that was not hijacked by those extremes” (E12).

Likewise one of the steering committee members labelled the consensus conference “a triumph of commonsense. What we saw in the consensus conference was 14 ordinary people grappling with a complex topic and coming up with a set of commonsense recommendations” (S4). The most significant thing gained by his colleague “was actually seeing functional democracy in action and . . . I saw it . . . in the faces of the . . . audience, I saw it in the faces of . . . the speakers, I certainly saw it in the faces of the lay panel and I heard it from the media and . . . for me that was an enormously powerful experience” (S3). For another steering committee member the conference reinforced a belief and determination to encourage, particularly the corporate sector, to engage lay people in the debate. The process demonstrated that “if you are given access to good information, from a range of sources, and access to a range of speakers who are proficient in their backgrounds, the creativity, the decisions and outcomes that come from that process are extraordinary” (S1).

While the majority of participants agreed that consensus conferences were a worthwhile means of achieving public participation in science and technology decision-making, 16 per cent of participants thought that consensus conferences should not be conducted as isolated exercises but as one among a range of mechanisms to stimulate public debate. Members from all three participant groups identified what they thought were significant procedural problems with the model. The process’s rigid structure and the restrictions it placed on the development of debate were seen as an inherent fault; the emphasis was on the process itself and not on the issues as expected. Interestingly, the majority of lay panellists thought that the conference had been held too late for their recommendations to have an impact, while the majority of expert speakers and steering committee members thought that it was timely. One reason for panellists’ scepticism of the timing of the conference is

that their answers were given two to three months after the government had announced its new biotechnology strategy and it was apparent how little impact their recommendations had on the government's deliberations. In spite of these negative inferences, all three participant groups identified the positive impact the conference had on the lay panellists. Panellists' themselves generally found their participation to be a rewarding experience while some expert speakers and steering committee members commented on the panel's ability to separate fact from fiction and arrive at measured conclusions.

Achievement of the Steering Committee's Goals

Participants were asked if, in their opinion, each of the five objectives identified by the steering committee prior to the consensus conference was met. The vast majority (82%) of participants surveyed agreed that the consensus conference had 'facilitated broad public debate from a plurality of perspectives'. A lay panellist, however, did not think this was the case because the voices of 14 lay citizens did not, in her opinion, constitute broad public debate. She suggested that a fair compromise would have been to send each of the lay panel members back to their home State or Territory to assist with further regional consensus conferences. For one expert speaker, Jones's keynote address encapsulated the steering committee's objective, 'to facilitate broad public debate from a plurality of perspectives'. It was certainly not how at least one expert speaker thought the consensus conference was presented by the organisers but he did "think the lay panel managed to pluck some of that objective out of it with all due credit to them" (E9). He likened the consensus conference to a judicial process whereby the use of gene technology in food was on trial and the lay panel were expected to deliver a verdict of guilty or not guilty. By

setting up the speakers for and against it was, the speaker argued, “ultimately a trial, and ultimately it was the use of gene technology in food that was on trial” (E9). His observations reflect the influence of the analogy between judicial practice and consensus conferences that are a means to “conduct policy analysis in an open forum, following an advocacy procedure, presided by a neutral chairperson and a panel which draws conclusions” (Mayer, 1997: 57). However, on several occasions throughout the conference the facilitator reminded the participants that this was not a court, intimating that there was no simple ‘guilty’ or ‘not guilty’ approach to the experts’ assertions.

While the jury metaphor is useful in demonstrating the ability of ordinary citizens to perform complicated and informed tasks of analysis, conversely, a jury may accept or reject arguments based on persuasiveness rather than formal reasoning. The jury metaphor also compounds the adversarial nature of the expert’s contribution to the consensus conference, resulting in a polarised debate. The judicial metaphor reinforced the experts’ role as influential witnesses. A view supported by a lay panel member who agreed that “we did not have a process of dialogue, we had a competitive [opinion] stating process” (L3). So, rather than facilitating broad public debate from a plurality of perspectives, the jury metaphor suggests that the consensus conference model facilitates debate from a duality of views. The process by which expert speakers were initially selected by the steering committee and presented to the lay panel, the way they were seated in the Senate chamber and the alternation of points of view throughout the conference, enforced the ‘for’ and ‘against’ sides of the debate. The expert speakers were therefore unwillingly, and at first unknowingly, shaped by these alignment devices positioned by the steering committee that categorised their position ‘for’ or ‘against’ the technology. This

shaping process encouraged an adversarial debate, and as a result, finer points, neutral positions and the middle ground were overshadowed.

While the majority (71%) of survey respondents were of the opinion that the consensus conference would ‘empower members of the public to gain an informed understanding of the issues’, one lay panellist disagreed. She thought the lay panel “was not as informed as we could have been”, that the lay panel had to form its opinions based on a few speeches and that they did not know if what was said was true or not (L10). Conversely, an expert speaker who addressed the lay panel during one of the preparatory weekends, “observed the extent to which panellists had developed their knowledge, understanding and confidence to question experts’ submissions” (McDonald, 1999: 4). The role the media was expected to play in informing and enlightening the public was speculated on. Because the public, on the whole, was not present at the conference and because most of its members did not have access to the report, the media provided the only access to the issues available to the public. While there was some media coverage that reasonably elucidated the issues, most was thought to have just focused on controversy itself. An expert speaker agreed, believing that the “media was biased towards controversy and that fuelled the public in the wrong direction” (E8).

A lay panel composed of just 14 people cannot be statistically representative of the broader public, and according to Fixdal (1997), can only represent themselves. Therefore, stakeholders, although “not all stakeholders were there to receive the public’s views” (S2), and the wider Australian public were only able to gain insight into the views of just 14 Australian citizens. Yet, the majority (79%) of survey participants were of the opinion that the consensus conference would ‘gain insight for all stakeholders into the public’s views’. This prompts the question: what value

can be placed on the opinions of 14 lay citizens? Most importantly, however, the panel's views, as expressed by their recommendations in the lay panel report, were not just simply a reflection of the divergent views expressed by the expert speakers, but a composition of truths that lay somewhere in between. The lay panel's recommendations attempted to restore a balance to the polarised views put forward by the expert speakers and emphasised by the adversarial nature of the consensus conference process. The text demonstrated their level of understanding of the issues and that the truth lay somewhere in between the polarised views of the expert speakers. An indication that the views expressed by the lay panel were not just a regurgitated version of the experts', but were duly considered and shaped by the panellists' norms and beliefs. This prompts a second question: how are stakeholders and the wider public informed of the lay panel's views. Again, stakeholders and the public must have access to the lay panel's views and this is reliant upon the effective implementation of a comprehensive communications strategy by the steering committee and widespread dissemination of the report through the media.

The majority of (68%) participants surveyed were also of the opinion that the consensus conference would 'create greater mutual understanding between experts and lay people'. A lay panel member felt that he had reached greater mutual understanding of the issues with some expert speakers than with others. For instance, he felt that the arrogance of some experts only served to distance them from the panel, while he admitted to gaining a greater understanding of the issues from those who adopted a more neutral stance. Indeed, the lay panel appeared to be quite adept at peeling away the layers of rhetoric in which some answers were swathed. However, at least one expert speaker was of the opinion that no understanding had

been created between expert and lay because “ultimately there was no common ground under which we could all agree” (E9).

Although the creation of greater mutual understanding between expert and lay participants was an objective of the steering committee, it was impeded from achieving this goal by its own alignment devices. For example, it can be argued that by its very nature a consensus conference establishes a dualistic divide. The lay panellists ask questions and the expert speakers provide answers, creating a hierarchical division of labour. Further emphasising this dichotomy was their placement by the steering committee on opposite sides of the Senate chamber, while seated between them were the chairperson and facilitator whose role it was to manage their interactions. In fact, a lay panellist was of the opinion the steering committee had failed to meet this objective believing that in the end “it was still them and us” (L10). Another lay panel member agreed that the formal seating arrangements within the Senate chamber and the hierarchical process of experts responding to lay questions was not the most effective means to gaining a mutual understanding of the issues.

The value of lay knowledge is, however, championed by Wynne (1996: 59) who argued “the vernacular, informal knowledge which lay people may well have about the validity of expert assumptions about real-world conditions – say, about the production, use or maintenance of a technology – is also an important general category of lay knowledge that is usually systematically under-recognised”. This position is supported by Purdue (1999), who argued that neither of these two groups (lay and expert) is a naturally occurring entity. Rather, in the context of the consensus conference, they are both products of conceptual engineering. The lay/expert divide is carefully engineered by the steering committee to create the

sharpest possible dichotomy while the middle of the social spectrum, what Purdue (1999: 88) referred to as “too lay to be expert, but too expert to be lay”, is ignored. In order to establish the widest possible divide, the lay panel is constructed according to the quality of its members’ layness. They are selected because they have no prior knowledge of the topic, thus emphasising their accentuated position of innocence. Purdue also conceptualised the notion of the ‘mobile expert’, endowed with the ability to shift their expert status from one discipline to another within the conference. Mobile expertise was granted to an expert speaker who believed his skills were in talking about the technology and explaining what it is, but he was not asked to do that. Instead, the lay panel endowed him with the ability to address ethical issues. His opinion was that “the lay panel could have achieved a better understanding [of the technology] with a better match of skills to understanding” (E5). Furthermore, a second expert speaker was asked by the lay panel to address three relatively diverse issues ranging from ‘environment and health’ to ‘ethics and morality’ and ‘treaties and trade agreements’. Purdue argued that the “division of participants into the category of either ‘expert’ or ‘lay’ had the effect of separating the ‘counter-experts’ from the ‘lay’ public they claim to represent” (1995: 170).

Perhaps the most ambitious objective identified by the steering committee was its goal to ‘integrate the consensus conference model into government, industry and scientific policy-making practices’. This objective was largely unattainable for two reasons. First, the consensus statement produced by the lay panel amounted to a position statement of a single social group. Second, considering that this was the first attempt at staging a method of participatory technology assessment in Australia, it would be imprudent for the organisers to assume its immediate and successful

adoption in a country where other participatory methods of decision-making, such as referenda, have repeatedly failed to ensure change.

Certainly the consensus conference model aroused interest from the government, industry and scientific sectors (those not directly involved made up a sizeable proportion of the audience) curious, no doubt, to see what the lay panel's opinions would be. Those panellists optimistic that the model would be integrated into policy-making practices had faith in the model and believed integration to be a worthy goal. One lay panellist referred to the Federal Treasurer's inclusion of a Gene Technology Office in 1999's federal budget as a significant outcome of the consensus conference. Yet half of the participants were of the opinion that the consensus conference model would not be integrated into government, industry and scientific policy-making practices. Interestingly, the opinions of the steering committee and the lay panel were evenly divided on this issue while those of the expert speakers were deeply sceptical about this objective being met. One expert speaker did, however, admit to feeling encouraged by the mention of the consensus conference by industry groups and scientists after the event, albeit, he conceded, rather selectively in some cases. Another expert speaker was optimistic about the consensus conference's implied influence on the government's plans to establish an office of gene technology. While he acknowledged that the government had been discussing the idea for over ten years, he was hopeful that the consensus conference might have contributed in some small way towards expediting the process. He was, however, more encouraged by the potential influence of the lay panel's recommendations on the government in terms of the labelling of genetically-modified food, as the bureaucracy, according to him, appeared publicly to be opposed to it.

One steering committee member was of the opinion that the Phase 1 evaluation had determined the credibility of the process, “that consensus conferencing is now accepted as a worthwhile endeavour and, therefore, will be taken into consideration by government, industry and science as a tool to be used” (S4). Another steering committee member was less optimistic about the model’s continued adoption as a useful policy-making tool. The performance indicator she had set for the first Australian consensus conference was the announcement of a second Australian consensus conference that, to date, has not been made. Her reason for the lack of interest in staging a second consensus conference was the failure of the steering committee to choose the right host organisation, “because their commitment ended when the money ended” (S3). Idealistically, she had hoped for a host organisation that was committed to the principles of consensus conferencing and which would continue to actively promote the idea and disseminate information. Money, therefore, was a key determinant in the success of a consensus conference. The expense, then, also poses a barrier to the model’s continued use in Australia.

The majority of participant’s thought that four of the five goals established by the steering committee before the consensus conference were easily attainable while on the issue of the fifth, ‘integrating the consensus conference model into government, industry and scientific policy-making practices’, they were evenly divided. Scepticism of this goal being achieved was well founded for the following reason. In the next chapter I will discuss the importance of an established institutional base to the continued use of the model. Institutionalised consensus conferences, as is the case in Denmark, have increased support from and access to parliamentary decision-makers, as well as a guaranteed funding source. This last issue is also important as the expense of conducting a consensus conference does

pose a barrier to its continued use, and the involvement of sponsors may cause some sectors of the policy and wider communities to question the independence of the lay panel's recommendations.

The Wider Impact of the Consensus Conference

Members of the steering committee and both expert and lay panels were also surveyed on whether they thought the consensus conference would have an impact on the ten key issues addressed by the lay panel in their report of consensual recommendations. Interestingly, while one steering committee member who played an integral role in the organisation of the conference refrained from responding to and commenting on all ten issues, her committee colleagues were overwhelmingly positive in their responses compared to members of the lay and expert panels. An expert speaker responded generally to the questions by answering “‘yes’ to all at the community level and ‘no’ to all at the political level” (E2) while two lay panel members were ambivalent about the consensus conference's impact and abstained from responding.

More than half of the respondents (57%) thought the consensus conference would have an impact on the ‘regulation of gene technology in the food chain’. Although, a lay panel member did not think that regulatory decision-makers would be swayed by the outcomes of the consensus conference. An expert speaker initially responded to this issue with an overwhelming ‘no’. He believed that even though the government announced the establishment of the Office of the Gene Technology Regulator (OGTR) in the federal budget in May 1999, “the scope for the lay panel to influence gene technology regulation was limited as the government's plans were already on course” (E11). However, in retrospect, he was comforted by the fact that

the government's plans for a Gene Technology Office had been in place for 10 years and perhaps the consensus conference acted to expedite that process. A steering committee member agreed, indicating that even though the establishment of the Office of the Gene Technology Regulator was a positive move forward, she was "not convinced the it would make a radical difference to the way the government operates" (S1). Although she did applaud the housing of the new regulatory decision-making body in the Department of Health and Aged Care, she did not think that regulatory processes would undergo any major changes. Furthermore, she identified the absence of an expert speaker to speak on regulatory issues and the role of the regulatory authorities as an impediment to influencing the ongoing regulation of gene technology in the food chain. Indeed, there was no representative from a regulatory body invited to speak on these issues at the conference (Professor Rick Roush, a board member of Genetic Manipulation Advisory Committee (GMAC), was present but was not asked by the lay panel to address regulatory matters). An expert speaker felt the consensus conference failed to impact upon the issue due to the lack of publicity or "any ongoing mechanism [for] bringing the findings and recommendations of the lay panel to the decision-makers and regulators" (E5).

Again, more than half of the respondents (54%) were confident that 'processes of decision-making regarding gene technology would be influenced by the consensus conference'. Among those who did not agree was a lay panellist who observed that "there are far more influential players on this issue than the members of the lay panel . . . and although I think [we] achieved a lot, I do not believe our recommendations are going to have any weight when it comes to [multinational] corporations and governments talking to each other" (L7). A steering committee member regarded the lay panel's make-up as an impediment. He considered the

panel's chances of influencing the decision-making process as limited because the panel was a cross-section of Australian society rather than strictly representational. An expert speaker regarded the processes of decision-making regarding gene technology as opaque and not democratic and, therefore, very difficult to influence. Consequently, to expect that the consensus conference would have an impact was not realistic.

