Technology and public participation

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Introduction

Brian Martin*

A few hundred years ago, to talk of technology and public participation would have been meaningless to most people. Dramatic changes have occurred in both these areas.

The word "technology" today often brings to mind sophisticated things like computers, missiles and genetic engineering. But it also includes everyday items such as chairs, clothes, paper and toothbrushes. For someone who lives in a city in an industrialised country, one's entire life seems to take place within a technological framework: driving a car or taking a train to work in an office building, communicating by telephone and electronic mail, purchasing goods manufactured in factories, eating food processed in other factories, using energy produced in distant plants, perhaps consulting a doctor who uses diagnostic equipment, going home to a house or apartment built from materials mined and processed, and sleeping on a manufactured bed.

Humans have developed and used technologies for hundreds of thousands of years, to be sure, from simple wooden implements to baskets and wheels. But since the development of agriculture some thousands of years ago and especially since the industrial revolution a few hundred years ago, technologies have become ever more powerful and pervasive, leading some to say that we live in a "technological society."[1]

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1. Jacques Ellul, *The Technological Society* (London: Jonathan Cape, 1965).

The word "technology" often is interpreted to mean machines or artefacts, those familiar things that we can see and touch. More broadly, though, technology also includes the social processes through which artefacts are created and maintained, such as the division of labour in a factory. Specifically, "technology" can include systems of knowledge that are associated with artefacts, such as scientific knowledge about a manufactured drug like aspirin. In this book we take a broad view of technology, considering it to include what is commonly called science.

Just as technology has become more pervasive in society, so has the importance of public participation, though not in any simple fashion. In many non-industrial societies, including ones that exist today, small groups of people live and work together and nearly everyone is involved in decisions affecting the group, though inequalities in power based on age and gender are common.[2] With the rise of larger groups based on agriculture and industry, domination by rulers, such as emperors or landowners, became the usual pattern. The ancient Athenians used a variety of methods for citizen participation in decision making. Even though women and slaves were left out because they were not considered citizens, the ancient Athenians were exceptional in the amount and quality of participation that occurred, especially compared to the autocracy and oppression in much of world in the centuries since.

The push for participation has become ever more important in the past few hundred years. At the formal political level, feudal regimes have been replaced by systems of representative government, with elected representatives. At first, voting was restricted to a propertied elite, but successive struggles have broadened the franchise to include nearly all the adult population.

Participation in decision making can mean many things. Voting for representatives is indirect participation, since the representatives rather than the voters make the substantive decisions. Referendums are a form of direct democracy, since they allow all voters to express a preference. Then there is the market: when consumers purchase an item or a service, they express a prefer-

2. Harold Barclay, *People Without Government* (London: Kahn & Averill with Cienfuegos Press, 1982) describes some of the more egalitarian societies.

ence from among the available alternatives. One brand of detergent is chosen over another, or a choice is made between solar, gas and electric heaters.

These forms of participation are all very well, but many people want something more. When a freeway is planned that will cut through a neighbourhood, many residents demand a voice. Voting for representatives isn't enough, since a vote is for a person or a party, not a policy on a specific issue. Nor is being a consumer much help in this situation, since the only consumer choice seems to be to put up with the freeway or move away. Sometimes residents are "consulted" through opinion polls or by tabling of plans for comment. This isn't enough either, since the agenda doesn't include basic questions of whether the freeway is needed in the first place or whether other transport modes could be developed.

Most people have relatively little say in decisions about technology. They are not involved in choices about research and development and they are not involved in investment decisions. Then, when they are presented with a new development as a foregone conclusion, they are expected to welcome it as "progress." It is no wonder that the major form of citizen action is protest against new technologies, such as against nuclear power or logging of rainforests. It is only at the stage of implementation that many people become aware of what is happening and its implications.

Technological developments are not always beneficial—that has been obvious at least since nuclear weapons were developed. Citizen participation is essential to stop harmful technologies. It can be argued, for example, that popular protest has been a crucial factor in preventing nuclear war and in ending the cold war.[3] Technologies are not inevitable.[4] For example, it was originally envisaged that there would be 500 supersonic transport aircraft, but popular resistance restricted this to a few Concordes.

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3. Ralph Summy and Michael E. Salla (eds.), *Why the Cold War Ended: A Range of Interpretations* (Westport, CT: Greenwood Press, 1995).

4. Merritt Roe Smith and Leo Marx (eds.), *Does Technology Drive History? The Dilemma of Technological Determinism* (Cambridge, MA: MIT Press, 1994).

Protest movements are the most visible force in disputes over technologies, but actually they usually have the least influence. Governments use their enormous resources to research, implement and maintain technological systems, including weapons, transport and communication systems. Corporations routinely develop new products, build factories and sell goods, from perfume to pesticides. Experts, especially scientists and engineers, are also central to technological innovation. Government and corporate managers, plus a few top-level scientists and engineers, have a great deal of influence over what technologies are investigated and promoted. By contrast, workers and consumers have little say.

Just as important as the practical tasks of research, development, production and sales are the ideological tasks of convincing the public that new technologies are a good thing. Advertising is important but so is the promotion of a general belief in the wonders of advanced science and technology. When social movements organise against a new chemical or genetically engineered organism, they are painted as opponents of "progress." Social movements, such as the environmental and peace movements, are usually seen as being against something or other. Actually, some of the most powerful social movements are those pushing *for* new technologies such as computers.[5] These movements are not so visible; by operating behind the scenes they are far more effective.

Although governments, corporations and expert professionals have by far the greatest influence over decisions about technology, there is some potential for changing this. People today are far more educated and aware of technology and its impact than in previous eras. The rise of printing, mass literacy and the mass media has given many more people the capacity to understand and speak out about what is happening in society. It would hardly be possible to bring about a technological society without also creating the capacity of ever more people to comprehend and criticise it.

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5. Rob Kling and Suzanne Iacono, "The mobilization of support for computerization: the role of computerization movements," *Social Problems*, Vol. 35, No. 3, June 1988, pp. 226-243.

Furthermore, new technologies have created new opportunities for obtaining information and acting on it. Radio and television allow promotion of products but also report on challenges and catastrophes. The telephone and electronic mail allow people to share information, form networks and build powerful movements.

Technologies such as the mass media can be used both to hoodwink people and to provide insight, but that does not mean they are neutral tools. It is trite but true to note that any specific technology is easier to use for some purposes than others. A tank is easier to use for killing whereas a violin is easier to use for producing music, even though each can in principle be used for either purpose. Careful investigation is needed to determine the purposes for which technologies can and are likely to be used. It is unwise to leave this to groups with vested interests, such as government, corporate or professional sponsors, since they are unlikely to come up with a balanced view. This is why participation from a wide cross section of the public is vital.