Opinion on whether the consensus conference would have an impact on 'identifying what constitutes an acceptable risk in introducing genetically modified organisms into the food chain' was evenly divided amongst respondents who generally agreed that the concept of 'acceptable risk' was fundamentally difficult to define, because each individual has a different idea and level of acceptability. Accordingly, an expert speaker defined 'acceptable risk' as extremely subjective. One lay panellist highlighted the importance of allowing citizens to make an informed choice, thus calculating their own level of risk. He identified this issue as a precursor to the labelling issue, as labelling empowered citizens enabling them to make an informed choice. Conversely, another lay panel member identified the need for benchmarks against which acceptable risks could be tested and measured. She argued that community attitudes could not be used as benchmarks because they fluctuate widely and suggested the use of scientific measures such as environmental impact studies to situate benchmarks. She concluded that the recommendation made by the lay panel in relation to this issue was one of the least specific recommendations in the report and, as a result, did not think it would be taken seriously by government bodies. An expert speaker concurred; stating that what constitutes an acceptable risk was not sufficiently debated and discussed during the conference. He argued that "the dominant paradigm is one of acceptable risk rather

than the precautionary principle and what level of testing is appropriate” (E1). A steering committee member agreed, “the commitment to, and technology for, risk assessment of GMOs is inadequate in [Australia]” (S2). He suggested that the application of risk assessment models to these issues be considered and mentioned that reviews of such applications are currently occurring in Europe.

Respondents to the survey were again evenly divided on the issue of whether the consensus conference would have an impact on ‘identifying the possible risks to environment and health and establishing appropriate safeguards’. One lay panellist was of the opinion that the regulators had already attended to the issue of possible risks and a change in their opinion would not occur because of the consensus conference. A second panellist agreed, believing that the regulators “had decided they were already taking every possible safeguard available” (L9). An expert speaker argued that ‘perceived risk’ is subjective and depends on the values you embrace and these change constantly and consequently public attitudes change quite rapidly.

Participants’ perceptions of the impact of the consensus conference on the ‘consideration of potential alternatives to gene technology’ were also evenly split. However, a lay panel member did not think that alternatives such as organic farming and traditional methods would receive due consideration owing to the vast amount of funding provided for research and development in gene technology. An expert speaker reasoned that because the development and marketing of alternatives to gene technology would require such a major change in thinking on the part of societies worldwide, he could not see the consensus conference having an impact. He argued the “real alternatives are to reform global agriculture so that it is not based on pesticides and herbicides, that it is not run by multinational companies and it is not all done by monocultures in order to get some sort of sustainable relationship

between our global ecosystems and our global agriculture” (E3). A steering committee member indicated that the debate should not focus on ‘what are the alternatives’, but ‘what can be complementary’. He reasoned that there was room for plurality. Both an expert speaker and a steering committee member objected to the incorrect positing of organic farming as an alternative to gene technology. The steering committee member, drawing attention to the fact that organic farming also relies on technology, felt the lay panel was misinformed about the alternatives put forward by several speakers. He argued that the consensus conference offered insufficient opportunity to discuss genuine alternatives.

The ‘consideration of ethical and moral issues when formulating GMO policies’ was again deemed an issue that the consensus conference would have an impact upon by half of the respondents. Once more, it was argued by a lay panel member that ethical and moral issues are subjective and that the proper consideration of religious issues involves such a diverse range of belief structures that it would be impossible to establish a set of encompassing guidelines. A steering committee member agreed that these were complicated issues and from the expert speakers’ point of view, there just was not time for any meaningful debate. Another lay panellist felt that even though they had asked for an ethical viewpoint to be represented among the expertise, she did not think the lay panel had clearly articulated their request for a speaker with broad ethical expertise.

Arguably, the most contentious issue was the consensus conference’s perceived impact upon the ‘concentration of ownership of food resources by a handful of multinational companies’. The majority of respondents (75%) believed the consensus conference would not have an impact on this issue. Two lay panel members expressed hope that the consensus conference would have an impact upon

the concentration of ownership of food resources, while a third thought the conference served to highlight the concerns of the general community. Indeed, the same lay panel member was informed by an expert speaker that this was one of the few times protagonists had been brought together to discuss these issues, and viewed that as a positive outcome. An expert speaker indicated that the (unanticipated) focus on Monsanto throughout the conference “served to highlight the consequences of global companies’ ownership of genetic information” (E1). He was of the opinion that they were driven by a concern for profit rather than social, environmental or health benefits.

In the main, respondents (64%) believed that the consensus conference would not have an impact on the ‘way the Australian government approaches treaties and trade agreements’. The general consensus among the lay panel members was that the government’s ear was available only to multinational companies, and the opinions of lay citizens mattered least. However, two lay panellists were hopeful that the consensus conference would teach the government a valuable lesson, and that future opportunities would be made available to the Australian community to allow them to voice their opinion. An expert speaker agreed, revealing that he viewed the consensus conference as “a form of negotiating, and if the government pays attention to negotiation as a way of approaching issues like this then it may take into account more than the particular narrow viewpoints it would otherwise be considering” (E12). Another expert speaker adopted a rather sceptical viewpoint on this issue. He estimated that the consensus conference demonstrated to the public that the government argued for product development and reduced regulation as an excuse not to upset international treaties and trade agreements. Conversely, a steering committee member thought that “the consensus conference had brought to the

attention of government and others the real concerns that people have about [these issues]” (S4).

An overwhelming response (79%) was recorded in favour of the consensus conference having an impact on the ‘levels of public awareness and participation in GMO issues’. Amongst those who did not agree, one lay panellist stated that he did not believe the public would respond to issues that were not considered immediately important to its health. He cited people who continue to smoke despite anti-smoking campaigns as testament to that fact. He went on to reveal that he thought “the consensus conference had probably only achieved a level of interest in people who were already interested in [these issues], who were already conscious of what they were buying, . . . of what they were eating” (L7).

A smaller majority (61%) of respondents believed the consensus conference would have an impact on the ‘provision of labelling and choice to consumers when buying GM food’. A lay panel member was, however, doubtful that the lay panel would have any influence, perceiving the issue of labelling as largely political and influenced by major players such as manufacturers. An expert speaker agreed that the lay panel’s potential to influence views was limited, that they could merely reinforce what most people already think. However, he did think, “their call for labelling of all genetically modified foods was one of their more useful recommendations” (E11). A steering committee member reasoned that “because of the politics, the fact that labelling [is] undertaken jointly by Australian and New Zealand deliberations, the confused nature of the debate and discussion and positions adopted by a number of groups in the argument, that no single input is going to have a determinative capability” (S2). He also viewed the panel’s report as a strong

document and did not think it would be ignored, but questioned whether it would be an engine for change.

Participants' confidence that the consensus conference would have an impact on the wide range of issues the lay panel had identified was low. While participants were only mildly confident that the conference would have an impact on processes of decision-making regarding gene technology and its regulation, increased public awareness and participation in GMO issues and the provision of adequate labelling and choice to consumers were perceived to be more likely outcomes. Participants' were evenly divided on whether the conference would have an impact on the issue of possible risks to environment and health, including the identification of acceptable levels of risk, as well as the consideration of ethical and moral issues and of potential alternatives to gene technology. Participants were, however, confident that the conference would not have an impact on the processes of decision-making regarding multinational companies and the Australian government's approach to treaties and trade agreements, believing that economic interests would prevail.

CONCLUSION: A WORTHWHILE MODEL?

A lack of coordination by the organisers meant that the official evaluations were not as effective as they could have been and as none of the evaluators, officially commissioned or semi-officially sanctioned, had access to the lay panel from the time of their selection, changes to its views and attitudes were unable to be accurately assessed over the course of the conference. Nevertheless, what can be ascertained is that both the lay panel and steering committee adopted a precautionary approach to genetically modified food, their views fluctuating throughout, while the expert speakers, as expected, remained steadfast in their beliefs.

On the value of the consensus conference as a means of achieving public participation, the majority agreed that it was worthwhile. However, significant procedural problems were identified by a number of participants that potentially impede the model's continued adoption. In particular, the process's rigid structure, further enforced by time constraints, stifled debate between the lay panel and expert speakers, rather than encouraged it, as was expected.

Moreover the lack of an established institutional base able to provide guaranteed access to parliamentary decision-making processes and the necessary funding poses another impediment to the model's continued use in Australia and this was (indirectly) recognised by the majority of participants who did not think the model would be integrated into established decision-making practices. Consequently, participants' confidence that the consensus conference would have an impact on the wide range of issues identified by the lay panel was significantly eroded.

7. Impact of the Performance: Enrolling Government Support, Public Interest and Subsequent Debate

THE INFLUENCE OF CONSENSUS CONFERENCES ON POLICY?

In the last chapter we saw the aspirations and beliefs of participants about the likely wider, and possibly lasting, impact of the consensus conference. In this chapter I turn to an examination of the evidence on what the impact actually was, insofar as it can be measured in some way. On the basis of a comparison with the assessment of the impacts of consensus conferences elsewhere I shall examine the most likely institutional platform for securing some influence, note what forms of evidence have been used to assess that impact in various domains, and then consider the extent to which the Australian conference can claim to have achieved some impact.

A central aim of the consensus conference process is to contribute to political and societal decision-making on science and technology through the participants' discussions, media reporting and the lay panel's consensus statement. For consensus conferences conducted at a national level, impacts may be measured by the level of public debate and influence on political decision-making processes (Klüver, 1995) although it may be hard to track exactly what contribution the consensus conference itself made. However, an often-unattainable objective given for consensus conferences is their ability to contribute to political decision-making at this level. Apart from a small number of consensus conferences hosted by the Danish Board of Technology, no other consensus conferences have recorded a direct impact on political decision-making processes (Klüver, 1995).

Evidence drawn from the conferences held in Denmark, the Netherlands and the UK demonstrates that their wider impact in these countries has met with varying degrees of success. Consequently, we are able to identify a number of significant factors that either permit or frustrate the wider policy influence of consensus conferences. Of paramount importance is the institutional setting and its links with political decision-making processes. Close parliamentary ties seem to indicate a high-level of awareness of consensus conferences and their topics by parliamentarians thus increasing the opportunities for reports and their recommendations to inform decision-making processes. The media also plays an important role in the development of public debate. However, the media's participation in this process is dependent on the topic's level of current interest.

The extent to which consensus conference outcomes may have an impact is largely determined by the institutional setting in which it takes place and, moreover, by how closely aligned the institution is with political decision-makers. The Danish Board of Technology is funded by, and operates as an arm of, the Danish parliament ensuring that its conference recommendations are duly considered. While the Dutch equivalent of the Danish Board of Technology, the Rathenau Institute (formerly NOTA), briefs the Dutch parliament on policy alternatives for science and technology it operates at arms-length from the government (Mayer, 1997). The relationship between the UK National Consensus Conference (UKNCC), hosted by the Science Museum and sponsored by the British Biological Sciences Research Council (BBSRC), and the British parliament was even more distant. Moreover, Danish consensus conferences are held at Christiansborg, the seat of Danish Parliament, which is also considered a contributory factor to the development of Danish public debate on science and technology. The Dutch and UK conferences

were not held in parliamentary buildings. Apart from those held in Denmark, very few consensus conferences can boast such close ties with parliament.²⁹

The political impact of a consensus conference, and its effectiveness in focusing attention on the development of public debate, is also greatly dependent on the extent of media coverage it attracts. Likewise, the extent of the media coverage is dependent on the appropriateness of timing and whether the issue is highly topical. For example, a consensus conference is more likely to be perceived as a success, regardless of its actual impact, simply if it is timed to coincide with decision-making processes. In any case, the process of lay citizens cross-questioning experts on socially controversial issues and making their own determination is intrinsically interesting to the media and public alike.

The nature of the topic and its level of contentiousness also determine the consensus conference's ability to attract a wide audience. A topic such as gene technology is more likely to capture wide public interest than a topic focusing on the 'future of fishing' (Denmark, 1998). Nevertheless, if broad public debate is to be achieved, the media must be relied upon to air the social and ethical questions central to the debate. The function of agenda setting by the media is an important component in stimulating and focusing debate on a particular issue, which until the consensus conference may receive quite limited attention (Glasmeier, 1995). A

²⁹ Among the exceptions to this rule are France and Israel. To distance itself from growing political and economic unrest about GMOs, the French government delegated the running of the French consensus conference to the *Office Parlementaire de l'Evaluation des Choix Scientifiques et Technologiques* (OPECST) (Marris and Joly, 1999). The government sought to distance itself from the process as well as the outcomes while equally, OPECST was keen to assert its independence by excluding the government from the recruitment process used for selecting the steering committee and expert speakers. Sponsored by the Chairman of Parliament and a coalition of partners, including two relevant Ministries, the Haim Zippori Community Education Center in Israel held a consensus conference in June 2000 on the topic of *The Future of Transportation*, which was considered a success on many levels. First, it received extensive press coverage and a special discussion on the lay-panel report by the plenum of Israeli parliament ensued, as did discussions amongst officials in the Ministries. Second, as a direct result of the consensus conference, the Israeli government established a new department in the Zippori Center, the Department of Participatory Democracy, to implement participatory practices on a national and local level (Goffer, 2001).

consensus conference is but one tool among a range of tools that are necessary to initiate and stimulate public debate. As media interest generated by a consensus conference tends to wane a few weeks after its close, other strategies or activities aimed at prolonging and continuing public debate are needed.

While media coverage is recognised as a necessary component for informing broad public debate, it also has the potential to disrupt the process. The lay panel members, in particular, are vulnerable to outside influence if exposed to early scrutiny by the media. Should the lay panel be hermetically sealed off from the prying questions of journalists throughout the consensus conference, or should they, as spokespersons for the lay public, be publicly accountable to those for whom they are temporarily acting as representatives? One motivation for shielding the lay panel from the media is the perception that the media may unduly influence them. I noted in Chapter 4 that scientific reporting in the media is not free of bias but largely constructed from information supplied by private corporations and public organisations. Thus any influence exerted over the lay panel by the media is bound to reproduce this bias. However, it could be argued that by exposing lay panellists to examination by the media, any changes of attitude experienced throughout the duration of the consensus conference process would be publicly visible.

Evidence of the Danish, Dutch and British Cases

Denmark

The most detailed study of the impacts of consensus conference concerns Denmark. Joss's (1998b; 1998a) impact study of 13 consensus conferences held by the Danish Board of Technology on the Danish Parliament and Danish public debate was conducted between late-1994 and mid-1996. Joss acknowledged that consensus

conferences are staged primarily to contribute to political decision-making (provision of information to Members of Parliament and other decision-makers) and to wider public debate (via media coverage and further public debates). Accordingly, his study focused on the intended aims of Danish consensus conference, their use by Danish Parliament and their impact on public debate. Parallel to evaluating the perceptions of Danish parliamentary members on the utility of the consensus conference model for parliamentary decision-making, two questionnaire-based opinion polls were conducted on two separate representative samples of 1000 members of the Danish population four weeks before and four weeks after the 1995 consensus conference on *Gene Therapy*. Both polls used the same set of ten fixed-response and two open-ended questions, including questions that addressed consensus conferences generally and the conference on *Gene Therapy* specifically.

Sixty-eight (38%) parliamentarians had heard of consensus conferences and were asked to participate in the survey consisting of seven fixed-response and two open-ended questions. Of this number, five current or past members of the parliamentary research committee, representing a range of political parties, participated in semi-structured interviews that aimed to elicit their responses on: their own definition of what a consensus conference was; their definition of its intended contribution to parliamentary or public debate or both; their perception of the model's past and future use regarding parliamentary debates, party-internal discussions and personal information; and their personal evaluation of parliamentary technology assessment (Joss, 1998a).

Joss's study determined the existence of an interdependent relationship between Danish consensus conferences and Danish parliamentary technology assessment. The consensus conference model emerged as a result of the

establishment of the Danish Board of Technology just as the Board's continued development is inherently tied to the staging of consensus conferences. Joss noted that ten years after the establishment of the Danish Board of Technology, "Danish parliamentary technology assessment appears to have become firmly established: consensus conferences are organised on a regular basis, and the Board has gained permanent status" (Joss, 1998a: 8). Of the Danish parliamentary members surveyed, half had actually attended one or more conferences between 1987 and 1995. The consensus conference proceedings were regularly reported in parliamentary briefing papers or via parliamentary debates. Consequently, the majority (59%) of parliamentary members surveyed had read reports on topics of interest to them, while one fifth of respondents read the reports regardless of the topic. The reports were used regularly not only for personal interest and party-internal discussions, the majority (70%) confirming they were used in a variety of ways to inform parliamentary debate. The conference's utility in contributing to political decision-making processes therefore appears to be confirmed.

The comprehensive surveys with the five past and present members of the parliamentary research committee aimed to ascertain the consensus conferences' perceived utility to and impact on political decision-making. All participants agreed that consensus conferences play a major role in Danish public debate and were therefore supportive of the model's continued use. The model's perceived success was mainly attributed to its staging at Christiansborg, the seat of Danish Parliament, and its accessibility to the Danish public. The respondents also identified four factors which justified the model's particular relevance to their own decision-making: "the difficulty of obtaining balanced information on science and technology; the need for dialogue between Members of Parliament and citizens; the social dimensions of

science; and the compatibility of technology assessment with parliamentary procedures” (Joss, 1998a: 11).

Furthermore, Joss noted that prior to 1995, four consensus conferences had been staged in cooperation with the parliamentary research committee including, *Food Irradiation* (1989), *Mapping of the Human Genome* (1989), *Transgenic Animals* (1992) and *Infertility* (1993). In fact, eight of the 13 consensus conferences held during that period were mentioned in parliamentary proceedings and were therefore considered to have recorded political impacts within parliament and throughout various ministries (Fixdal, 1997; Joss, 1998a). For example, the 1987 consensus conference on *Gene Technology in Industry and Agriculture* resulted in the Danish parliament not funding gene technology projects involving animals within the government’s biotechnology program (Klüver, 1995). The consensus conference on *Human Genome Mapping* (1989) inspired new legislation in 1996 prohibiting the use of human genetic information by employment and pension schemes. In addition, the 1994 consensus conference on *Integrated Production in Agriculture* prompted the Danish Council of Agriculture to implement a project based on the panel’s recommendations (Klüver, 1995; Fixdal, 1997).

Of the 2000 members of the Danish public who participated in the opinion polls run parallel to Joss’s survey, only 17 per cent had heard of a consensus conference prior to the conference of *Gene Therapy*; four weeks after the conference was held this percentage rose to 21 per cent. In comparison, a significant proportion (61%) of the respondents had heard about gene therapy in the media prior to the consensus conference, rising by another five per cent after the conference was staged. Increases in awareness of both consensus conferences and gene therapy reporting were compatible after the conference on *Gene Therapy* was held. Joss’s

(1998a: 17) evaluation on the impact of consensus conferences on Danish Parliament and Danish public debate concluded: “they helped to lend credibility and legitimacy to overall parliamentary technology assessment . . . ; more than half the conferences were used . . . as direct sources of information or as triggers for action; finally, the conferences [were] reported to have contributed to well-informed and extensive public debate on scientific and technological issues”.

Yet Joss notes that the consensus conference’s contribution to Danish public debate is particularly difficult to measure as a comprehensive study of the impact of conference media reporting on public debate has not been conducted and such a study would reveal only certain aspects of the complex relationship between consensus conferences and the wider public. Although the Danish Board of Technology’s own assessment of the impact its consensus conference have on public debate is favourable (Klüver, 1995). Danish consensus conferences attract a high degree of media attention and often result in more than 100 newspaper articles that refer directly to the conference (Klüver, 1995). The first and last days of the conference receive specific attention from television and radio programmes.

The Netherlands

The difference in the extent of media coverage between the first and second Dutch conferences correlated to timing and the development of a comprehensive publicity strategy by the organisers (Glasmeier, 1995). According to Glasmeier (1995: 69), the first consensus conference on the *Genetic Modification of Animals* (1993) occurred at a time when “the Dutch Parliament had already made a decision on the matter and passed a Bill”. As the Dutch parliament had already closed its discussions on the topic, any political impact was extremely unlikely (Mayer, 1997). The second Dutch consensus conference on *Human Genetics Research* (1995) coincided with relevant

social and political developments including the discussion in Parliament of a Bill protecting the legal status of people undergoing medical examinations (Glasmeier, 1995). The same consensus conference also benefited from more extensive and varied media coverage compared to its predecessor. While both conferences generated about 50 newspaper articles, the first conference did not attract any television or radio coverage. Media coverage of the second conference was more pronounced, resulting in no fewer than 14 radio broadcasts as well as television coverage across four different programs. The organisers appointed a publicist who established personal contact with around 100 journalists and editors with the aim “that information about the issues [discussed] at the conference could be better geared to the needs of editors, and therefore to their public” (Glasmeier, 1995: 69).

Furthermore, the practice of allowing media access to the lay panel throughout the course of the conference differed between the two conferences. The lay panel of the first conference was shielded from the media, as is the case in Denmark. It was thought that exposing the lay panel to media scrutiny would leave it open to influence. However, the organisers later realised that a valuable opportunity to trace changes in the panellists’ points of view was missed. Accordingly, media access to lay panel members of the second Dutch consensus conference was granted by the organisers upon the individual panellist’s consent.

The United Kingdom

It was expected that the political impact of the first UK conference would be limited, as its topic too had already been debated by parliament (Mayer, 1997). Furthermore, the UKNCC was situated in a civic culture dominated by established institutional arrangements and a political culture distinguished by institutionalised representative democracy (Durant, 1995). The degree of political attention paid to the UK’s

inaugural consensus conference was therefore likely to be small. Joss (1998b) concluded that a weak political response to the UKNCC was in fact largely due to the framing of the consensus conference in the 'public understanding of science' movement. Accordingly, political actors had situated the consensus conference at the science/society interface and detached themselves from its recommendations. They believed the conference's focus was the communication of scientific information to the public, a relationship that did not have any bearing on policy matters. Thus the choice of the Science Museum as host organisation was seen by political actors as particularly suitable compared to, for example, that of the Parliamentary Office of Science and Technology (POST), which would have signalled a certain amount of political commitment to the process. In fact, a report assessing public attitudes towards GM foods in Britain referred to the consensus conference as a 'political cul-de-sac' (Grove-White et al., 1997).

The media coverage of the UKNCC, in comparison to Danish conferences, generated slightly more newspaper articles (128), but Joss (1998b) cautiously advised that of this number 69 articles appeared in specialist publications such as scientific journals and industry newsletters while only 24 articles appeared in national newspapers. Moreover, the organisers of the UKNCC decided against allowing media access to the lay panel and followed the Danish procedure of protecting the panel to avoid distracting it from its already difficult task (Glasmeier, 1995; Joss, 1995).

THE AUSTRALIAN CASE

Like the Science Museum's organising role in the UKNCC, the Australian Museum has no formal links with parliament and the consensus conference was not an

element of the Australian parliamentary process. Rather, the Museum's focus is to establish "excellence in research and scholarship in natural science and human studies" (Australian Museum, 1999e: 1). Although the organisers manoeuvred the timing of the consensus conference to offer the lay panel the best opportunity to provide a valuable lay perspective to the issue of gene technology regulation being discussed in early 1999, no formal arrangements were agreed with Australian political decision-makers. Rather, it was an express hope of the organisers that the decision-makers would recognise the contribution of the lay panel and make allowances for the inclusion of their recommendations in the policy process.

On an informal level, numerous relationships with key political and policy actors were entered into by the Australian organisers, mainly through their inclusion on the steering committee or as members of the expert panel. Regrettably, most of the appointments to the steering committee cannot be thought of as strategic on the part of the organisers as a number of the appointees had already expressed either a need for the process (e.g. Dr Bob Seamark, CSIRO) or insisted upon membership as a term of their sponsorship (e.g. Professor John Lovett, GRDC). Strategic positioning was, however, evident in the choice of political actors to deliver the opening and keynote addresses. Nevertheless, the Minister for Agriculture, Fisheries and Forestry's opening address presented a *fait accompli* with regard to the federal government's position on gene technology policies. A second political actor, Dr Barry Jones, delivered the keynote address at the close of the conference. Jones's participation was political on a number of levels. First, as the then National President of the Australian Labor Party, Jones was chosen to balance the political representation at the conference. Second, Jones was also the designated intellectual of the Labor party, an ardent advocate for knowledge, progress and science. His

magnum opus, *Knowledge Nation*, was unveiled on 2 July 2001 as the foundation of the Labor Party's (unsuccessful) policy agenda for the next federal election.

Key policy advisers were also represented among the expert speakers, as were key lobby organisations such as GeneEthics Network and the Australian Consumers' Association. What would have been pertinent was the inclusion of appropriate regulatory representatives from either Australia New Zealand Food Authority (ANZFA) or Genetic Manipulation Advisory Committee (GMAC) on the expert panel. However, this was overlooked by the steering committee and later by the lay panel. Policy actors without any links with the steering committee or the expert panel were not kept informed throughout the process, though many were invited by the steering committee to attend the consensus conference and were later sent copies of the lay panel's report. Indeed, the audience consisted mostly of industry and stakeholder representatives, as well as some political staffers. No express commitment was given by any of the participants to take into account the results of the consensus conference, though some participants undertook this task independently.

While it has been argued that a degree of independence between the government and the host institution lends a certain level of credibility and legitimacy to the process it also means that the link between the conference and decision-making is weakened (Marris and Joly, 1999). Close institutional arrangements ensure a close association with politicians and the political process, thus improving the chances of political attention being paid to the outcomes. Without close political ties, host organisations must rely on the influence of the media, specialist publications and ad hoc presentations to policy-makers to disseminate the lay panel's recommendations (Guston, 1998; Einsiedel et al., 2001).

POSSIBLE IMPACTS ON A RANGE OF FORA?

For some time before the consensus conference had taken place, the government had been developing a national biotechnology strategy to oversee the regulation of genetically modified organisms, details of which correspond to a number of the lay panel's recommendations. In fact, a new regulatory system was one initiative provided for in the *National Biotechnology Strategy* announced by the Commonwealth government in the federal budget handed down on 11 May 1999, just two months after the consensus conference. Likewise funding of \$17.5 million was earmarked for the development of Biotechnology Australia in the Department of Industry, Science and Resources (DISR) and a statutory Office of the Gene Technology Regulator (OGTR) in the Health and Aged Care portfolio. An amount of \$10 million was allocated to Biotechnology Australia to "develop a national strategy for biotechnology; a public awareness program to provide information about biotechnology and gene technology; training in the effective management of intellectual property; and secure better access to genetic resources and gene collections" (Minchin, 1999b: 37). A further \$7.5 million was allocated for the establishment of a statutory Office of the Gene Technology Regulator, "operating under regulatory powers conferred through an inter-governmental agreement and associated Commonwealth, State and Territory legislation" (Minchin, 1999b: 37). The Government's initial approach to biotechnology, particularly the development of the framework for gene technology regulation, was shaped by an expert-oriented Commonwealth-State Biotechnology Consultative group that began extensive consultations in December 1997 (Minchin, 1999a). A Ministerial Council on Biotechnology, comprising the Ministers for Industry, Science and Resources; Agriculture, Fisheries and Forestry; Education, Training and Youth Affairs, the

Environment and Heritage; and Health and Aged Care, was established to further develop and manage the Government's biotechnology strategy. While it is fair to assume that these initiatives were encouraged by the lay panel's recommendations, it is unclear – given the government's prior planning of the regulatory framework for genetically modified organisms – whether the recommendations had a direct impact on regulatory decision-making processes.

Office of the Gene Technology Regulator

The lay panel's report raised a number of key issues and developed a series of important recommendations; many of them directly relevant to the national regulatory framework for genetically modified organisms developed by the Commonwealth, State and Territory Governments of Australia. The importance and relevance of the lay panel's report was recognised by the Interim Office of the Gene Technology Regulator (IOGTR), States and Territories when drafting the Gene Technology Bill 2000. In response to the report's intended contribution to this process, the IOGTR released an Information Bulletin in September 2000 outlining how the outcomes of the consensus conference were addressed when developing the new regulatory scheme for gene technology. The IOGTR, conscious of the growing community concern that prompted the consensus conference, used the lay panel's report:

“as one of the guides to the development of the new regulatory system – we have tried to interpret the spirit and the intention of the lay panel's recommendations, and apply them not only to the specific issues raised by the panel, but also more broadly to matters dealt with in the national regulatory system” (Interim Office of the Gene Technology Regulator, 2000: 27).

The State, Territory and Commonwealth Government's substitution of the former voluntary system for control of GMOs with a new independent regulator, the Gene Technology Regulator (GTR) reflected the sentiment of the lay panel's recommendation for the formation of a new statutory authority responsible for GMO regulation "whose outcomes and deliberations are public" (Lay Panel, 1999: 3). Former legislation was also amended requiring existing regulatory agencies such as the ANZFA to seek expert advice from the GTR in relation to the safety of the genetically modified food products that they regulate. Previously, gene technology applications underwent a peer-review process overseen by the GMAC.

Consistent with the lay panel's recommendation for uniform legislation across all States and Territories, the new regulatory framework comprises:

- (i) Commonwealth legislation that establishes controls that apply equally in States and Territories and to all companies using GMOs; (ii) legislation in States and Territories that complements and is consistent with the Commonwealth law; and (iii) an agreement signed by State and Territory Governments, as well as the Commonwealth Government to ensure national consistency over time including in relation to amendments to legislation (Interim Office of the Gene Technology Regulator, 2000: 9).

In accordance with the lay panel's recommendation that "all legislation be subject to regular review" (Lay Panel, 1999: 3) the new regulatory framework involves implementation of mechanisms to ensure ongoing review of the effectiveness of the legislation and a compulsory 5-year review of the entire regulatory system. The *Gene Technology Act 2000* also requires proponents using GMOs to pay fees and

charges to the regulator and includes a comprehensive program of independent monitoring of compliance, backed up and supported by a strong system of enforcement, enabling the imposition of substantial financial penalties and imprisonment terms for regulatory breaches (Commonwealth of Australia, Ernst & Young and Freehills, 2001). Damage to the health and safety of people or to the environment may incur tougher penalties. These measures reflect further recommendations put forward by the lay panel. The Commonwealth government decided to defer cost recovery for two years from the commencement of the regulatory scheme (Office of the Gene Technology Regulator, 2001b). There would therefore be no fees or charges to the clients of the regulatory system until at least 21 June 2003. In the interim, the government would wholly fund the operations of the Regulator while the OGTR undertook an activity based costing exercise to refine the fees and charges model. At the time of writing, the proposed model to recover the cost of operating the gene technology regulatory system was the subject of stakeholder consultation, with submissions due by 26 July 2002.

All GMOs intended for release into the environment will be prohibited until their risks have been assessed and the GTR has approved their release as indicated by the Interim Office of the Gene Technology Regulator's (2000: 3) objective "To protect the health and safety of people, and to protect the environment, by identifying risks posed by or as a result of gene technology, and by managing those risks through regulating certain dealings with genetically modified organisms". The prohibiting of all GMOs unless the GTR is satisfied that all health and environmental risks have been identified and can be managed also reflects recommendations proposed by the lay panel. The lay panel's call for the establishment of an adverse reaction register corresponds with the development of a database, maintained and

monitored by the OGTR under the new legislation, that will record all GMOs and GM products released in Australia. The decision to locate the IOGTR within the Health portfolio was already taken though the panel's recommendation that it "should not be moved to Agriculture, Fisheries and Forestry Australia" may have helped to affirm this decision (Lay Panel, 1999: 5). The Government took the decision to establish the IOGTR within the Health portfolio:

to emphasise that the Government believes that protecting public health and protecting the environment are its primary concerns. Protecting the community and the environment comes before everything else – including ahead of any economic or trade advantages that might be gained through gene technology (Interim Office of the Gene Technology Regulator, 2000: 17).