Out of the massive amount of writing about democracy and participation, only a small fraction deals with science and technology.[6] This writing covers many topics including obstacles to participation and proposals for decision making involving citizens.

There are several obstacles to widespread public participation in decisions about technology. One is that most people lack expertise. The argument is that since they don't really understand the technology or its implications, they are not qualified to judge it. This sounds plausible but, on closer inspection, breaks down. The technical details may be complicated, but they are seldom the crucial issue. There are always social factors involved.

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6. See, for example, Malcolm L. Goggin (ed.), *Governing Science and Technology in a Democracy* (Knoxville: University of Tennessee Press, 1986); Alan Irwin, *Citizen Science: A Study of People, Expertise, and Sustainable Development* (London: Routledge, 1995); Frank N. Laird, "Participatory analysis, democracy, and technological decision making," *Science, Technology, & Human Values,* Vol. 18, No. 3, Summer 1993, pp. 341-361; James C. Petersen (ed.), *Citizen Participation in Science Policy* (Amherst: University of Massachusetts Press, 1984); Richard E. Sclove, *Democracy and Technology* (New York: Guilford Press, 1995); Leslie Sklair, *Organized Knowledge: A Sociological View of Science and Technology* (St. Albans: Paladin, 1973); Langdon Winner (ed.), *Democracy in a Technological Society* (Dordrecht: Kluwer, 1992).

Consider transport policy. You don't need to understand how a jet engine operates, or how to fly a plane, in order to be involved in decisions about flight patterns or siting of an airport. You don't need to be an expert on brain functioning or x-ray machines in order to be involved in decisions about investment in medical technologies. Experts know a lot about their area of specialisation, but often they are poorly placed to comment on policy issues. Jet pilots are not necessarily the best people to comment on whether transport investment should be directed to plane, train, car or bicycle. Brain surgeons are not necessarily the best people to comment on whether greater priority in health policy should go to brain scanners or prevention of disease through nutrition.

Another obstacle to widespread public participation is lack of time. A person may be able to become informed about transport or health policy, but what about energy, defence and industry? These and many other areas contain a multitude of specific issues, each with its own complexities. It is impossible for everyone to be involved in every issue. That is precisely the argument in favour of representative democracy.

The standard model of decision making is for politicians and government bureaucrats to make decisions on the basis of advice from experts. This seldom involves much public input. Sometimes, on contentious issues, there is a public inquiry, in which interested parties are invited to make submissions to a judge or panel. This allows many more people to be involved, but in an unsystematic manner. Furthermore, there is no guarantee that governments will follow the recommendations coming from such inquiries.

There have been proposals to deal with controversial technical issues through a "science court," in which a panel of experts hears evidence and makes judgements about the facts. One trouble with this idea is that facts cannot be easily separated from values. Another proposal is for a "citizens hearing panel" which, like the science court, hears evidence. The panellists in this case are citizens chosen because they represent interested parties, such as consumer bodies or trade unions. This idea overcomes some of the dependence on experts but is open to manipulation by whoever selects the panellists. Neither idea has been taken up by governments.

Putting an issue to a referendum certainly involves the public, but also has limitations. Usually only a few choices are available—and few people have input into what the choices are. Few voters have the time to investigate deeply. Interest groups can spend large amounts of money in media campaigns to sway the vote. In spite of this, referendums give citizens much more of a say than the usual procedures. When an issue is put to a referendum, it typically generates widespread discussion. The experience of hundreds of referendums over putting fluoride in local public water supplies in the US shows that citizens often do not vote the way experts think they ought to.[7]

Another proposal is to set up "policy juries." These are groups of citizens, randomly selected from volunteers, who hear evidence and arguments from experts and advocates and make recommendations. Researchers in Germany and the US have tried out this approach and found that participants take the process quite seriously, become enthusiastic about participation and reach sensible conclusions. Random selection reduces the influence of vested interests while turning each specific issue over to a policy jury overcomes the problem of everyone having to learn about every issue. However, this method undermines the role of politicians and bureaucrats and so has not been taken up.[8]

Background to this book

In Science and Technology Studies at the University of Wollongong, there has long been an interest in the social impacts of contemporary science and technology.[9] Many staff and research students have investigated controversial scientific and technologi-

7. Robert L. Crain, Elihu Katz and Donald B. Rosenthal, *The Politics of Community Conflict: The Fluoridation Decision* (Indianapolis: Bobbs-Merrill, 1969).

8. The main work has been done by Peter Dienel and colleagues at the University of Wuppertal and by Ned Crosby and others at the Jefferson Center in Minneapolis. See Lyn Carson and Brian Martin, *Random Selection in Politics* (Westport, CT: Praeger, in press); Ortwin Renn, Thomas Webler and Peter Wiedemann (eds.), *Fairness and Competence in Citizen Participation: Evaluating Models for Environmental Discourse* (Dordrecht: Kluwer Academic, 1995).

9. Stephen Hill and Ron Johnston (eds.), *Future Tense? Technology in Australia* (St. Lucia: University of Queensland Press, 1983).

cal projects, such as debates over the greenhouse effect and over vitamin C and cancer.[10] Some staff and students have been participants in social movements or campaigns, such as over nuclear power. At one of our research meetings, we realised that public participation was a common issue in many of our studies and experiences. We decided to produce a book covering a range of case studies and perspectives. We invited a few colleagues known to us.

In keeping with the theme of participation, we decided to make the process of producing the book reasonably participatory. Electronic mail was extremely helpful in our communications. We agreed on deadlines, word limits (a painful challenge for some contributors!) and a procedure for ensuring the quality of each chapter. Each contributor was expected to seek comments from at least two readers on a first draft and then give the revised version to me as editor. I offered further comments and each contributor prepared a further revised version. We decided to invite outsiders to comment on each chapter. Each contributor nominated a series of people as possible commentators. They had word limits too. Contributors then had the option of writing brief responses to any commentaries on their chapters.

The commentaries provide alternative perspectives to those of the chapter authors. This helps to avoid the impression that there is a definitive view on any issue. Just as technology is and should be controversial, so the issue of participation deserves dialogue and debate.

We agreed to aim our writing at a general educated audience. This is not so easy, since in academia the usual orientation is to specialise in one's own field. Furthermore, each contributor has carried out in-depth research into the topic covered, often for many years. To step back from specialist language and perspectives and communicate for a wider readership can be challenging.

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10. Sharon Beder, *Toxic Fish and Sewer Surfing* (Sydney: Allen and Unwin, 1989); Jim Falk and Andrew Brownlow, *The Greenhouse Challenge: What's To Be Done?* (Melbourne: Penguin, 1989); Brian Martin, *Scientific Knowledge in Controversy: The Social Dynamics of the Fluoridation Debate* (Albany: State University of New York Press, 1991); Evelleen Richards, *Vitamin C and Cancer: Medicine or Politics?* (London: Macmillan, 1991).