The new regulatory system was the first in the world to give statutory underpinning to three advisory groups in the context of gene technology. The Gene Technology Technical Advisory Committee (GTTAC) replaced GMAC as the expert group responsible for providing scientific and technical advice to the GTR on risks. The GTTAC, however, must include a 'lay person' as a member of the committee who is not required to possess the skills or experience required of their fellow committee members (*Gene Technology Act 2000*). Consumer representation, in accordance with the lay panel's recommendation, has ostensibly been provided for on the GTTAC committee.

The Gene Technology Community Consultative Committee (GTCCC) consists of representatives of the general community and is responsible for voicing community concerns and bringing community issues to the attention of both the GTR and the Ministerial Council, which has general oversight of the Regulator. The

establishment of the GTCCC corresponds with the lay panel's call for the Government to "establish a mechanism similar to the model of the Consensus Conference, to bring together . . . industry, consumer groups, critics, other experts and Australian lay people" (Lay Panel, 1999: 4). The GTCCC will provide advice on matters of general concern and the need for policy principles and guidelines, codes of practice and technical and procedural guidelines. Though, unlike lay panellists, the 12 members of the GTCCC are required to possess skills or experience in areas relevant to gene technology, for example, in environmental issues, consumer issues, the impact of gene technology on the community, and public health issues. The selection of members for the GTCCC and its composition was subject to community consultation and, according to the Interim Office of the Gene Technology Regulator (2000), took into account the lay panel's recommendation for consumer representation on decision-making bodies.

Finally, the Gene Technology Ethics Committee (GTEC) addresses ethical questions arising from the application of gene technology, develops guidelines and advises the GTR and the Ministerial Council of ethical issues. The establishment of the GTEC ostensibly addressed the lay panel's call for "an ethicist to be involved in the formulation of major decisions regarding GMO policies" (Lay Panel, 1999: 6). The GTEC comprises 12 members with expertise in ethical matters relating to the environment, health, law, religious practices, animal health and welfare and applied ethics, as well as a member of the GTTAC and a member of the Australian Health Ethics Committee (Office of the Gene Technology Regulator, 2001a).

A key recommendation outlined by the lay panel in its report involved increased and equal representation from public, industry and other key stakeholders through the establishment of a mechanism similar to the consensus conference. The

Interim Office of the Gene Technology Regulator (2000) argued that the representative make-up and role of the GTCCC fulfilled this requirement (although it has only two lay representatives in a committee of 11 and is smaller and has fewer resources than its technical (19 members) and ethical counterparts (14 members) (Interim Office of the Gene Technology Regulator, 2000). Equal representation of public, industry, stakeholder and government on decision-making bodies is rarely achieved, as favoured by the lay panel, as industry and government spokespersons tend to dominate these powerful bodies.

The IOGTR, in ensuring that the new regulatory system was clear, transparent and accountable, incorporated a range of public consultation mechanisms by conducting a lengthy and comprehensive consultation process that spanned 12 months from October 1999 through to October 2000. The new legislation continues to provide mechanisms that allow for community consultation on individual decisions taken by the GTR. The OGTR has subsequently developed fact sheets explaining the various elements of the regulatory system and how they fit together, released a series of Information Bulletins (of which their responses to the lay panel recommendations is one) and established a mailing list for those interested in receiving information on gene technology regulation. The OGTR, as a condition of the *Gene Technology Act 2000*, will also submit public notices on all applications for field trials and general releases, to inform the community of the proposals and seek their feedback.

Another condition, one included in the major amendments to the *Gene Technology Bill 2000* at the insistence of the Australian Democrats, was that the government would hold a consensus conference on a gene technology issue within twelve months of establishing the OGTR. The Democrats had originally proposed

that “the Gene Technology Community Consultative Committee (GTCCC) should be able to appoint a citizens’ jury on an ad hoc basis to assist its work. This jury would have been operated along the lines of the consensus conference” (*Summary of Major Amendments to Gene Technology Bill 2000*: 5). While this amendment was not supported, the government did agree to hold another consensus conference.

Biotechnology Australia

In addition to the Interim Office of the Gene Technology Regulator (IOGTR), the 1999 federal budget also funded Biotechnology Australia. Assigned the task of coordinating non-regulatory biotechnology issues for the Commonwealth Government and seeking to provide balanced and factual information on biotechnology to the Australian community, Biotechnology Australia is the public face of the Commonwealth Government’s approach to biotechnology. A multi-departmental government agency³⁰, Biotechnology Australia, in conjunction with the Commonwealth Biotechnology Ministerial Council, developed the *National Biotechnology Strategy* in 2000. Consistent with the lay panel’s recommendation for better processes to allow public access to information, the Strategy, among other things, aims to “increase the public’s general awareness of biotechnology and its applications, and of the regulations that safeguard people and the environment in order to facilitate informed debate and decisions” (Commonwealth of Australia, 2000: 13). Among the strategies listed for achieving this goal is engaging the community in policy and regulatory discussions – yet without any attention how this may be achieved.

³⁰ Biotechnology Australia represents five Commonwealth departments: Industry Science and Resources; Environment and Heritage; Agriculture, Fisheries and Forestry; Health and Aged Care; and Education, Training and Youth Affairs.

The *National Biotechnology Strategy* (and subsequently the *Gene Technology Act 2000*) was informed by community and stakeholder consultation. This included: seeking advice from the Biotechnology Consultative Group whose members represent educational, environmental, bioethical and consumer interests; seeking written submissions; holding forums in all capital cities; presentations at biotechnology conferences; establishing government agency information services; and holding meetings with community and environmental organisations (Biotechnology Australia, 1999). Nonetheless Biotechnology Australia restricts its interactions with the Australian community to providing information on its website, conducting forums in State and Territory capital cities that attract the ‘usual suspects’ and studying public opinion in community surveys. There are no other opportunities for public participation in decision-making.

Department of Foreign Affairs and Trade

Further recommendations by the lay panel were directly relevant to a number of existing government departments and agencies that were responsible for developing policies on various aspects of gene technology. The Department of Foreign Affairs and Trade was the department responsible for negotiating Australia’s position of the Cartagena Biosafety Protocol. The Protocol, governing the (international) transboundary movement of living genetically modified organisms that may pose a threat to conservation and sustainability of biodiversity, was adopted by 103 nations (excluding Australia) in Montreal on 28 January 2000 after five years of negotiation. The Commonwealth government, through the Department of Foreign Affairs and Trade, is still consulting with State and Territory Governments, industry and stakeholders before committing to the Protocol (Department of Foreign Affairs and

Trade, 2002). Ongoing negotiations in a range of international fora continue to determine the international frameworks that will shape biotechnology patenting regulation and trade. Negotiations with the Organisation of Economic Cooperation and Development (OECD), the World Intellectual Property Office (WIPO), the World Trade Organisation (WTO) and the United Nations are aimed at “ensuring decisions in international fora do not disadvantage the trading environment for Australian GM agriculture and food products” (Commonwealth of Australia, 2000: 22). Australia’s strategy, therefore, is to seek recognition and adoption of its position by pursuing a strong presence in these negotiations. Negotiations by Australian representatives are aimed at ensuring that the Biosafety Protocol will not inhibit or impede Australia's ability to protect its environment and biodiversity, thus supporting the lay panel’s recommendation to “ensure a precautionary approach to GMO trade” (Lay Panel, 1999: 7). The Protocol establishes a framework that, if adopted in Australia, would be expected to complement existing domestic regulatory processes and not limit Australia's capacity to provide environmental protection. Australia currently has a range of policies and measures in place to ensure a high level of protection from any potential risks associated with GMOs, including rigorous quarantine regulatory procedures such as the environmental assessment of imported GMOs.

Australia New Zealand Food Authority

While the lay panel’s recommendation for comprehensive labelling was consistent with decisions taken by the Australia New Zealand Food Standards Council (ANZFSC), comprising Health Ministers from Australia (including States and Territories) and New Zealand, evidence suggests that key decisions determining

labelling requirements had already been taken. For instance, development of the new labelling regime dates back to July 1998 when the ministers first decided to impose labelling requirements on substantially different GM food (Lindenmayer, 2001). Subsequently, in December 1998, the ANZFSC agreed 'in principle' that foods produced using gene technology and foods containing genetically enhanced ingredients, with the possible exemption of refined oils and sugars, should be labelled accordingly. In addition, it was recommended that a series of studies be conducted to determine the costs, feasibility and international trade implications of such a policy before a final decision be made. The Ministers required ANZFA to consult with an inter-governmental task force on food labelling and other key stakeholders to produce a protocol for implementing and enforcing the Standard in a cost-effective and efficient way. A private sector study commissioned by the Departments of Health and Aged Care and Agriculture, Fisheries and Forestry Australia estimated that the cost of compliance with the mandatory labelling Standard (of which GM foods was only one component) would be approximately \$118 million with ongoing compliance costs of about \$54 million a year (Lindenmayer, 2000). While ANZFA considered these figures to be seriously overstated, the possible excessive cost to industry and subsequently the consumer posed by universal mandatory labelling was deemed too high and in October 1999 the ministers established a less cost-demanding benchmark for developing the Standard (Lindenmayer, 2000).

At a meeting held on 28 July 2000, the ANZFSC agreed to a draft labelling standard (Standard 1.5.2) requiring the labelling of genetically modified food and food ingredients where novel DNA and/or novel protein is present in the final food. The Standard allows an ingredient to contain up to one per cent of unintended

presence of genetically modified product. A number of foods are exempt from the labelling requirements. Among them are processing aids and additives, restaurant and take-away foods prepared at the point of sale, and highly refined foods (such as oils), for which the refining process removes novel DNA or protein. The Standard also requires labelling when the genetically modified food has altered characteristics. However, GM foods available for sale in Australia prior to 30 April 1999 were granted a twelve-month compliance exemption on the condition that a full application for approval upon assessment was lodged with ANZFA. The Ministers formally adopted the Standard on 24 November 2000 with the labelling policy coming into effect on 7 December 2001.

Australia and New Zealand currently have the most stringent labelling requirements in the world, even stronger than those of the European Union, previously the benchmark for GM labelling legislation. The major point of difference between the Australian and European regulatory regimes is that unrefined processing aids require labelling in Australia (Australian Food and Grocery Council, 2000). In adopting such rigorous requirements the ANZFSC, as recommended by the lay panel, rejected the term ‘substantial equivalence’, that is, that genetically modified foods have the same properties and characteristics as their conventionally produced counterparts. Canada and the United States currently do not require the labelling of substantially equivalent GM foods. However, a report prepared by the Expert Panel on the Future of Food Biotechnology for the Royal Society of Canada in February 2001 found “the use of ‘substantial equivalence’ as a decision threshold tool to exempt GM agricultural products from rigorous scientific assessment to be scientifically unjustifiable and inconsistent with precautionary regulation of the technology” (The Royal Society of Canada, 2001: ix).

Regrettably, ANZFA's Community Communication Plan, announced in July 1999, was also not in response to the lay panel's perception "that the regulatory and advisory bodies in place [in particular, ANZFA and GMAC] are currently not serving community interests" (Lay Panel, 1999: 3) but in response to low community understanding of ANZFA's role, as made clear by the market research conducted by Biotechnology Australia earlier that year. A major performance indicator attached to the Communication Plan was the development of "a comprehensive strategy . . . to enable effective consultation with the community" (Australia New Zealand Food Authority, 2000: 46). Accordingly, the Food Standards Code was placed on ANZFA's website to allow the public to understand the proposed reforms. During the course of the year (1999/2000), ANZFA responded to 4,177 public enquiries. Among the major public concerns were food safety, GM food, food additives and the publication of the Food Standards Code. Further strategies to improve public consultation involved: (i) greater transparency and accountability in the consultation processes; (ii) improved dialogue and provision of information with the community about standards issues; and (iii) better feedback on issues raised by the community (Australia New Zealand Food Authority, 2001). ANZFA, via its website and public notices placed in national papers, continues to invite consultation from the public and interested stakeholders on applications for the development and release of genetically modified foods and food products.

Australian Consumer and Competitive Commission

The Australian Consumer and Competitive Commission is an independent statutory authority responsible for administering the Trade Practices Act 1974, which encompasses anti-competitive and unfair market practices, company mergers or

acquisitions and product safety and liability. The lay panel's recommendation that "the Australian Consumer and Competitive Commission (ACCC) take a proactive role in investigating and preventing multi-national monopolies in the food industry" is difficult to monitor in that virtually all commercially-based research and development is predominantly influenced and funded by companies that stand to benefit the most from the application of gene technology (Lay Panel, 1999: 7). No evidence can be found of the ACCC's involvement in investigating such monopolies or their perceived need for such investigation. Nevertheless, it is worth noting that in the 1999 federal budget, the Commonwealth Government set aside \$250 million for biotechnology research to be undertaken by independent groups such as universities to ensure that broad public interests are served in addition to commercial interests. However, the ACCC will play a significant role in assuring the Australian public that 'GM Free' foods are just that by monitoring the new labelling provisions for genetically modified ingredients to ensure compliance with the Trade Practices Act 1974 (Australian Competition and Consumer Commission, 2002).

Avcare

In addition to the IOGTR's responses to the lay panel's report came the set of responses drafted by Avcare in May 1999, just two months after the consensus conference. Avcare, the National Association for Crop Protection and Animal Health, was among the sponsors of the consensus conference, moreover, as the sole sponsor of the Phase 1 evaluation process. As well, an Avcare representative, Claude Gauchat, held a leading position on the steering committee and evaluation subcommittee. While Avcare agreed 'in principle' to the majority of the lay panel's recommendations, the suggestion by the lay panel for independent assessments of the

viability of non-GMO options, and that this process should explore the political, cultural, financial and environmental ramifications, was opposed. Avcare believed that the final decision would be determined by market attractiveness. Numerous government studies have considered the viability of choosing non-GMO options and potential impacts on industry producers and trade, though Avcare conceded, “the most effective solution may well be a combination of solutions” (Avcare, 1999: 5).

Agrifood Awareness Australia

While government agencies have collaborated to implement their own public awareness programs, various industry bodies have also joined forces to establish Agrifood Awareness Australia (AFAA). AFAA is an alliance comprising Avcare, Grains Research and Development Corporation (GRDC), Seed Industry Association Australia (SIAA), National Farmers’ Federation (NFF) and AusBiotech Limited and National Agricultural Commodities Marketing Association (NACMA). Though not officially launched until May 1999, AFAA’s development predates the consensus conference (Crombie and Ducker, 2000). The consortium aims to increase public awareness of, and encourage informed debate about, gene technology issues. In explaining the need for an industry initiative on its website, AFAA acknowledged the lay panel’s recommendation for the need for balanced, credible information about gene technology.

Numerous recommendations proposed by the lay panel were consistent with developments in government gene technology regulation and the actions of various government departments/agencies and industry and professional organisations taken shortly after the conference was closed. However, as policy development and organisational change are lengthy processes, it is reasonable to assume that the

conference had little or no impact on these developments, particularly considering the time frame. Moreover, as the lay panel was not as thoroughly briefed on issues relating to gene technology regulation as it could have been, its recommendations regarding these issues were relatively general. Consequently, the analogies drawn by both the IOGTR and Avcare on how their organisations had addressed the issues raised by the panel were likely to be positive.

Furthermore, while the consensus conference was discussed in parliament in the course of Senate debate to amend the *Gene Technology Bill 2000*, and this was subsequently agreed to by the House of Representatives, the consensus conference had not stimulated parliamentary debate of the issues it raised. Rather, it was its continued use as a public participation mechanism to assist the deliberations of the IOGTR's Gene Technology Community Consultative Committee (GTCCC) that was discussed.

USE OF MEDIA TO REACH WIDER PUBLICS

A Communications Strategy

In the context of the Australian consensus conference, a communications strategy was devised to give order and form to the relationship between the consensus conference network, the media and the public. The strategy therefore became a principal alignment device employed by the steering committee in an attempt to enrol firstly the Australian Museum, the publicist and the media, and finally the public, in the consensus conference process. Representatives of the steering committee combined to form a communications subcommittee at their first meeting in August 1998. Two months later, the subcommittee unveiled its communications strategy. Despite revisions by the steering committee at its second meeting, the

communications strategy still lacked clarity with regard to the committee's expectations of the role of the publicist, as well as a clear set of objectives.

While the communications strategy was meant to preserve the order, power and scale of the communications network surrounding the consensus conference, it was undermined by the actors it aimed to enrol as demonstrated by the decision of the Australian Museum to shirk its responsibility for publicising the event. The Museum ignored explicit statements made in the protocols that defined the role of the organiser as responsible for planning and organisation of the PR/media strategy, including making its members available for interviews and press conferences. Since the Museum operated a public relations department, the steering committee assumed (based on the 'Role of the Organiser' outlined in the protocols) that as part of the Museum's pro bono contribution to the conference it would oversee the publicity. The Museum argued that it was 'lean' with regard to resources, and although the steering committee negotiated a publicity budget of \$20,000, the Museum continued to resist enrolment in the communications network.

An external publicist was recruited into the communications network in late 1998 and the network was remobilised in pursuit of a set of collective goals. However, the steering committee was unaware of, and therefore had not built into the communications strategy an allowance for two defining aspects of publicity. In terms of publicising an event, a dual strategy must be employed. The first strategy, 'pre-publicity', aims to enrol the public in the consensus conference network, ensuring the participation of an audience. The second strategy involves enrolling the media, convincing them that the consensus conference, and the issues it defines, is worthy of their and the public's attention. Again, insufficient resources and the lack of a clear expectation of the publicist's pro bono contribution meant that the publicist

immediately challenged the role (ill-)defined for her by the subcommittee. The subsequent breakdown in communication between the subcommittee and the publicist resulted in the publicist reconfiguring her role in a way that it did not include promoting the conference to the public in order to stimulate attendance. Though this objective was not explicitly stated, it was implicit in the general text of the communications strategy that this would be achieved. The consensus conference network thus became momentarily unstable as compromise and negotiation between the two parties failed to be reached due to time and money. Though the Australian Museum had initially chosen to marginalise itself from the communications network, members of the steering committee reintroduced the protocols as an alignment device to remind the Museum of its pre-publicity obligations. The protocols, therefore, eventually posed an obligatory passage point or a gateway through which the Museum was forced to pass. In addition to conducting hasty pre-publicity, the Museum did finally establish a website to promote the consensus conference.³¹

The eventual mobilisation of the pre-publicity strategy failed to capitalise on the increased media interest in biotechnology in early 1999 as reports began to filter through from Europe. As a result, the steering committee failed to enrol the interest and participation of the public at the conference in March. However, the strategy aimed at enrolling the media's support was more successfully problematised by the steering committee. There was considerable media coverage during and immediately following the event. The steering committee, with the assistance of the publicist and the facilitator, managed to enrol ABC radio with the terms of a written contract granting them exclusive media rights and access to the lay panel, though the choice to participate in the ABC's activities was left to individual lay panellists (following

³¹ The Australian Museum website promoting the consensus conference can be accessed via <http://www.amonline.net.au/consensus/index.htm>.

the lead of the Dutch organisers). The communications network, having successfully enrolled the ABC, was mobilised in pursuit of collective goals aimed at elucidating not only the process, but the issues as well, thus enrolling the public or at least 150 of its representatives in the consensus conference network. The ABC employed various means to achieve these goals including producing a documentary of the consensus conference that focused on the lay panel's participation and establishing a website and online public forum to enrol a wider audience.³² The ABC attended from the first preparatory weekend and was joined for a day and a half at the conference by Channel Nine. The publicist and the facilitator both acted as intermediaries between the media and the lay panel. During the course of the conference, the media, prohibited from directly approaching the lay panel members, was contained by the steering committee (and its representatives) in a parallel network to that of the lay panel. However, for the press conference scheduled at the close of the conference, some crossover did occur though it was carefully orchestrated by the steering committee. The facilitator nominated certain spokespersons from the lay panel that the media could approach. Limited access to the steering committee was also devised by the appointment of five of their members as spokespersons.

The press conference was used by the steering committee as a device to restrict the number and nature of those who had contact with the media. Select members of the lay panel (designated by the facilitator), expert panel (designated by the steering committee) and steering committee, were elected spokespersons for their particular actor group. The steering committee established communications skills, reliability and a balanced representation as the obligatory passage points to gaining

³² *Life Matters* is an interview-based daily radio program focusing on social policies. The program offers regular opportunities for listeners to contribute their ideas and opinions to important social debates. *Waiter, there's a gene in my food* can be found at <http://www.abc.net.au/science/slab/consconf/>. The online forum, which was active from 11-30 March 1999, can be accessed via the website.

representativeness and therefore access to the media at the press conference. Nevertheless, members of both the lay panel and expert speaker groups were resentful for being excluded from this elite network. A steering committee member, not included amongst the representatives, was escorted from the room by the chairperson when he breached the boundary of inclusion. The lay panel members had experienced considerable public exposure throughout the consensus conference and as general representatives of Australian society, all should have been granted equal status and exposure to the media. This view is supported by the procedure established by the Danish Board of Technology outlined by Grundahl (1995: 37), who believes that “it is essential to allow the media to pose further questions to the lay panel, experts and organisers, for instance in a small press reception”.

The ineffective identification of what the communications strategy would be required to do by the steering committee, led to successive challenges by the actors that the strategy aimed to enrol, mainly due to the weakness of the alignment devices employed (in this case, texts and money). The Australian Museum initially refused to be enrolled by the steering committee as the devices laid out for it (such as the implicit wording of the communications strategy and the provision of (albeit insufficient) funds) were too weak to secure its involvement. However, the eventual reiteration of the protocols by the project manager, which state specifically that publicity is the responsibility of the Museum, compulsorily committed the Museum to the network. The publicist also challenged the definition of her role, which was determined more by assumption than actual documentation. Conflicting priorities led to a re-working of the network's objectives, forcing the steering committee to yield to the publicist's demands and to reconfigure the network in such a way that the Museum's involvement became an absolute requirement. A further impediment to

effective communication was the termination of the publicist's appointment at the end of the consensus conference for financial reasons. As was the weakness of the conference program's text, failing to inform participants of the formal presentation of the report. Whilst this final act should have served to stabilise the communications network and thereby rendering the lay panel's report an immutable mobile, the network was instead exposed to a new perspective, that of an ill-briefed parliamentarian who was not informed of the significance of her role in disseminating the recommendations and the report (Fitzgerald, 2001). The dissemination of the report therefore became the responsibility of the Australian Museum. The Museum's philosophical commitment to the consensus conference and the promotion of lay participation in decision-making, as discussed previously, was short-lived. As one steering committee member stated, "in retrospect, perhaps the Australian Museum was not the right choice because their commitment ended when the money ended" (S3). The steering committee hoped that, despite the lack of financial resources, the Museum would continue to promote the concept and disseminate the lay panel's recommendations. Thus, a failure to implement a comprehensive communications strategy, encompassing pre-publicity to the wide dissemination of the lay panel's report, resulted in disjointed and ineffectual publicity of the consensus conference process and the issues at stake, thereby failing ultimately to engage public interest, government support and subsequent debate.

Media Coverage of the Consensus Conference: a Matter of Timing and Topicality

The steering committee's communications strategy aimed at enrolling media participation before and during the conference and included the placement of

advertisements in *The Canberra Times* and the sending of invitations to a target guest list (including stakeholders, industry, government and academia). The dissemination of information kits and media releases and updates to print, radio and television media occurred on 4 January, 1 February, 1 March and 10-12 March 1999. Advertisements placed in *The Canberra Times* invited the Australian public to ‘see democracy in action’. The first advertisement aimed to enrol the public by highlighting the importance of the issue and informing the public that gene technology was already applied to Australian food production, thereby urging the need to explore the ethical concerns on behalf of the Australian public. The consensus conference model was then introduced as a perfect vehicle, a ‘breakthrough’ in public participation, thus establishing the consensus conference process as an obligatory passage point to mobilising public concern. The second advertisement emphasised the participatory process and invited the public to ‘witness’ a new process for involving citizens in decision-making and policy culminating in a report. This time the Australian Museum emphasised the need to address numerous concerns including benefits and risks, scientific, commercial, political and ethical issues, and underlining the importance of the conference.

The steering committee employed media releases to engage the media’s interest. Media releases issued by the Australian Museum consisted of, amongst general details, an overview of the purpose and process of this novel participatory model. Sir Laurence, mentioned no doubt to raise the conference’s profile, was quoted as saying that the steering committee was “confident that [the consensus conference] will achieve greater understanding between government, industry, science and the community about gene technology in the food chain” (Australian Museum, 1999a). The media release then proceeded to outline answers to the

questions ‘what is a consensus conference?’ and ‘what is meant by gene technology in the food chain?’, including explanations of the issues and arguments raised. The parameters and criteria used in the selection of the lay panel were outlined, as well as the five stages of recruitment from geographic location to final selection based on values and attitudes. A generic description of the lay panel’s make-up was also revealed, while specific names were not. The process of selection used for the expert speakers and the key questions were detailed, as was the conference program, the lists of questions and answers, the conference spokespeople, steering committee members and finally, sponsors. Media updates were less detailed and were distributed after the second preparatory weekend. They focused on the individual issues, key questions and related sub-questions in order as per the conference program, and listed the corresponding expert speakers. Media information kits were available to interested persons and contained the *Guidelines on Consensus Conferences* (a set of protocols prepared by the steering committee) and Grundahl’s article, *The Danish Consensus Conference Model*, from which the protocols were derived.

In a report submitted to the steering committee, the publicist stated that 83 journalists attended the consensus conference, most notably television crews from ABC Television’s *7.30 Report* and from Channel Nine. In the two-week period from 10 to 25 March 1999, overlapping the consensus conference, the publicist reported that 173 items covering the consensus conference had been identified in metropolitan and national media coverage. This level of coverage is comparable with that of Danish consensus conferences, which is considered high (Joss, 1998b). Of these items, 91 featured on radio programs or news bulletins, 29 on television programs or news bulletins and 53 were newspaper articles and features. Media Monitors, an

independent media-monitoring agency, reported an additional 114 items of regional radio coverage during the period 8 to 15 March 1999 (Crombie and Ducker, 2000). Coverage of the consensus conference by the ABC and Channel Nine resulted in dedicated programming on the ABC Radio National's *Life Matters*³³ and *The Science Show* programs and Channel Nine's *Sunday* program. A search of the Reuters News Service print media database in March 2000 revealed that ten newspaper articles and media releases on the consensus conference were published before, and 44 following, the consensus conference in March 1999. The first of these articles was published on 12 April 1998 in the *Sunday Herald Sun* (Melbourne) and acclaimed the consensus conference as something Australians owe to themselves to try in order to reduce the gap between scientific knowledge and public understanding of science. The last recorded mention of the consensus conference on the Reuters database was on 3 November 1999 in *The Mercury* (Tasmania). The consensus conference was discussed in the context of human health and safety and referred to lay panel member Rod Poulton's comments in an Australian Conservation Foundation publication stating that Monsanto Australia's Dr Bill Blowes had conceded his company had never tested its genetically engineered products on humans to ascertain their safety. The instance of the first Australian consensus conference was again raised on the ABC Radio National's *The Science Show* program. Broadcast on 21 July 2001, the consensus conference was framed in the context of 'scientist's understanding of the public', discussed at the recent Australasian Association for the History, Philosophy and Social Studies of Science symposium in Sydney.

³³ The coverage of the consensus conference resulted in a four-part series that has featured twice on *Life Matter's* since May 1999.

Media contributed to by network participants

As to be expected of major sponsors, both the Australian Consumers' Association (ACA) and the Commonwealth Scientific and Industrial Research Organisation (CSIRO) continued to debate the issues and lay panel's recommendations in the media and public forums (attracting media attention) in the months following the consensus conference. Representatives of the ACA discussed the consensus conference at national and state science briefings and 'Science in the Pub' (an initiative of the Australian Science Communicators). A dedicated website, 'Consumers get their say', was also established on the ACA's CHOICE website.

CSIRO produced numerous media releases on the consensus conference findings including one in which Dr Malcolm McIntosh, former CSIRO chief executive, who supported the creation of a Gene Technology Office as recommended by the lay panel, suggested that the panel's report was sensible, well considered and valuable for Australian science (Food Week, 1999). In a separate statement, again congratulating the lay panel on their recommendations, McIntosh announced, "CSIRO will be treating their opinions and conclusions with respect and seriousness. I expect they will be most useful in helping us to shape our national research strategy and capture the benefits of this technology for Australia" (Commonwealth Scientific and Industrial Research Organisation, 1999). CSIRO also received funding from Biotechnology Australia to establish the 'Gene Technology in Australia' website. CSIRO was chosen as the website's host as it was the most publicly trusted of all government agencies (Yann Campbell Hoare Wheeler, 1999).

Other participating government and industry actors such as the Australian Democrats, the National Farmers' Federation, the Australian Food and Grocery

Council and the Organic Federation of Australia published media releases consistent with their views on gene technology as presented at the consensus conference.

Media coverage of gene technology issues during the conference

Articles on biotechnology printed in the Sydney Morning Herald throughout 1999 were analysed “to explore the image of biotechnology in the print media, especially in the context of a dearth of public debate” (White, 2001: 70). The search, performed using general terms such as ‘gene’, ‘genetic engineering’ and ‘biotechnology’, yielded 270 articles (a previous search in 1995 applying the same terms only yielded 118 articles). Each article was then categorised as ‘positive’, ‘negative’ or ‘neutral’ according to its overall tone and emphasis and then further categorised into issues such as food, environment or ethics. White (2001: 76) reported that 31.5 per cent of these articles focused on genetically modified foods, including both negative and positive views. The Sydney Morning Herald articles thus reflected the debate surrounding genetically modified foods that featured prominently in the media in 1999.

A MediaScape Analytical Research Services study conducted for the period February to July 1999 for Biotechnology Australia also measured the level of positive and negative media exposure of biotechnology in print, radio and television media throughout Australia (Ernst & Young and Commonwealth Department of Industry, Science & Resources, 1999). This period, concurrent with the consensus conference, provides a valuable opportunity to measure the conference’s possible influence on the elucidation of the issues raised. Media exposure of biotechnology increased significantly to almost double during the six-month period. Genetically

modified food was the most popular issue category covered³⁴ in both months with media exposure rising from approximately 58 occurrences in February to 84 in July, an “increase from 33.9 per cent in February to 70.38 per cent in July” of total biotechnology coverage (Ernst & Young and Commonwealth Department of Industry, Science & Resources, 1999: 32; Crombie and Ducker, 2000). Interestingly, the positive coverage of the genetically modified food category decreased considerably from 78.8 per cent to 53.2 per cent during the six-month period, while negative coverage almost doubled from 32.2 per cent in February to 57.8 per cent in July.

Major sub-issues³⁵ were also analysed according to positive and negative coverage during the same period. While coverage of most sub-issues remained static throughout this period, the issues of genetically modified crops and genetically modified food labelling increased from 10 to 44 and from five to 31 occurrences respectively. Negative coverage of these issues also rose dramatically from 7.6 per cent to 35.2 per cent and from 43.55 per cent to 77.7 per cent respectively. Another survey conducted during the period January to June 1999 confirms the topicality of genetically modified food labelling (Crombie and Ducker, 2000). The survey, conducted by Computer Aided Research and Media Analysis (CARMA) for the Grains Research and Development Corporation (GRDC), highlights the principal concerns and prominent organisations mentioned in the media coverage of biotechnology. Labelling emerged as the principal concern and ANZFA, the regulatory body overseeing the labelling issue, featured as the most prominent

³⁴ The issue categories analysed by the MediaScape Analytical Research Services study were: (1) agriculture and biotechnology; (2) food; (3) health and pharmaceutical; and (4) other.