We have gone some way in this direction, though undoubtedly some chapters will challenge some readers.

Each contributor has approached his or her topic in a distinctive fashion. We haven't tried to impose a single perspective or theoretical framework. Everyone, though, subscribes to a few important assumptions. One is that it is not possible to separate technical issues from social issues. Values are always involved in technology, from its conception to its practical uses. Secondly, we all agree that people who are affected by technology should have an opportunity to participate in decisions about it, though we would differ on the extent and form of that participation. Indeed, we do not automatically assume that participation is always a good thing. Finally, we all believe that the issue of technology and participation is a vital one that deserves more attention and discussion. That is the rationale behind the book.

The chapters

The chapters are divided into three sections dealing with, respectively, the influence of technologies on participation, the role of technology in public participation processes, and public decision-making about technology. These categories are arbitrary but capture some key elements in the issues.

That technology can affect participation in decision making is apparent from any number of examples. The mass media provide information about current events, sometimes stimulating citizen action and sometimes inhibiting or undermining it. Pressure groups use word processors, printing, direct mailing, public address systems, mobile phones and other technological aids to organise support and coordinate action. Just about any technology can have an impact on participation, from robots to recording equipment. Three chapters deal with this process. Their topics include a seldom considered dimension for participation—toys—and fresh looks at the familiar telephone and computer.

Toys are an everyday technology with which children play and to which few adults give much attention. Wendy Varney takes a closer look. She argues that play is an important training ground for future citizen participation but that modern toys are constraining and privatising play, reducing its value in education for participation. At first sight toys may seem a trivial sort of

technology, but analysis quickly leads to issues of mass marketing and corporate agendas.

The telephone has long been familiar in the industrialised world. Lyn Carson looks at a specific application of the telephone: as a tool for participation in local government. As an elected member of a local council, she tried various techniques for consulting and involving citizens in decision making. The telephone turned out to be one of the most practical tools and one that allowed her to adopt a "heart politics" approach in which human connection takes priority over confrontation.

Non-governmental organisations, such as environmental and human rights groups, have a special interest in public participation since they depend on public support for their campaigns. On the international scene, many groups have challenged the undemocratic practices of the World Bank. Miriam Solomon puts these groups under scrutiny, examining the role of the lap-top computer in their own practices, participatory or otherwise. She proposes a model of communicative democracy and raises some of the dilemmas posed by the concept of a global civil society.

The second group of chapters deals with processes of public participation in four arenas where the uses of science and technology are centrally involved: courts, urban planning, psychiatry and siting of hazardous facilities. In each of these areas the public has been involved in decision making but some groups would like to limit the scope of participation.

In the court room, a place where many crucial decisions are made, the jury remains an important source of citizen participation, both in practice and symbolically. Recently, the jury has come under attack by critics who claim that ordinary citizens are not competent to judge complex technical issues. Gary Edmond and David Mercer delve into the assumptions, about both science and the public, behind these arguments.

Planning a new project—such as a building or transport link—is a classic case where citizen participation can be considered. Traditional models for making decisions have a number of problems, such as treating community and experts as separate and treating participation as a step in a sequential process. Janis Birkeland exposes these problems and presents an alternative model based on feminist principles.

Psychiatry is about the proper operation of the mind. This has always involved theories and talk about the mind and brain, but technologies are increasingly important. Today mind-altering drugs are regularly used as part of psychiatric practice. Richard Gosden tackles the controversial issue of "coercive psychiatry," namely therapy imposed on people without their consent. Questions of human rights and participation are fundamental in this area.

Because participation is generally seen as a good thing, vested interests often attempt to give the illusion of participation without the substance. Sharon Beder examines the role of public relations in a decision about a proposed toxic waste incinerator. She shows that the rhetoric of participation may hide the true agenda, one that is better described as manipulation.

The third and final group of chapters deals with government decision making about technology, commonly called technology policy. In liberal democracies, there is a continual struggle over whether citizen participation begins or ends with voting. Governments use various ways to restrict participation while trying to retain their legitimacy as representatives of the people's will. In a technological society, technology policy is a central arena for power struggles.

Because technological innovation is a key driving force in industrialised economies, governments don't like to leave it to chance. Many attempts have been made to emulate the success of technology parks such as Silicon Valley near San Francisco. Rhonda Roberts analyses the assumptions underlying attempts to foster the innovation process and shows the limited role allotted for citizens.

In recent decades, agriculture has been transformed by technology virtually into an industrial process. Corporations and governments have pushed this change, with little input from citizens. Andy Monk looks at modern agriculture and especially at the role of farmers in the innovation process. The organic agriculture movement provides an example where greater participation is linked to a different style of farming.

Space exploration has seemed to many to be the ultimate technological challenge. Yet, it can be asked, who speaks for the extraterrestrial environment? Alan Marshall argues that space

exploration has proceeded similarly to the imperialistic conquests of the past, completely contrary to the humanitarian ideals normally used to justify it.

The concluding chapter picks out themes and theoretical issues introduced in the earlier chapters, attempting to expand on common threads.

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We do not expect that everyone will agree with every author. Certainly, some of the commentators do not! Rather, our aim is to stimulate thinking and discussion and to provoke debate. Apathy and the acceptance of technology as inevitable are the enemies of participation. We hope that others will challenge us and each other with new ideas and with new forms and arenas of participation.

Acknowledgments

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I
Technologies shaping participation

Toys, play and participation

Wendy Varney*

Imagine children at play and the image that springs to mind might well embrace several aspects of participation: children involved in joint activities, learning together, allocating roles, trying out ideas, agreeing, disagreeing, sometimes fighting, sometimes resolving differences.

Yet the toys that are popularly marketed to children, "the tools of play," are strangely devoid of features which encourage these aspects of play—with the exception of war-toys which encourage "participation" in fighting. If participatory play still exists to some extent, it is despite, not due to, the toys which beckon from the loaded shelves of toy stores.

Examples of dolls and doll play in different periods make the point that today's heavily marketed toys are less conducive to participatory play. Up until the industrial revolution, most toys were home-made so that dolls would frequently be crudely fashioned lumps of clay or some other material which children felt could stand in for a doll. This left most definition at the imaginative level so that the doll could take on virtually any role decided by the child. After the industrial revolution specially crafted or factory-made dolls became increasingly available and from around 1820 the baby doll was introduced[1] at a time when the role of mothering was gathering great ideological momentum. By this time dolls were perceived to be exclusively for girls whereas in eras past they had been for children of both sexes.

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* Wendy Varney is a fellow in Science and Technology Studies, University of Wollongong. As well as her research into toys, which was the basis for her PhD thesis, her research interests include leisure technologies and politics of sport. She is a feminist and environmentalist with a concern for all issues of social justice.