³⁵ The major sub-issues analysed were: (1) genetically modified food – general; (2) genetically modified crops; (3) genetically modified food labelling; (4) cloning; (5) bio-ethics; (6) human genome project; (7) research and development; (8) environmental issues; (9) private funding; and (10) genetically modified organisms.

organisation. In fact, according to Biotechnology Australia, the issue of genetically modified food continued to feature prominently in the media leading up to the Health Minister's expected announcement on food labelling in September 1999 which was then delayed until April 2000, at which point the media coverage slumped dramatically (Cormick, 2000).

As discussed at the beginning of this chapter, media coverage is an important indicator in determining the relative success of a consensus conference. Yet, the level of media coverage is largely determined by the timing and topicality of the issues it covers. In order to secure a high degree of media coverage and public interest in the consensus conference, the steering committee composed its communications strategy. The strategy was the principal alignment device employed by the steering committee to enrol those actors necessary to secure the public's participation. Although, weaknesses in the strategy's text enabled certain actors to challenge their defined roles. Exposure of gene technology issues in the media leading up to, during and particularly following the consensus conference was high, and the issue of GM foods did gain greater prominence in the media after the consensus conference but, again, it is doubtful whether the consensus conference can lay claim to making a distinctive and identifiable contribution to that publicity.

CONCLUSION: ASSESSING THE IMPACTS

The (policy) impact of the first Australian consensus conference alluded to by subsequent government policies and agendas is largely and regrettably misleading. Policy development is a lengthy, drawn-out process often spanning several months, even years. With only two months separating the development of the lay panel's recommendations and the release of the federal budget announcing the establishment

of the OGTR and Biotechnology Australia, it is likely that key policies and budget allocations had already been decided or, at the very least, were largely developed. Indeed, key parameters of the government's biotechnology policies and budget allocations were determined at a special Ministerial Task Force Meeting held in Melbourne prior to the consensus conference on 12 February 1999 in response to a Cabinet submission initiated by the Minister for Health. The decision to locate the Regulator in the Health portfolio had also been made independent of the Commonwealth by the State and Territory Health Ministers (Crombie and Ducker, 2000).

Both Biotechnology Australia and the IOGTR indicated that the lay panel's recommendations were considered as part of the government's deliberations on gene technology issues. In particular, the IOGTR's consultations on the regulatory framework and Biotechnology Australia's public consultation strategy were claimed to be informed by the report. However, the report's impact on actual policy outcomes is more difficult to ascertain. What is certain is that the recommendations made by the fourteen-member lay panel were representative of the concerns felt by the Australian public with regard to gene technology in 1999, as evidenced by the numerous surveys conducted during that period.

The capacity of the lay panel's recommendations to influence genetically modified food labelling policies was a far more reasonable expectation as key decisions were delayed for 16 months until 28 July 2000. However, preliminary discussions by the ANZFSC in 1988 had already determined the future course of GM food labelling in Australia. It is, therefore, reasonable to assume, though difficult to measure, that the consensus conference served to affirm and thereby strengthen the Government's commitment to a number of policy and budget

recommendations pertaining to gene technology regulation, rather than actually inform them.

Unfortunately, the failure by the Australian organisers to implement a comprehensive communications strategy, encompassing pre-publicity to the wide-dissemination of the lay panel's report, resulted in disjointed and ineffectual publicity of the consensus conference process and the issues at stake, thereby failing to engage government support, promote widespread public interest and ensure subsequent debate.

A key measure of the success of the first Australian consensus conference set by the steering committee itself was the staging of a second Australian conference (S3). Although the government had agreed (in a major amendment to the *Gene Technology Bill 2000*) to hold a consensus conference on a gene technology issue within 12 months of establishing the OGTR in June 2001 (*Summary of Major Amendments to Gene Technology Bill 2000*) and development funds purported to be worth \$50,000 were allocated to Biotechnology Australia for this purpose (Ding, 2001), to date, no announcements have been made by the OGTR or Biotechnology Australia to honour this commitment (Leader, 2001).

8. Conclusion

RECAPITULATION OF THE ARGUMENT

Consensus conferences evolved as a response to the public's increasing dissatisfaction with technocratic decision-making processes that are judged to have repeatedly failed to serve its interests. The staging of the first Australian consensus conference at Old Parliament House in Canberra in March 1999 therefore presented an ideal opportunity to analyse the evolution of this new kind of policy input - which I have described as a micro-network - from its conception through to its implementation and subsequent evaluation. This thesis set out to provide an analysis of that trajectory using elements of the theoretical approach known as actor-network theory (ANT).

Previous analyses of consensus conferences have generally provided only limited evaluations of single aspects of the entire process of setting up, implementing and evaluating such a conference. Furthermore, many of the early evaluations were conducted by reviewers or units which were themselves internal to the consensus conference under scrutiny - a feature characteristic of the institutional reflexivity of late modernity. In most cases the reviews were largely descriptive (as in the Danish cases), concerned in particular with efficiency (as in the analyses of the UKNCC by Joss (1995b; 1998b)) and heavily dependent on quantitative methods, often focusing on the short-term effects of participation on participants' values, attitudes and knowledge (as in the second Dutch conference (Mayer et al., 1996)).

My own analysis has tried to offer broader, although inevitably less detailed, coverage, using a perspective from contemporary social theory that offers particular advantages in analysing the creation of short-term networks designed for specific purposes. By describing and analysing the role of this relatively new policy-making instrument, I have explored the different sub-networks that operate within the consensus conference process by focussing on the ways in which the conference was organised and how the relationships between the organisers and the participants helped to shape the outcomes. By offering some comparisons between the Australian consensus conference and its international counterparts I have suggested how some of the organisational differences between national implementations of a broadly similar model have influenced the types of outcome that the conferences secure. Finally - although this was not the primary objective of this thesis - I have included at various points comments on the utility of the consensus conference process for public participation in science and technology decision-making.

KEY FINDINGS

The application of actor-network theory to the Australian consensus conference has directed attention to elements largely ignored by previous analyses. The consensus conference network is a combination of groups whose representatives are constituted in panels (lay, expert, steering committee, 'traffic controllers', audience and evaluators) with various kinds of relations between them. How, then, are policy networks that embrace such diversity stabilised until they have delivered what they were designed to deliver? A central concern of actor-network theory is the mobilisation of power within policy networks and how alliances are negotiated, stabilised and eventually either dissolve or turn into 'black boxes' considered so solid

they need no analysis. By reconstructing the complexities of knowledge construction and examining the processes by which certain network practices become indispensable, or conversely, why they failed, I have been able to highlight those decisions and components that lead to either stability or instability. A major point is that the convergence of participants on decisions at the key stages is built around the material sites on which alliances are created and made visible and which serve as basic props to facilitate negotiations by defining the roles of various actors (Callon, 1986a, b; Law, 1987, 1994; Latour, 1997).

Thus the entire consensus conference sequence from idea to outcome can be thought of as a construction of a network to achieve at least one immediate goal. That goal was a single potential policy input, a consensus position embodied in the report of the lay panel. To realise that goal, the network needed to be recruited and stabilised and its members made to converge on that collective statement. But how is it that a range of disparate actors, including lay and expert, are mobilised to achieve that particular goal and what are the stabilisation devices which enable, or fail to enable this goal to be reached? In the context of the first Australian consensus conference, three key alignment devices emerged: texts, money and people.

Texts enable the analyst to track the sequence of documentary production from the preliminary preparation stages of the consensus conference process through to the event's conclusion with the presentation of the lay panel's final report. Texts such as the Danish protocols helped to determine who gained access to, and who was excluded from, the consensus network. The Danish script delineated the roles and tasks of the conference participants, requiring network entities to behave in a uniform, stable and predictable way (Star, 1989; Callon, 1991; Akrich, 1992; Akrich and Latour, 1992). Local Australian documents such as the briefing paper and the

dossier of information distributed to lay panel members helped to determine what was included in, or excluded from, the later ones. Designed by the steering committee to provide a shared, restricted lexicon and to guide the lay panel's discussions, the briefing paper effectively shaped the uninformed lay panel's frame of reference on the topic, thereby directly influencing its agenda setting and decision-making processes. By presenting the lay panel with a neatly defined package of gene technology issues, and a particular spectrum of arguments therein, the steering committee sought to prevent the lay panel from seeking and discussing the vast array of potentially relevant technical, social, political and moral issues related to the conference's controversial topic.

Money too played an important role in shaping the Australian consensus conference network. The lack of an established institutional base meant that the Australian conference was dependent upon numerous funding sources. Sponsors, as a term of their agreement to provide funds, demanded a certain level of control over the process by insisting on membership of the steering committee and evaluation subcommittees. Thus, the source of funds may have an influence upon a conferences' perceived neutrality or partiality. Moreover, monetary rewards for participation were a powerful agent of recruitment of network personnel, both expert and lay.

People were also central to the operation of the consensus conference process. The choice of particular participants as possessors of particular interactional skills (facilitator, professional writer, publicist), scientific expertise (expert speakers), lack of that expertise (lay panellists), reputations in other areas (chairperson) or mandates to speak on behalf of other organisations (steering committee members, conference coordinator) had significant impacts on the

conference network beyond what might be anticipated in the direct implementation of the formal script. The steering committee occupied the vital organisational role; while the chairperson and facilitator played key ‘traffic controlling’ roles, moderating the interactions between the lay panel, expert speakers and the audience; and the conference coordinator and professional writer played utilitarian roles, providing practical support to the lay panel during the report writing process. These network actors were required to perform the very difficult - and, as I have indicated at various points - openly controversial task of balancing their professional duties against the maintenance of critical distance, thus avoiding any influence over the process and its outcomes.

Yet it is clear from the evidence I and the formal evaluators gathered that some of these network stabilisation devices functioned poorly or not at all. That is, they departed from their intended use as defined in the Danish protocols or from the ways in which they were used to function successfully in other countries. This thesis has drawn attention to the areas in which they were weak and what importance that weakness had for the kind of policy outcome the consensus conference achieved. The role and extent of these powerful stabilisation devices in networks has therefore been a vital issue for analysis.

THE VALUE OF CONSENSUS CONFERENCES FOR CITIZEN PARTICIPATION?

On a more general note, several reasons for scepticism about the value of consensus conferences and similar occasions for citizen participation have recently been expressed by Onora O’Neill (2002). First, the conclusions reached by some citizens’ panels are often nebulous because they have been organised around a topic or issue

which lacks focus. Second, the conclusions may also be easily dismissed if the organisers or sponsors are perceived to have a stake in a certain outcome, particularly if they have been involved in framing the topic, recruiting the participants and controlling the information available to them, setting the agenda and disseminating the findings. Third, participatory procedures may be readily manipulated to enhance the public relations agenda of the organisers or sponsors and any perceived manipulation naturally undermines public trust in the whole occasion. Fourth, even when conducted without overt or covert bias, these occasions are often seen merely as an expensive way to inform a tiny section of the public to enable its members to deliberate a little better. Fifth, participants themselves, whether as members of the steering committee or lay or expert panels, may see little reason to accept the recommendations or take them into account. At the same time those who were marginalised by the process or who may have refused to participate are likely to feel that the satisfied participants were simply co-opted by the very organisers in whom they have little trust. Finally, policy-makers, professional/industry organisations and wider publics will in any case be wary of assigning real significance to the outcomes of these occasions, noting the basic shortcomings of supposed expressions of public opinion conducted under such restrictive conditions.

Although it is based on the study of a single and, for Australia, unique example, my own empirical analysis suggests that O'Neill's criticisms of the value of consensus conferences and similar occasions are partly justified. The importance attributed to the choice of a focused topic (among other characteristics) for a consensus conference by the Danish protocols is widely accepted. As I noted in Chapter 1 above (pp. 18-19), the model's developers have identified several important characteristics that help to define suitable topics for consideration. They

should be within an easily definable boundary; the issue has to be topical and important for the future, and the conference timed to ensure maximal impact; there should be an obvious need for policy setting and clarification of public attitudes; the dependence on the contributions of experts to clarify issues requires the availability of the necessary knowledge and expertise; and, finally, the topic must be socially, ethically and politically controversial (Andersen et al., 1995; Grundahl, 1995; Mayer, 1997).

The topic chosen by the organisers of the Australian conference, *Gene Technology in the Food Chain*, meets all of these criteria. Certainly, the comparison of the Australian lay panel report with its Danish and Canadian counterparts, conducted in Chapter 5, demonstrates that although the three panels shared a number of social, economic, political and ethical concerns, their recommendations differed on a number of issues, in particular the apparently minor - but very significant in terms of consumer knowledge and sovereignty - issue of labelling. While the Australian panel strongly advocated the comprehensive labelling of all genetically modified food, the Danish panel called for a minor amendment to existing stringent requirements established by the European Union. The Canadian panel did not make any specific recommendations regarding this issue, consistent with the fact that gene technology regulation in Canada is significantly more lenient than its Australian and Danish counterparts.

However, this is not to say that some of the conclusions reached by the Australian lay panel were not anodyne. Although the lay panel had defined the regulation of gene technology in the food chain and the processes of decision-making surrounding it as key issues in the first preparatory weekend, its failure to formulate specific key questions to investigate regulatory issues effectively took

them off the conference agenda. Moreover, as the final selection of expert speakers was determined by the list of key questions, there were no speakers invited to discuss regulatory matters and the decision-making processes surrounding it at the conference proper. Consequently, the lay panel was not as thoroughly briefed on issues relating to gene technology regulation as it could have been, and its recommendations regarding these issues were essentially unfocused.

On the matter of the possibility of conclusions being summarily dismissed if organisers or sponsors are perceived to have a stake in a certain outcome, O'Neill's scepticism appears to be well founded. Joss (1998b: 302) stated that "given that the issues considered in consensus conferences are by definition socially controversial and that the [lay] panel, as key actor in the proceedings, should be able to fulfil its role with no undue influence or pressure brought to bear on it the independence and impartiality of the organisers [are] seen as crucial" to provide the necessary credibility for conference outcomes. The ACA's position as a consumer lobby organisation meant that it was not a suitable choice for host. Accordingly, it approached the Australian Museum to convene the conference. The Museum, as an independent and publicly accountable national institution appeared initially to be an ideal convenor. However during the lead-up to the conference, the Museum announced it was establishing a Trust to fund research into the cloning of the Thylacine (Tasmanian Tiger). While I do not believe that the Museum's involvement in that research had any directly traceable impact on any particular phase of the conference, it did cast a general doubt on its perceived impartiality on the issue of gene technology.

Neither the ACA nor the Australian Museum had the necessary funds to stage the conference so seed funding was obtained from the Myer Foundation and further

sponsorship was later received from a variety of government, scientific, and research and development corporations. A number of the Commonwealth Research Centres (CRC) and Research and Development Corporations (RDC) sponsors, however, insisted upon representation on the steering committee as a term of their sponsorship. In what can only be considered a strategic move, the Avcare representative and the representative from the Grains Research and Development Corporation (GRDC) were later appointed to the four-member evaluation subcommittee. Subsequently, Avcare agreed to sponsor the Phase 1 evaluation while the GRDC funded Phase 2. Both sponsors were perceived by conference participants as having a stake in a positive outcome. Consequently, one lay panel member thought that the Phase 1 evaluation report was written with the steering committee in mind, while the Phase 2 evaluation investigated the extent to which the conference's outcomes achieved public acceptance of gene technology - a frame of reference clearly geared to the objectives of the industries concerned.

This last point brings me to O'Neill's third criticism: that participatory procedures may be readily manipulated to enhance the public relations agenda of the organisers or sponsors, thereby undermining public trust in the occasion. In the Australian case, this would be borne out by the situation surrounding the Phase 2 evaluation. As I discussed in Chapter 3, the GRDC's unsuitability as a sponsor of the Phase 2 evaluation was made apparent by the initial suggestion, put forward by its representative on the evaluation subcommittee, that the evaluation aimed to establish the success of the consensus conference in terms of engineering public acceptance of gene technology. While it was thought that the other members of the evaluation subcommittee had vetoed its inclusion, the Terms of Reference for the evaluators reveal that they were instructed to investigate and report on the extent to which

public acceptance had been achieved. Thus the GRDC's actions were perceived as manipulating the conference to enhance not only its own agenda but also that of industry in general. This criticism, however, would seem not to apply to the ACA which, as a consumer-based organisation, already benefits from high levels of public trust by way of its role as a public advocate. Even the Australian Museum's plan (mentioned above) to genetically clone the Thylacine (an - extinct - Australian icon) aroused as much curiosity as suspicion.

O'Neill's fourth objection - that even when conducted even-handedly, these occasions are often seen as an expensive way to inform an insignificantly tiny proportion of the population to enable them to deliberate better - echoes other critics who have labelled the model 'ineffective and expensive' (Bereano, 1997; Fischer, 1999) and have questioned the representativeness of the lay panel (Fixdal, 1997). On the matter of the expense of participatory occasions, Fischer draws our attention to a US National Research Council article that raises concerns parallel to O'Neill's: "Experience shows that analyses, no matter how thorough, that do not address the decision-relevant questions, use reliable assumptions, and meaningfully include the key affected parties can result in huge expenses and long delays and jeopardize the quality of understanding and acceptability of final decisions" (US National Research Council, 1996: 10). However, Fischer himself concedes that, on particularly controversial issues, the expense may be worth it - a view shared by the Director of the Danish Board of Technology who argued that such occasions are cost-effective, that they are comparable to other methods of increasing public awareness (e.g. television programs, research projects) (Klüver, 1995). However, the Danish Board of Technology is in a unique position whereby regularly staging consensus conferences and similar occasions is part of its ambit, for which it receives an annual

budget from the Danish government. On the contrary, the expense (among other things) poses a barrier to the continued use of consensus conferences in Australia.

Turning now to the matter of representativeness: what value can be placed on the opinions of 14 lay citizens? According to Fixdal (1997), a lay panel composed of just 14 people obviously cannot be statistically representative of the broader public, and members can only represent themselves. The Australian steering committee agreed that true representativeness was not really achievable by such a small panel, although a nationwide selection process did result in a diversity of backgrounds and a broad range of attitudes. Accordingly, the lay panel was not meant to be representative of the Australian population, just ‘a slice of Australian society’. Nevertheless, while stakeholders and the wider Australian public were only able to gain insight into the views of their 14 fellow-citizens, the majority (79%) of survey participants was of the opinion that the consensus conference would ‘gain insight for all stakeholders into the public’s views’. Moreover, numerous opinion polls conducted in Australia in 1999 indicate that the recommendations made by the 14-member lay panel were representative of the concerns felt by the Australian public with regard to gene technology in the food chain (Ernst & Young and Commonwealth Department of Industry, Science & Resources, 1999; Yann Campbell Hoare Wheeler, 1999).

Furthermore, in response to O’Neill’s fifth criticism that participants’ themselves may see little reason to accept the recommendations, the presence of CRC and RDC representatives on the steering committee was deemed political and controversial, generating criticism from other conference participants including the Australian Food and Grocery Council (which declined steering committee membership) and the GeneEthics Network (which sought steering committee

representation but was refused on the grounds of perceived bias). Both were, however, represented among the expert speakers and their representatives' responses to my survey indicated they were highly critical of the process's perceived lack of credibility. Accordingly, achieving a balance of government and non-government stakeholder interests is important to avoiding claims of bias. While the steering committee did represent a 'broad plurality of views' by virtue of its size, it lacked suitable representatives from government or biosafety agencies and from ethical and religious groups. Joss (1998b) has warned that a perceived imbalance in the composition of the steering committee may lead to criticisms of bias and attempts to influence the lay panel.

Finally, I turn to O'Neill's scepticism that policy-makers, professional/industry organisations and wider publics will be cautious of assigning any formal role to the outcomes of these occasions. The basic shortcomings identified by O'Neill, which I have addressed above in the context of the Australian consensus conference, suggest that recurrent criticisms of nebulous conclusions, perceived manipulation of the process to the benefit of organisers and sponsors and the process's overall imbalance between high costs and uncertain benefits have contributed to public, political and stakeholder distrust of such occasions.

THE FUTURE OF CONSENSUS CONFERENCES

If one of the criteria to evaluate the success of a consensus conference is that it provides the stimulus to hold another, then the Australian conference must be deemed so far a failure. No further Australian consensus conference is planned. Although the government had agreed (in a major amendment to the *Gene Technology Bill 2000*) to hold a consensus conference on a gene technology issue

within 12 months of establishing the OGTR in June 2001 (*Summary of Major Amendments to Gene Technology Bill 2000*) and development funds purported to be worth \$50,000 were allocated to Biotechnology Australia for this purpose (Ding, 2001), to date, no announcements have been made by the OGTR or Biotechnology Australia to honour this commitment (Leader, 2001).

However, Australia stands to forfeit a number of advantages if no further consensus conferences or similar occasions are organised. The international trend has been to increase public participation in science and technology decision-making (Vig and Paschen, 2000). Policy formation in contemporary democracies has had to accommodate an increasing array of new participants - relevant interest groups, stakeholders and concerned citizens - in order to track more effectively the diversity of potentially significant opinions on complex policy issues. This process requires new and transparent ways to educate and inform the public on policy issues and to ensure that policy makers are better informed about the needs and concerns of their community. Moreover, as new scientific knowledge constantly creates new groupings of experts and interested lay associates, new methods are especially needed to incorporate these actors into the heterogeneous policy networks that are involved in making policy.

The desirability of public participation is widely accepted; yet it is not obvious how best to ensure that it occurs. It is unlikely that parliamentary and other inquiries, public hearings and community opinion surveys will ensure effective public participation in the assessment of gene technologies. Public support gained by meaningful inclusion in science and technology decision-making processes is fundamental to the continued growth of gene technology research in Australia and to the public's acceptance of the products of that research. Both of these factors - the

growth of the technology and public acceptance of it - directly affect the economic and social benefits that can be realised by such research. Furthermore, innovative methods for improving public participation in the assessment of gene technology may also be applicable to the assessment of other new and emerging technologies. As the evidence presented in thesis for the Australian example and its predecessors overseas suggests, consensus conferences have the potential to play a role in the contemporary policy-making context. But the realisation of that potential will vary according to their institutional contexts and the capacity of the actors to create the temporarily most stable and productive network out of the heterogeneous human and material resources to hand.

OPPORTUNITIES FOR FURTHER RESEARCH

Finally, it is appropriate to reflect very briefly on the opportunities for further research beyond the limitations necessarily imposed on a doctoral thesis. The focus of my thesis on (primarily) the impact of the Australian consensus conference on (gene technology) policy decisions has overshadowed the existence of other kinds of processes for input into policy making: with consideration of those processes, a further set of research questions can be posed. I have space to indicate four such directions which I consider especially important.

First, as I noted at the outset (p. 8), the Danish Board of Technology has developed a range of different technology assessment methods suited to different situations and desired outcomes and that the consensus conference is not always the preferred or most suitable method. Accordingly, different methods are implemented to achieve different outcomes and impacts. Other technology assessment methods may be more suited to providing answers to questions such as: 'What is the impact

of an initial attempt of such an occasion on institutional learning?'; 'What kinds of political structures may provide further opportunities for public input?'; and 'Do such occasions open up a range of possibilities for engaging publics and other stakeholders for policy-makers?'. These questions are particularly relevant in countries where technology assessment applications lack an established institutional base with direct links to parliament and policy-making bodies.

Second, related to the issue of institutional learning and particularly relevant to technology assessment methods requiring expert input, is the question: 'What did the experts learn from the lay panellists?'. An integral component of my thesis is the claim that the consensus conference served to socialise the lay panellists into expert discourse (see pp. 110-111), but what I have not discussed is the extent to which the conference served to socialise the expert speakers into lay discourse and alert them to the range of presuppositions embedded in the views held outside the expert community. The lack of reference to this issue by the expert speakers themselves suggests that little, if any, socialisation into lay discourse occurred throughout the process. This may indicate a weakness either of this particular network or of short-term networks in general.

Third, in Chapter 2 (p. 72), I outlined the theoretical scope of my thesis and specified that my discussion would include actors who are traditionally peripheral to policy networks. What, however, deserves further discussion is the role played by 'other' entities such as technologies. While I recognised that the inclusion of 'all others' is an important tenet of actor-network theory, it is one that does not fall within the scope of this thesis. The personification of gene technology or whatever other technology is under consideration in any particular consensus conference would therefore also be an ideal area for further research. Actor-network theory

contains a range of methods for handling the analytical strategy of treating all actors, human and non-human, as equal participants.

My final suggestion relates to the broader socio-political contexts in which the recourse to consensus conferences has been embedded. In Chapter 1, I outlined the specific societal conditions that gave rise to the implementation of technology assessment methods (such as consensus conferences) first in the United States and then Denmark, the Netherlands and the UK, accompanied by a sketch of the features prompting the first use of the consensus conference approach in Australia. However, a broader discussion of the role of science and politics in knowledge societies which illustrated the particular design and contemporary functions of consensus conferences would be valuable. A sufficient number of case studies of such conferences now exists to permit their integration into large-scale analysis. This issue is the fourth, and perhaps most ambitious, exploration beyond the necessarily restricted confines of this thesis.

Appendices

Appendix 1: Questionnaire

Appendix 2: Follow-Up Interview

Appendix 3: The Lay Panel's Report

APPENDIX 1: QUESTIONNAIRE

**QUESTIONNAIRE ON
“GENE TECHNOLOGY IN THE FOOD CHAIN”**

Evaluation of the first Australian consensus conference, 10-12 March 1999.

Alison Mohr
Faculty of Arts
Griffith University
Brisbane, Australia

1999

INTRODUCTION

The aim of this questionnaire is to determine the participants' views on the first Australian consensus conference on 'Gene Technology in the Food Chain'.

Each section consists of a number of questions with reference to a particular aspect of the consensus conference process or content. **Sections A, C and D are to be completed by all participants. Section B is to be completed by lay panel members only.**

Your responses will be treated as confidential and all individual identities will be disguised in my thesis and subsequent publications.

I would be grateful if you would return the completed questionnaire, using the self-addressed envelope enclosed, as soon as is convenient. When I have received it, I would like to take up your generous agreement to participate in a phone interview to investigate further some aspects of the questionnaire and some related open-ended questions. The interview will take approximately one hour and, with your permission, will be taped for reasons of accuracy. I aim to conduct the interviews during the period 24 May - end of June 1999. Once again, I stress that all answers will be treated confidentially.

In the space provided below, please confirm the telephone number/s at which I will be able to contact you.

Business Hours:

After Hours:

THANK YOU FOR YOUR TIME AND WILLINGNESS TO PARTICIPATE

SECTION A

The questions in this section are designed to draw a general picture of the participants' personal attributes including their attitudes to, and knowledge about, science in general, food-related issues and more specifically, genetically modified organisms (GMOs).

1. Do you read popular science journals (e.g. New Scientist, Nature etc.) regularly?
a. ☐ yes
b. ☐ no
2. Do you watch or listen to science-related programmes (e.g. Quantum, the Science Show etc.) regularly?
a. ☐ yes
b. ☐ no
3. Have you followed any of the following food-related issues in the past? (You may tick more than one box.)
a. ☐ dieting
b. ☐ vegetarian/vegan
c. ☐ insect infestation and consequences (e.g. crop ruin and disease)
d. ☐ chemical control of pests
e. ☐ organic farming
f. ☐ Mad Cow disease
g. ☐ food irradiation
h. ☐ food contamination (e.g. processed meats, peanut butter)
i. ☐ other (please specify)
j. ☐ I have not followed any food-related issues in the past
4. At home, do you shop for groceries and/or prepare and cook meals on a regular basis?
a. ☐ yes
b. ☐ no
5. Do you regularly read the labels on food when deciding what to buy?
a. ☐ yes
b. ☐ no
6. How well informed did you consider yourself to be on the issue of gene technology in the food chain before the consensus conference?
a. ☐ very informed
b. ☐ somewhat informed
c. ☐ not informed

7. Prior to the conference, what were your most useful sources of information on the issue of gene technology in the food chain? (You may tick more than one box)
- a. ☐ scientific publications
 - b. ☐ professional journals
 - c. ☐ brochures/newsletters
 - d. ☐ newspapers
 - e. ☐ magazines
 - f. ☐ public information campaigns
 - g. ☐ meetings
 - h. ☐ consultations
 - i. ☐ radio
 - j. ☐ television
 - k. ☐ internet
 - l. ☐ conferences
 - m. ☐ other (please specify)
 - n. ☐ I had no regular sources of information
8. Did your sources of information lead you to see that there were more benefits or more risks associated with the genetic modification of food?
- a. ☐ more benefits
 - b. ☐ more risks
 - c. ☐ undecided
9. What are your main interests in the debate on gene technology in the food chain? (You may tick more than one box.)
- a. ☐ ethical or religious concerns
 - b. ☐ gene regulation
 - c. ☐ influencing decision-making and politicians
 - d. ☐ risk assessment
 - e. ☐ public awareness and consumer advocacy
 - f. ☐ concern for environment and health
 - g. ☐ consumer-based
 - h. ☐ professional interest
 - i. ☐ labelling and informed choice
 - j. ☐ other (please specify)
 - k. ☐ I have no specific interests in the debate

What is your general opinion on genetically modified food?

10. The expert speakers argued for and against scientists creating cheaper, tastier, healthier, or fresher food with a longer shelf life through genetic modification. Knowing the arguments for and against, would you buy genetically modified food?
- a. ☐ yes
 - b. ☐ no
 - c. ☐ not sure

11. Would you buy genetically modified food if it was clearly and comprehensively labelled, enabling you to make an informed choice?
 - a. ☐ yes
 - b. ☐ no
 - c. ☐ not sure

12. Are you concerned that pollen from genetically modified plants might spread, resulting in the fertilisation of natural plants?
 - a. ☐ yes
 - b. ☐ no
 - c. ☐ not sure

13. Are you concerned that genetically modified food might pose a danger to human health if eaten for an extended period of time?
 - a. ☐ yes
 - b. ☐ no
 - c. ☐ not sure

14. Taking into consideration the risks and benefits associated with the genetic modification of foods, do you think the benefits are likely to outweigh the risks in the next 10-20 years?
 - a. ☐ yes
 - b. ☐ no
 - c. ☐ not sure

SECTION B (To Be Completed By Lay Panel Members Only)

The following questions address the lay panel members' expectations of the preparatory weekends held in Sydney in late January and mid-February.

1. Did the level of interaction amongst lay participants throughout the preparatory weekends meet your expectations?
 - a. ☐ yes
 - b. ☐ no

2. Did the opportunities to express opinions, engage in discussions and to ask questions throughout the preparatory weekends meet your expectations?
 - a. ☐ yes
 - b. ☐ no

3. Expert speakers were asked to address the lay panel during intensive briefing sessions throughout the preparatory weekends. Did the speeches meet your expectations?
 - a. ☐ in almost all cases
 - b. ☐ in most cases
 - c. ☐ in about half of the cases
 - d. ☐ in few cases
 - e. ☐ in very few cases

4. Did the process used in the formulation and selection of questions for the consensus conference throughout the preparatory weekends meet your expectations?
- a. ☐ yes
b. ☐ no
5. Did the process used by the lay panel in the selection of experts for the consensus conference meet your expectations?
- a. ☐ yes
b. ☐ no

SECTION C

The various participants will invariably have differing views of the consensus conference based upon their personal experiences. This section aims to uncover participants' views on the conference proper and on the lay panel's report.