1. Antonia Fraser, *A History of Toys* (London: Spring Books, 1966), p. 160.

Both the pressures on young girls to practise nurturing from an early age and the designing of dolls to depict those in need of mothering influenced doll play along lines of socialisation for motherhood.

Nonetheless, girls continued to play other things with dolls as well as acting out the mother-child relationship. The dolls were still largely perceived to be little people whose age categories could be determined in accordance with the desires of those playing with them. My own experience growing up in the 1950s was that dolls were essentially a ticket to play with other girls in the neighbourhood. No one was excluded as long as she had a doll tucked under her arm.[2] At times the after-school doll play was less important than the negotiation, script-writing—and outright arguing—that was the prelude to doll play. Were we to be mothers at a gathering with our babies? Were we taking our children shopping? Were we attending a wedding? If so, serious discussions would determine whose doll was to be the bride. Or would we have a tea-party where both the dolls and ourselves would be equal guests? Our ideas were limited not so much by the dolls themselves but by the roles we perceived as being open to women. Doll play still maintained much of its flexibility and opportunities for participation.

The launching of Barbie, a doll whose role was strictly confined to that of teenager, and a genre of dolls that relied heavily on accessories to set the scene for play, appears to have narrowed the opportunities for play and, with it, the opportunities for negotiating play. In this way, mass-marketed contemporary toys inhibit rather than facilitate participation, for reasons which I will explore, after firstly teasing out the various influences that toy technology has had on children's introduction to participatory processes.

Participation in itself is insufficient for meeting far-reaching democratic goals. If not tied to broader struggles for social justice

2. This can be seen as a transition period. A commodity was now necessary for play and each player was expected to have her own, though borrowing could be arranged. There was not, however, a great deal of importance attached to the type of doll. Any doll would do the task as ably as the next in allowing its owner to participate in the play.

and for equality of resources and opportunities, participation can be lame and unfulfilling. For instance, participatory play in itself cannot counter sexism, racism and violence if the culture that sustains the play holds these to be valid.

A further problem is that "participation" has become a catchphrase, used by the market for its own purposes. The result has been a pseudo-participation which has been designed by those who seek to accrue individual benefits by having the image of participation pervade their practices. Toys, and ultimately play (since toys support certain types of play activity), have been affected by the pseudo-participation of the marketplace. The opportunity to purchase and possess so many toys, to make (albeit limited) decisions about which to forego and which to pursue and to link up across so many points of culture in playing with these toys is sometimes interpreted as a form of participation. I will argue that contemporary toys have contributed to moving children's play away from participation and replacing it with a crass "marketplace participation" where dollars are the means by which children participate. It will be seen that the marketplace promotes a very narrow and warped version of participation and one which is almost directly opposed to the notion of participation that comes from involvement in the nature of play.

But first the different aspects of the relationship between toys and participation need to be spelt out. There are four major points at which toy technology and participation intersect:

- at the practical level where play is enacted around or alongside the toy;
- at an ideological level where the toy and the play transmit sets of values and help to interpret the world for the child;
- at the level of producer-consumer relations between toy promoter and potential toy purchaser where claims might be made as to the participatory characteristics of any particular toy and a model of participation is held forth within that claim;
- between those who design toys and those who may be interested in having input into toy design for reasons other than market reasons.

Many players—fast-food chains, movie production teams, merchandisers, licensing agents and more—influence the direc-

tion of toys but they do so from the same limited motivational base. This is not participation in the same sense that it might be if parents, educationalists and others who were not in the employ of the toy and entertainment industry were involved from the early stages.

Each of these four potential connecting points between toys and participation could be explored at length and there is a great deal of overlap among them. I will focus largely on the first two aspects, arguing that the nature of play has changed remarkably in response to the increasing prominence of the marketplace and its enveloping of all aspects of life, not least of all children's play. I will then address some of the ideological implications of this and what it might mean for the notion of participation that children form around their own experiences and which they carry into adulthood.

Shifting patterns of play

The practical level at which toys provide scope for participation stems largely from a toy's ability to influence play, yet that influence is variable and itself subject to other social forces. Toys have traditionally been more peripheral to play than they presently are. That is, in most cultures and most eras the toys fitted into the play rather than play being determined by the plaything. Since many of the toys that children have played with have traditionally been made by the children themselves, they have been able to make them to specifically meet their own ideas of play. Toy historians Eugene and Asterie Provenzo claim that self-made toys "required the imagination and inventiveness of the child" and "provided the opportunity to penetrate and understand the physical environment in which they live."[3]

Another crucial aspect of traditional play is that it has generally been strongly participatory, as is evident from anthropologies of play such as Helen Schwartzman's *Transformations*.[4]

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3. Eugene F. Provenzo, Jr. and Asterie Baker Provenzo, *The Historian's Toybox: Children's Toys from the Past You Can Make Yourself* (Englewood Cliffs, NJ: Prentice-Hall, 1979), p. 1.

4. Helen B. Schwartzman, *Transformations: The Anthropology of Children's Play* (New York: Plenum Press, 1978).

Traditionally most play has happened among a number of people, often children in combination with adults.[5] A study by UNESCO suggested that in many non-Western countries children and adults played the same games, just as they performed many of the same tasks towards making a living.[6] Neither work nor play was strongly age-differentiated. It is a rather Western and only quite recent trend which sees the life of children as being so separate from the lives of adults. This separation makes the extent to which children participate and learn about the possibilities for participation particularly important since they have less scope for learning it through joint activities with adults. Some play which is of the "traditional" kind still exists, of course, and some play may mix traditional and other values, but the tendency has been, at least in the latter half of the 1900s, to encourage play which is commodity-oriented and to have toys owned by individual children rather than groups of children. This in turn has led to more individual play.

As an activity which children do together, play provides numerous opportunities for participating. Indeed to some considerable degree it is participation which makes play what it has traditionally been. There are rituals and rules laid down that, from time to time, have to be negotiated. The game has to be carried out in the way the group of players collectively interprets it as needing to be played.

Dorothy Singer points out that games with rules might involve competition, but more likely co-operation. Such games usually involve codes that are institutionalised but rules that may have to be renegotiated, re-interpreted or improvised.[7] Players often have to work through or come to some agreement, though this does not necessarily mean that power will be evenly distributed or equally exercised. According to Singer, games with rules are

5. Philippe Aries, *Centuries of Childhood* (London: Jonathan Cape, 1962), p. 68.

6. Gabriel Chanan and Hazel Francis, *Toys and Games of Children of the World* (Paris: Serbal/UNESCO, 1984), p. 14.

7. Dorothy Singer, "Play activities that build bridges across the generations," paper presented at the International Toy Research Conference, Halmstad University, Sweden, June 1996, pp. 11-13.