1. Did the lay panel meet your expectations in terms of panel composition?
- a. ☐ yes
b. ☐ no
2. Did the expert panel meet your expectations in terms of composition?
- a. ☐ yes
b. ☐ no
3. Did the steering committee meet your expectations in terms of composition?
- a. ☐ yes
b. ☐ no
4. Did the audience meet your expectations in terms of composition?
- a. ☐ yes
b. ☐ no
5. In your opinion, what was the general attitude of the audience to gene technology in the food chain?
- a. ☐ very concerned
b. ☐ concerned
c. ☐ not concerned
6. The expert speakers were asked to address specific questions compiled by the lay panel. Did the speeches meet your expectations?
- a. ☐ in almost all cases
b. ☐ in most cases
c. ☐ in about half of the cases
d. ☐ in few cases
e. ☐ in very few cases
7. The lay and expert panels engaged in numerous discussions throughout the duration of the conference. Did these discussions meet your expectations?

- a. ☐ yes
- b. ☐ no

8. The audience were invited to ask questions and engage in discussions on the second and third days of the conference. Did these discussions meet your expectations?

- a. ☐ yes
- b. ☐ no

During breaks in the conference program, participants mingled freely and may have entered into informal discussions on the issues at hand.

9. If you were aware of any informal discussions occurring between participants (e.g. lay panel member/expert speaker, expert speaker/audience member etc.), what is your opinion of these discussions?

- a. ☐ productive
- b. ☐ unproductive
- c. ☐ not involved in discussions
- d. ☐ not aware of discussions

At the end of the second day, the lay panel retired to compose their recommendations. They worked into the early hours of the next morning in order to make the printing deadline.

10. In retrospect, do you think that adequate time was allocated for the compilation of the lay panel report?

- a. ☐ yes
- b. ☐ no

The lay panel report delivered on the third day of the consensus conference outlined a number of recommendations in response to the main issues identified.

11. Did the lay panel's recommendations meet your expectations?

- a. ☐ yes
- b. ☐ no

In the closing speech delivered by the Hon. Barry Jones, Jones mentioned a number of possibilities for public participation in decision-making.

12. In retrospect, do you consider consensus conferencing would be a worthwhile means of achieving this, or would you choose another form of public debate?

- a. ☐ consensus conference
- b. ☐ other form of public debate
- c. ☐ not sure

SECTION D

This section requires participants to look back over their experience of the consensus conference and to consider the effects of the conference upon a range of social groups. As well, participants are asked whether initial expectations and objectives of the conference have, in their opinion, been realised.

1. In your opinion, did the level of consensus on gene technology increase or decrease between the lay and expert panels throughout the process?
 - a. ☐ increase
 - b. ☐ decrease
2. Did you change your views on gene technology during the course of the process?
 - a. ☐ yes
 - b. ☐ no
3. To what extent did the conference match up to your initial expectations? The conference was:
 - a. ☐ much better than expected
 - b. ☐ better than expected
 - c. ☐ as expected
 - d. ☐ worse than expected
 - e. ☐ much worse than expected
4. Would you participate in another consensus conference given the chance?
 - a. ☐ yes
 - b. ☐ no
 - c. ☐ not sure

The consensus conference was held at a time when the Howard government was reviewing all food regulation in Australia with the intention of transferring many regulatory powers from industry to the government.

5. In your opinion, was the timing of the consensus conference:
 - a. ☐ too early
 - b. ☐ just right
 - c. ☐ too late

For two weeks immediately following the conference, ABC Radio hosted an unmoderated 'Online Forum' which took over where the consensus conference left off. Members of the general public joined conference participants (including lay panel members, expert speakers and audience members) in debating the main issues, as well as vigorous discussions on the conference process and the lay panel report.

6. If you followed the discussion threads online, what was your opinion of the unmoderated discussions?
 - a. ☐ productive
 - b. ☐ unproductive
 - c. ☐ not involved in discussions

- d. ☐ not aware of discussions

Prior to the conference, five objectives were identified by the steering committee:-

- (i) to facilitate broad public debate from a plurality of perspectives
- (ii) to empower members of the public to gain an informed understanding of the issues
- (iii) to gain insight for all stakeholders into the public's views
- (iv) to create greater mutual understanding between experts and lay people
- (v) to integrate the consensus conference model into government, industry and scientific policy-making practices.

7. In your opinion, were each the objectives of the consensus conference met?

- | | Yes | No |
|-----------------|--------------------------|--------------------------|
| a. Objective 1: | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Objective 2: | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Objective 3: | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Objective 4: | <input type="checkbox"/> | <input type="checkbox"/> |
| e. Objective 5: | <input type="checkbox"/> | <input type="checkbox"/> |

The lay panel identified ten key issues which required clarification before making their recommendations. The key issues included:-

- (i) the regulation of gene technology in the food chain.
- (ii) the processes of decision-making regarding gene technology.
- (iii) identifying what constitutes an acceptable risk in introducing genetically modified organisms (GMOs) into the food chain.
- (iv) identifying the possible risks to environment and health and establishing appropriate safeguards.
- (v) the consideration of potential alternatives to gene technology.
- (vi) the consideration of ethical and moral issues when formulating GMO policies.
- (vii) the concentration of ownership of food resources by a handful of multinational companies.
- (viii) the way the Australian government approaches treaties and trade agreements concerning GMOs with other countries.
- (ix) the levels of public awareness and participation in GMO issues.
- (x) the provision of labelling and choice to consumers when buying GMO food.

8. Do you think the consensus conference will have an impact on the key issues identified by the lay panel?

- | | Yes | No |
|-------------|--------------------------|--------------------------|
| a. Issue 1: | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Issue 2: | <input type="checkbox"/> | <input type="checkbox"/> |

- | | | | |
|----|-----------|--------------------------|--------------------------|
| c. | Issue 3: | <input type="checkbox"/> | <input type="checkbox"/> |
| d. | Issue 4: | <input type="checkbox"/> | <input type="checkbox"/> |
| e. | Issue 5: | <input type="checkbox"/> | <input type="checkbox"/> |
| f. | Issue 6: | <input type="checkbox"/> | <input type="checkbox"/> |
| g. | Issue 7: | <input type="checkbox"/> | <input type="checkbox"/> |
| h. | Issue 8: | <input type="checkbox"/> | <input type="checkbox"/> |
| i. | Issue 9: | <input type="checkbox"/> | <input type="checkbox"/> |
| j. | Issue 10: | <input type="checkbox"/> | <input type="checkbox"/> |

**THANK YOU AGAIN FOR YOUR TIME AND WILLINGNESS TO
PARTICIPATE!**

APPENDIX 2: FOLLOW-UP INTERVIEW

FOLLOW-UP INTERVIEW ON “GENE TECHNOLOGY IN THE FOOD CHAIN”

Name:

Day/Date/Time:

Ph. B/H:

Ph. A/H:

Hello

This is Alison Mohr calling from Griffith University in Brisbane. How are you? I appreciate you taking time to participate in this phone interview. The purpose of this interview is to determine your views on particular aspects of the consensus conference by further investigating your responses to specific questions in the questionnaire.

The interview should take under an hour and, with your permission, I would like to tape the interview for reasons of accuracy.

Once again, I stress that all answers will be treated confidentially.

Would you mind if I tape this interview? Yes / No

1. Prior to the first Australian consensus conference, had you heard of a consensus conference before?
- a. ☐ yes
- (i) Which one(s)?

Expert Speakers and Steering Committee only

- (ii) Have you participated in a consensus conference before?
- a. ☐ yes
- b. ☐ no
- (iii) If **yes**, which one(s)?
2. Why did you agree to participate in the first Australian consensus conference?

3. Have you heard of, or participated in, any other forms of public debate on issues of national importance?
- a. ☐ yes
- (i) Please give details?
4. Did you know, or had you heard of, any of the other participants prior to the consensus conference?
- a. ☐ yes
- (i) Please give details?

Lay Panel and Expert Speakers only

5. Did the information and briefing kit provided by the steering committee prior to the consensus conference meet your expectations?
- b. ☐ no
- (i) In what way did the information and briefing kit fail to meet your expectations?

Lay Panel only

6. Why did you respond to the advertisement calling for 'citizen participation in a national science project'?
7. When you were finally informed of the consensus conference, the topic, the process and its demands in more detail, why did you agree to participate?

8. Did the level of interaction amongst lay participants throughout the preparatory weekends meet your expectations?
b. ☐ no
- (i) In what way did the interaction amongst lay participants throughout the preparatory weekends fail to meet your expectations?
9. Did the opportunities to express opinions, engage in discussions and to ask questions throughout the preparatory weekends meet your expectations?
b. ☐ no
- (i) In what way did the opportunities to express opinions, engage in discussions and to ask questions throughout the preparatory weekends fail to meet your expectations?
10. Expert speakers were asked to address the lay panel during intensive briefing sessions throughout the preparatory weekends. Did the speeches meet your expectations?
a. ☐ in almost all cases
b. ☐ in most cases
c. ☐ in about half of the cases
d. ☐ in few cases
e. ☐ in very few cases
- (i) In what way did the speeches given by the expert speakers throughout the preparatory weekends fail to meet your expectations?
11. Did the process used in the formulation and selection of questions for the consensus conference throughout the preparatory weekends meet your expectations?
b. ☐ no
- (i) In what way did the process used in the formulation and selection of questions throughout the preparatory weekends fail to meet your expectations?
12. Did the process used by the lay panel in the selection of experts for the consensus conference meet your expectations?
b. ☐ no
- (i) In what way did the process used by the lay panel in the selection of experts for the consensus conference fail to meet your expectations?
13. What, in your opinion, were the most successful aspects of the preparatory weekends?
14. What, in your opinion, were the least successful aspects of the preparatory weekends?

15. Did the lay panel meet your expectations in terms of panel composition?

b. ☐ no

In what way did the composition of the lay panel fail to meet your expectations?

16. Did the expert panel meet your expectations in terms of composition?

b. ☐ no

In what way did the composition of the expert panel fail to meet your expectations?

17. Did the steering committee meet your expectations in terms of composition?

b. ☐ no

In what way did the composition of the steering committee fail to meet your expectations?

18. Did the audience meet your expectations in terms of composition?

b. ☐ no

In what way did the composition of the audience fail to meet your expectations?

19. The expert speakers were asked to address specific questions compiled by the lay panel. Did the speeches meet your expectations?

- a. ☐ in almost all cases
- b. ☐ in most cases
- c. ☐ in about half of the cases
- d. ☐ in few cases
- e. ☐ in very few cases

In what way did the speeches given by the expert speakers in response to the questions compiled by the lay panel fail to meet your expectations?

20. The lay and expert panels engaged in numerous discussions throughout the duration of the conference. Did these discussions meet your expectations?

b. ☐ no

In what way did the discussions between the lay and expert panels fail to meet your expectations?

21. The audience were invited to ask questions and engage in discussions on the second and third days of the conference. Did these discussions meet your expectations?

b. ☐ no

In what way did the discussions engaged in by the audience fail to meet your expectations?

22. If you were aware of any informal discussions occurring between participants (e.g. lay panel member/expert speaker, expert speaker/audience member etc.), what is your opinion of these discussions?
- a. ☐ productive
- b. ☐ unproductive

Please give a brief indication why?

23. In retrospect, do you think that adequate time was allocated for the compilation of the lay panel report?
- b. ☐ no

Why do you think that the time allocated for the compilation of the lay panel report was inadequate?

24. Did the lay panel report's recommendations meet your expectations?
- b. ☐ no

In what way did the lay panel's recommendations fail to meet your expectations?

25. In retrospect, do you consider consensus conferencing a worthwhile means of achieving public participation in decision-making, or would you choose another form of public debate?
- b. ☐ other form of public debate
- c. ☐ not sure

Please give a brief indication why?

26. In your opinion, did the level of consensus on gene technology increase or decrease among the lay panel throughout the process?
- a. ☐ increased
- b. ☐ decreased
- c. ☐ no change

27. In your opinion, did the level of consensus on gene technology increase or decrease among the lay panel throughout the process?
- a. ☐ increased
- b. ☐ decreased
- c. ☐ no change

28. Did you change your views on gene technology during the course of the process?
- a. ☐ yes

In what way were your views on gene technology changed throughout the course of the process?

29. To what extent did the conference match up to your initial expectations? The conference was:
- a. ☐ much better than expected
 - b. ☐ better than expected
 - c. ☐ as expected
 - d. ☐ worse than expected
 - e. ☐ much worse than expected

Please give a brief indication why?

30. Would you participate in another consensus conference given the chance?
- a. ☐ yes
 - b. ☐ no
 - c. ☐ not sure

Please give a brief explanation why?

31. In your opinion, was the timing of the consensus conference:
- a. ☐ too early
 - b. ☐ just right
 - c. ☐ too late

Please give a brief explanation why?

32. If you followed the discussion threads online, what was your opinion of the unmoderated discussions?
- a. ☐ productive
 - b. ☐ unproductive

Please give a brief explanation why?

Prior to the conference, five objectives were identified by the steering committee:-

- (i) to facilitate broad public debate from a plurality of perspectives
- (ii) to empower members of the public to gain an informed understanding of the issues
- (iii) to gain insight for all stakeholders into the public's views
- (iv) to create greater mutual understanding between experts and lay people
- (v) to integrate the consensus conference model into government, industry and scientific policy-making practices.

33. In your opinion, was each of the objectives of the consensus conference met?
- | | Yes | No |
|---------------------|--------------------------|--------------------------|
| a. Objective (i): | | <input type="checkbox"/> |
| b. Objective (ii): | | <input type="checkbox"/> |
| c. Objective (iii): | <input type="checkbox"/> | |

- d. Objective (iv): ☐
- e. Objective (v): ☐

Please give a brief indication why?

The lay panel identified ten key issues which required clarification before making their recommendations. The key issues included:-

- (i) the regulation of gene technology in the food chain.
- (ii) the processes of decision-making regarding gene technology.
- (iii) identifying what constitutes an acceptable risk in introducing genetically modified organisms (GMOs) into the food chain.
- (iv) identifying the possible risks to environment and health and establishing appropriate safeguards.
- (v) the consideration of potential alternatives to gene technology.
- (vi) the consideration of ethical and moral issues when formulating GMO policies.
- (vii) the concentration of ownership of food resources by a handful of multinational companies.
- (viii) the way the Australian government approaches treaties and trade agreements concerning GMOs with other countries.
- (ix) the levels of public awareness and participation in GMO issues.
- (x) the provision of labelling and choice to consumers when buying GMO food.

34. Do you think the consensus conference will have an impact on the key issues identified by the lay panel?

- | | Yes | No |
|------------------|--------------------------|--------------------------|
| a. Issue (I): | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Issue (ii): | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Issue (iii): | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Issue (iv): | <input type="checkbox"/> | <input type="checkbox"/> |
| e. Issue (v): | <input type="checkbox"/> | <input type="checkbox"/> |
| f. Issue (vi): | <input type="checkbox"/> | <input type="checkbox"/> |
| g. Issue (vii): | <input type="checkbox"/> | |
| h. Issue (viii): | <input type="checkbox"/> | |
| i. Issue (ix): | <input type="checkbox"/> | <input type="checkbox"/> |
| j. Issue (x): | <input type="checkbox"/> | <input type="checkbox"/> |

Please give a brief indication why?

35. What is the most important thing you have gained from participating in the consensus conference?
36. In your opinion, what were the most successful aspects of the consensus conference?
37. In your opinion, what were the least successful aspects of the consensus conference?
38. How do you think the first Australian consensus conference could have been improved?
39. Are there any further comments you would like to add with regard to the consensus conference process?

THANKS AGAIN FOR YOUR TIME!
I APPRECIATE THAT IT HAS BEEN A LONG AND DEMANDING
PROCESS

APPENDIX 3: THE LAY PANEL'S REPORT

(See over page)

[Appendix 3 contains a copy of :

*First Australian Consensus Conference - Gene
Technology in the Food Chain: Lay Panel Report*

The Report is available (at 8 August 2003) via the World
Wide Web at:

<http://www.austmus.gov.au/consensus/09.htm>]

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