"critical for the mastery of orderly thought, moral judgement, and other phases of operational or logical mature thought."[8] These all bear benefits as useful ingredients for participation. Singer further claims that children learn to share, take turns and co-operate through make-believe play and that such play helps them to develop scripts and order or sequence events.[9] I will argue that most of the modern toys do not encourage children to develop scripts and so cannot fulfil this role.

There are benefits in group play in that children are learning to interact with each other, often in positive ways. While certainly play can be carried out unequally and with some players dominating others, it is one area where children can learn to overcome such dominance and to voice their own concerns. Calls for fairness and for different players to take turns at different roles are common in play, suggesting that there is a strong connection between play and participation, although no guarantee that the former will involve the latter. Other forms of social codes and interaction, including those reliant on race, gender and class, will obviously also bring other factors to bear on play.

Having established that the relationship between traditional play and participation is a strong one, we need to understand how toys fit into this relationship and how they influence it. They exert two basic types of influences, one in relation to toys' location in play and the other relating to the nature of the toys themselves.

In traditional play toys were props but not much more in terms of their influence over play. That has changed dramatically with the emergence of the commodity-toy—or what Beryl Langer has called the "commoditoy".[10] The appeal of these toys far surpasses their functionality, making them strong examples of a phenomenon that Wolfgang Haug has described as "the

8. Ibid., p. 12.
9. Ibid., p. 13,
10. Beryl Langer, "Commoditoys: marketing childhood," *Arena,* No. 87, Winter 1989, pp. 29-37.

technocracy of sensuality."[11] Not only are great efforts invested in enhancing every visual aspect of these toys but they are designed so as to confront and tantalise every sense. Many dolls smell of flowers, fruits and other flavours, while lighting and sound effects are maximised across the full spectrum of toys. Some balls even have a gimmick of making noises when thrown, while high-tech versions of the humble skipping rope light up and emit bubbles. However, it is not only at the operating level of the toy that this sensuality takes place. Toys are designed to build up appeal via the relationships they have with each other and with a great many other commodities and events to which they are tied.

Commodities have come to provide many of the symbols and goals around which our society now revolves and, in accordance with this elevation, toys have come to play a decidedly more central role in play, to the extent that toys determine what form play will take rather than play determining what toys should be used and *if* toys should be used.

This renders the toy a much more influential force in play and allows the nature of the toy to shape the direction of play. I am referring here not simply to the toy and its set of meanings, but to the entire support network built around the toy and from which the toy takes its often highly specific meaning. Toys are nowadays sold via a dazzling array of marketing mechanisms and the rather limited sort of play that goes with the toy is sold as part of that toy. The toy industry is an arm of a broader entertainment and commodity industry which organises its promotions to children so as to reinforce the wares on offer through cross-promotion and multi-layered promotion.[12] The support network includes a range of promotions via advertisements, competitions, mall entertainment, catalogues and magazines for children, but extends also to other commodities. A typical well-promoted toy may have a movie made around it, a television series, a fast-food tie-in, a breakfast cereal linked to it

11. Wolfgang Fritz Haug, *Critique of Commodity Aesthetics: Appearance, Sexuality and Advertising in Capitalist Society* (Oxford: Polity Press, 1986), p. 17.

12. Wendy Varney, "The Social Shaping of Children's Manufactured Toys," unpublished PhD thesis, University of Wollongong, 1995.

and a plethora of merchandise such as sneakers, lunch boxes and bed sheets featuring the toy on their design.

Due to the involvement of movie and television program producers, and to heavy television and other advertising, the upshot is that a child will be familiar with not just the toy but the storyline which goes with it. Since many popular toys come within series, each character will have an elaborately detailed role which has been played out in fine detail through the promotions surrounding it. This nudges play in the direction of imitation rather than imagination, since the story has been painstakingly thought through and repeatedly played out for the child in the promotions.

As a result, most modern toys involve deliberately closed systems of play. They are not open-ended in the way that traditional toys often were. Play has always unfolded within the limits set by social systems, world views, views of gender and so forth, but now it is the toy itself, in its broader marketing package, which primarily sets the limits, working in with and borrowing from broader social systems, but especially the economic system. Sally Vincent argues that modern playthings are made up of "pre-packaged fantasies…brand name objects, functionless belongings, group identity kits, images from a promotion scheme that leads to the ultimate in passive acceptance of their totalitarian symbolism."[13] I will return to the totalitarian aspect of the toys shortly. Here the relevance of Vincent's claim is that the more limited the opportunities are for play and the more over-determined and highly structured toys are, the fewer opportunities there are for negotiation and for other aspects of participation that have been noted to be generally beneficial in children's play.

Critics of modern toys are especially concerned about the decreased opportunities for imagination which they provide.[14] For instance, "…over structured toys, where the designer has

13. Sally Vincent, "Here's a Dreddful Noël to you all," *New Statesman,* 20-27 December 1985, p. 11.

14. Roland Barthes in *Mythologies* (St Albans: Paladin, 1973), pp. 53-54, was among those who lamented these decreased opportunities for imagination. For a more detailed list of the breadth of critique, see Varney, op. cit., pp. 74-76.

already done the thinking, imagining and creating, reduce the possibilities for imaginative ideas and creative acts on the part of the child."[15] Decreased opportunities for participation often go hand in hand with this tendency. Education researcher Lynne Bartholomew, in working with children, found that creative play around flexible props "encouraged children to negotiate the play script with each other, so that each child felt a sense of belonging and ownership in the play."[16] There was, it seemed, a sense of participation which ran deeper and was more meaningful than the rather more superficial involvement encouraged by overdetermined toys. Bartholomew noted that overstructured toys involved the risk of using less ingenuity and resourcefulness, both of which are useful in co-operation and participatory play.

Do modern toys have to be so highly determined? Do they have to have their stories spelt out in such detail that they leave little to children's imagination and detract from the scope for richer participatory play? According to mechanisms of the market, which ensure that popular toys receive the most massive exposure and carry within themselves the seeds for their own quick redundancy, a high level of sensuality and a closed system of play are essential to the process. The elaborate sensualisation requires over-determination in appearance, so that each toy is highly specific and functional in a precise but extremely narrow way.[17] The Care Bears exemplify the segmentation of tasks and play themes. Instead of a humble teddy bear, this series of bears had their tasks divided up in the same way that the work force had had its tasks heavily segmented and specialised under Taylorism. Whereas one Care Bear was depicted as loving, another had the role of being cheerful, one was fun to be with,

15. M. A. Pulaski,"Toys and imaginative play" in J. L. Singer (ed.), *The Child's World of Make-Believe* (New York: Academic Press, 1973), cited in Lynne Bartholomew, "Choosing appropriate toys for children—can the concept of Piagetian schemas help us there?," paper delivered at the International Toy Research Conference, Halmstad University, Sweden, June 1996, p. 3.

16. Bartholomew, op. cit., p. 2.

17. Varney, op. cit., pp. 48-57. Tom Engelhardt, "The Strawberry Shortcake strategy" in Todd Gitlin (ed.), *Watching Television* (New York: Pantheon Books, 1986), provides a poignant example of this phenomenon in his story of the development and marketing of Strawberry Shortcake.

etc. The promise made by the typical modern toy is that it will perform a very particular function or strike a very particular image, the reverse side being that it can do very little else. Such toys do not encourage children to seek other functions within the same toy. The type of toy being sold and the marketing hype around it suggest that other toys, with their own highly specific functions, are needed for other play and for other scenarios. Overdetermination in character is therefore essential to the image identity being sought for the toy.

Overdetermination in the storyline is equally a part of the marketing process, for any toy that is brought to either the movie or television screen requires its stories to be pre-determined.[18] The toy industry chooses movie and television tie-ins for the exposure they give to toys and for the level of hype they can create. It follows that toys that are either designed or translated for the screen must have their stories pre-written. The toy industry does not lament this. On the contrary, it makes the most of it, as pre-ordained storylines allow manufacturers to work into the stories not only the key characters but many of the accessories and assorted characters that make up the elongated toy lines that exist today. In 1985 the then president of toy company Mattel explained that previously "When consumers bought one [toy], they didn't need another, so from a purely financial point of view, most toys failed" in terms of reaching their full market potential.[19] The large toy manufacturing corporations have turned that around so toys now rely heavily on other toys and accessories in the same line. For boys, these lines include mostly male companions, enemies, vehicles and weaponry, while girls' toys have friends, abodes, shops, horses and lots of fashionwear. As toys' functions become more specific, children need more of them to compensate for their limitations. Whereas open-ended toys can be brought into play across a wide spectrum of settings and imagined circumstances, function-specific toys can not.

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18. Stephen Kline, *Out of the Garden: Toys, TV and Children's Culture in the Age of Marketing* (London: Verso, 1993).

19. Quoted in Penny Gill, "The joy of toymaking," *Nation's Business,* December 1985, p. 25.

Privatising play

Another important factor in these toys is their very private and individual nature. This has been achieved not just at the behest of the toy industry, though that industry has certainly taken advantage of this trend. We live in an increasingly privatised world which has put much more emphasis on commodities than relationships and sometimes, due largely to sophisticated forms of advertising, confusion between the two. If it was once thought that a child needed companions in order to be able to play meaningfully, it is now thought that a child needs toys. Moreover, toys often carry names which suggest they stand in for friends or are advertised to suggest this. Some of these include Tyco's series of soft toy dogs in the My Puppy Loves Me line, Friend Bear in the series of Care Bears, the Natasche doll which was advertised as being "ready to be someone's best friend,"[20] and Talking Baby Alive, of whom it was claimed "She will become a special talking friend."[21] Mattel ran an advertisement for Barbie in 1983 under a heading "Will you be Barbie's friend?" After listing some of Barbie's considerable accessories—and therefore serving as a reminder that these were available, should a child not have the full range—the advertisement continued: "Pink and Pretty Barbie has everything but the one thing she wants most. A true friend. Will you be Barbie's friend?"[22]

So, while such toys as skipping ropes, which can accommodate a great many players, still exist, much of the emphasis in today's toy market is on toys which children are expected to own individually, which they can play with alone and which often make claim to being able to substitute for friends and companions. Toys largely subsume play and restructure it so that participation becomes a much lesser part of play. Children might still play with their toys with friends but they are encouraged by neither the toy's prescribed range of play nor the broader social message contained within the toy itself, in which companions are somewhat superfluous. Increasingly gender-specific toys further

20. Toy Kingdom's undated catalogue, circa 1995.
21. Grace Brothers Christmas catalogue, 1995.
22. *Toys International and the Retailer,* Vol. 20, February 1983, p. 21.

exacerbate this trend, discouraging children of different sexes from playing together, since these toys construct vast differences in the types of play in which boys and girls are supposed to take part. Obviously, such constraints to participatory play can only detract from children's development along participatory lines.

Adults, too, have become more removed from children's play. Brian Sutton-Smith notes the paradox that "the toy is given so that the child can occupy itself without making any great demands on the parent's time" and that this is as true of toys which are Christmas presents as any other given toys, even though Christmas is supposed to be a celebration of togetherness.[23] An article in *Advertising Age* also noted that parents were buying toys as a means of assuaging their guilt about spending less time with their children.[24]

Other social forces have contributed to children being increasingly likely to play alone with their toys. The entrenchment of the small, self-contained family over the extended family and the breaking down of communities have no doubt played their part. To an increasing degree, urban and suburban children at least are expected to play, if not indoors, then in their own yards or in other stringently designated areas. This is partly a response to "stranger danger" to which television has contributed a growing awareness and exaggerated perception. There are increased pressures on parents to more closely oversee all activities of their children. Children are often chauffeured to organised activities where they may once have walked within the neighbourhood to less formal activities. Perhaps some of the dangers *have* heightened, such as the increase in cars and the encroachment of highways and major roads so that neighbourhood streets generally have more traffic and carry greater risk. That the trends extend beyond those that are directly to do with the marketplace in no way diminishes the corporate grab for

23. Brian Sutton-Smith, *Toys As Culture* (New York: Gardner Press, 1986), p. 23.

24. Cara S. Trager, "Parents don't just want to have fun toys," *Advertising Age,* Vol. 56, 14 February 1985, p. 24.

children. Children are now targeted directly,[25] which has meant that toys are advertised in different places and ways and that the toys themselves are now designed to have quite different appeals.

With the shift towards more singular play and more individual toys and the social circumstances that encourage this, the well understood benefit to the toy industry is that a lot more toys can be sold to children who largely play by themselves or who, even when playing together, need their very own toys and all the accessories that go with them. All this reduces the quantity and quality of participatory play.

Moreover, the problem is not only that children are more likely to play alone, but the wider context where their social lives are dissipating in several areas. Dorothy Singer has noted that "When grandparents, parents and children live together, they form networks of educational, social, economic and cultural ties and interdependence."[26] She points to studies suggesting that "children who have active contact with their grandparents have a stronger sense of family, values, traditions and self-esteem."[27] Children's social networks are increasingly influenced by the marketplace. With the breakdown of many traditional codes, relationships previously built largely by family and community now have an increasing input from the market.

To some extent, then, toys now stand in for family or friends both in play and in teaching social roles. The ideological content of popular contemporary toys suggests that commodities are essential and are appropriate solutions to all problems. The toys which claim to be friends, already referred to, are an example of this phenomenon. In such ways, commodities promote themselves in an ongoing spiral, both presenting and claiming to solve problems. Commodities now stand in for communities in many instances and deliver a world view which is largely centred around goods rather than relationships.

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25. James U. McNeal, *Kids As Customers: A Handbook of Marketing to Children* (New York: Lexington Books, 1992).

26. Singer, op. cit., p. 5.

27. Singer, op. cit., pp. 5-6.

This brings us to the second aspect of the relationship between toys and participation, the ideological socialisation of children by toys and how that pertains to their understanding of and expectations of participation.

Playing "out" participation

Toys are clearly mechanisms of socialisation. Birgitta Almqvist, for instance, states that gender socialisation through play "is assumed to influence children's anticipation of their future adult roles."[28] Just as play delineates roles and acceptable spheres and aims for each gender, we can envisage, too, that play, by either including or restricting socialisation into participatory processes, will give rise to either narrow or broad perceptions of participation and contribute to different sorts of expectations for what is a "normal" or desirable level of participation in adult life.

I have argued that different toys involve different levels, and sometimes different types, of participation. Traditional play tended towards participation with others and involved application and changing of rules, often by popular agreement, as well as showing a strong emphasis on co-operation. This is much less apparent in play involving modern popular toys, either because the children play alone with their toys or they play with others but the toys are too overdetermined to encourage the full range of participatory possibilities.

There is another strong force which may also be working against participation: the ideological content of the toys themselves, much of which derives from the supremacy of the market. Richard Sclove asserts that conventional markets "nurture egoism, not moral development or citizenship."[29] This is characteristic also of the toys of the marketplace, which heavily emphasise individualism, narcissism and instant gratification

28. Birgitta Almqvist, "Letters to Santa Claus: an indication of the impact of toy marketing on children's toy preferences," paper presented at the International Toy Research Conference, Halmstad University, Sweden, June 1996, p. 1.

29. Richard E. Sclove, *Democracy and Technology* (New York: Guildford Press, 1995).

and make an extravagantly wasteful and consumerist society seem natural. This is evident in the number of toys which themselves promote commodification and notions that shopping is bliss. There are numerous shops among Barbie's accessories, the talking version of that doll asks "Let's go shopping?" and even non-Barbie fans may find games such as Mall Madness in their toy boxes. This promotion of gratification and the other recurring themes is an inherent part of the strategy by which appeal is fostered for just such toys. These commodities therefore contribute to a popular culture which justifies and promotes precisely those attributes which result in their being strong sellers.

The promotional aspect does not end there, for, as previously mentioned, there is a great deal of cross-promotion involved in the marketing of toys, so that toys advertise a great many other commodities and entertainments which, in turn, promote the toys. This has so heavily influenced the direction of toys that "advertising toys," as so many of these toys can be called, are empty of almost every quality save for purely commercial "qualities." These promotional objects often have instant appeal which is linked to the advertised company or good.[30] There are a great many toys which advertise McDonald's, Pizza Hut, retailing chains, toy stores, and even other toys put out by the same company. For example, Polly Pocket Barbie promoted a quite separate line of dolls, Polly Pocket, put out by Mattel, the same company which manufactures Barbie. Fisher-Price, now a subsidiary of Mattel, in turn promotes Barbie and Hot Wheels on several pre-schoolers' toys. This verifies Andrew Wernick's claim that

> …for things implicated in a competitive market to be given a self-promotional form is not merely a decorative—and dissimulating—addition. It changes their very being. An object which happens to circulate is converted into one

30. Wendy Varney, "The playfull sell: marketing through toys," in Stephen Frith and Barbara Biggins (eds.), *Children and Advertising: A Fair Game?* (Sydney: New College Institute for Values Research, 1994), pp. 57-61.

> which is designed to do so, and is so materially stamped with that character.[31]

The ideology of these toys, then, is the ideology of the marketplace and of promotion. The closest they come to encouraging participation or being part of a community is to urge potential consumers to be part of a "community" that eats at McDonald's, shops at Toys R Us and wears Reebok shoes. (Barbie, for instance, wears Reebok shoes and promotes these companies, among many more.) At a cultural level, realignments are made around products and brand-names. According to Tom Panelas, "Much of what passes as symbolic communality among large and geographically dispersed subcultures is based primarily on consumption patterns."[32]

Democracy, as it is defined and practised in its more conservative and limited applications, can be an obstacle to more meaningful participation at a political level, with claims that such participation is impractical, unnecessary or even an interference in the democratic process. Similarly, the marketplace can impede a flowering of participation behind its construction of pseudo-participation.

In this way we see the validity of Vincent's claim that toys are operating in a system of totalitarianism, although this is clearly not the model of totalitarianism commonly portrayed, where there are not enough goods in the marketplace or where the state determines what goods in what numbers are put on the market. This totalitarianism is about the pervasiveness of the toy and its often seedy message which preaches the primacy of commodities, the very system from which the commercial toy itself sprang. "Vaguely familiar playthings now come with their own book of rules, as though some invincible mastermind has already played with them and determined the parameters of their place in a child's life," says Vincent.[33] She uses the example of the toys linked to the wider marketing concept of Judge Dredd to

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31. Andrew Wernick, *Promotional Culture: Advertising, Ideology and Symbolic Expression* (London: Sage, 1991), p. 190.

32. Tom Panelas, quoted in Eugene F. Provenzo, Jr., *Video Kids: Making Sense of Nintendo* (Cambridge, MA: Harvard University Press, 1991), pp. 15-16.

33. Vincent, op. cit., p. 10.

demonstrate that the storylines themselves fit into the totalitarian pattern. "Dehumanized and licensed to kill he [Judge Dredd] has no emotional being, no personality, no social dimension, no conscience."[34] Dredd lives in Mega-City One, a city he describes as having "800 million people and every one of them a potential criminal. The most violent, evil city on Earth…but, God help me, I love it." He "may enter a citizen's home to carry out routine intensive investigation. The citizen has no rights in this matter."[35]

Judge Dredd is not alone in providing a much more detailed blueprint for violence than for citizenship and community rights and responsibilities. Many of the toys designed for boys have a militaristic basis and the military, of course, is one arena where participation in decision-making is off the agenda. If girls escape the militarism, they are more likely to be caught up in the appeals to narcissism, with groups of toys promoting vanity, fashion and, once again, shopping. Those toys depicting malls which include fashion and beauty shops can indulge all these narcissistic ideals at once. The idea of community or of groups of people working through problems or situations in co-operative, innovative and sensitive ways is missing completely. Video games are largely given over to killing or assisting a helpless female escape. Those video games which are designed for girls focus on matters such as designing new outfits for Barbie. The rules in these video-games are fixed and allow little chance of working through alternative solutions or different ways of coping with problems. In particular, they discourage collaborative attempts to encompass varying viewpoints towards resolutions. "Interactive" video games are far from participatory.

Marsha Kinder argues that children's and teenagers' entertainment, consisting of Saturday morning television, home video games, movies and all the commodities that tie in with these, do prepare young players for participation but it is "participation in this new age of interactive multimedia—specifically, by linking

34. Vincent, op. cit., p. 11.
35. *The Best of 2000AD,* Judge Dredd comic No. 4, January 1986, p. 1.

interactivity with consumerism."[36] This is the pseudo-participation I referred to initially and it demonstrates how the concept of participation has been appropriated and used in the interests of marketing. If participation means only taking part, then yes, there is participation at every glance, with people taking part in the celebration of commodities, the razzamatazz of the market and the rituals of mass consumption. But if participation means taking part in decisions about what technologies and goods should be designed and produced and for whose benefit, then participation is still very rare.

Participation has proved a slippery concept indeed and one which has been too easily adapted to the dominant philosophy. Carole Pateman has noted that under fascism there was a tendency for participation to be linked with totalitarianism rather than democracy.[37] Constituents under fascism were swept into a show of solidarity with the regime which had constructed a short, simplistic, superficially exhilarating agenda while trammelling any mechanisms for a more meaningful participation. Now the market is the new totalitarian force, with consumers, including children, being urged to participate. However, the domination of the market is invisible because it comes with a democratic image which belies the grip which it has on people and the paucity of choice that really exists in an arena which is supposed to be all about choice. The totalitarian features are most clearly seen in the ongoing attempts to have everything come under the umbrella of the market so that the needs of the market determine the nature of education, allowable levels of environmental pollution and a great deal more. Each time a crisis arises, the market is looked to provide a solution, even though it is often the root of the problem.

Conclusion

Toys are a technological arena where the possibilities for participation in and beyond play are diminishing. This is largely

36. Marsha Kinder, *Playing with Power in Movies, Television and Video Games* (Berkeley: University of California Press, 1991), p. 6.

37. Carole Pateman, *Participation and Democratic Theory* (Cambridge: Cambridge University Press, 1970), p. 2.

due to the changing nature of toys and their dominating role in play. For those designing and manufacturing toys, questions of play are subservient to questions of marketability. Toys are helping reshape play towards less imaginative, more solitary, more commodity-based and more pre-determined activity.

Play and toys feature strongly in the socialisation process. Therefore the nature and extent of participation allowed or involved in toy play contribute to a child's expectation of participation in future life. Can we seriously expect toys which virtually exclude participation or leave it off the agenda to give rise to citizens who make great claims for participation? If modern toys are contributing to children's expectations and understanding of participation, then those children are being guided towards a participation which relates only to the marketplace and relationships which are between people and commodities rather than between people and people.

To use a market phrase, surely it's time to "shop around" for a stronger brand of participation and a type of play which will give rise to citizens who might more strongly demand it.

Commentary by Lynne Bartholomew*

In considering Wendy Varney's chapter, I am faced with a dilemma. As an educationalist I agree with many of the points she makes regarding societal changes, market forces and the pressures these impose on parents and children. As a parent however, I have to confess to having succumbed to that pressure!

Action Man was the toy of the moment at the time and became the focus for much sustained play. I remember being charmed to find him tucked up for the night under a rhubarb leaf in the garden, serving as a legitimate doll for my son. It is sad that after a certain age it is considered sissy for boys to play with

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dolls. In that sense I feel that such toys have a role in the development of children's imaginative play. Bruce refers to the importance of the transitional object, seeing this as one of the earliest sources of representation:

> It offers a massive opportunity to any interested adult to understand, enter into and help the child develop his/her representational ability in the play setting. Winnicott (1971) says: 'The transitional object represents the infant's transition from a state of being merged with the mother to a state of being in relation to the mother as something outside and separate.'[38]

Action Man can be seen as an extension of earlier play with, for example, a teddy.

It would seem well nigh impossible to counter the pressure of market forces but I believe there are ways that parents and educators can foster children's imagination. I remember a colleague using a My Little Pony and a Barbie Doll as story props for the legend of Pegasus to an entranced class of 3 and 4 year olds who had English as a second language. In this way, she not only took the children into history and mythology, but also illustrated how such toys can be used in rich and different ways.

Providing children with natural materials so that conventional toys can be used alongside them helps children to become creative thinkers. Mud used as icing on a leaf makes a fine tea for Barbie!

The work of Athey, Bruce and Nutbrown on schemas or patterns in learning and development gives much insight into why children opt for certain toys at particular stages.[39] Identifying these schemas and using the knowledge helps informed adults to make provision that will enhance and enrich children's learning.

It seems that the prospect could be a gloomy one when looking at play, toys and participation. To take a constructivist stance, as with the examples cited, it is to be hoped that there are

38. T. Bruce, *Early Childhood Education* (London: Hodder & Stoughton, 1987).

39. C. Athey, *Extending Thought in Young Children* (London: Paul Chapman, 1990); Bruce, op. cit.; C. Nutbrown, *Threads of Thinking* (London: Paul Chapman, 1994).

enough interested and committed adults to at least counter the onslaught of unsuitable toys that are currently being marketed. The greatest hope lies in the children themselves having the resourcefulness to use toys and other materials with flair and imagination.

Commentary by Sudarshan Khanna*

Talking of toys, our mind seems to rush to the neatly packaged things in toy shops and stores. Yet in countries like India, the majority of children still don't have access to these mass marketed "good looking toys." The culture of toys made by children and artisans is now struggling to survive.

I have often noticed that it is the self-made or even artisan-made toys that bring a sparkle to the eyes of children, rich or poor. I remember that, as children, we used to spend happy hours in playing with toys like a leaf flute. We just rolled the right type of leaf in the right manner and blew it in a particular way to create sounds and music. The fun part was also to compare the sounds, and to help teach younger ones. Even today, in every part of the world, you will find children making and playing with paper aeroplanes, watching each one for its gliding performance. We can make a long list of the value and worth of these priceless toys.

Earlier children had access to another alternative source for toys. Just twenty years ago, many fairs all over India used to be like roadside toy expositions. The fairs had many indigenous toy makers, as well as stalls selling mass-produced cheap plastic toys. Today the toy makers are being replaced by stalls selling the same stuff. There is also the organised toy industry, growing every year. This sector operates much like "commodity toy" manufacturers elsewhere.

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I liked reading Wendy Varney's chapter. Many of us have been voicing our concern over the erosion of our heritage of indigenous playthings. I am not against the modern, mass produced, mass marketed toys but deeply concerned over the decline of self-made and artisan-made toys. I am convinced that mono-cultured, market-driven toys are not only expensive but have a limited role to play, and these cannot replace the timeless, popular creative playthings made through the genius of generations of people.

Varney's well researched chapter has clearly brought out the less known "other side" of the "good looking toys": that most of the fancy, highly promoted commodity toys are devoid of real play participation and that an elaborate, highly advertised, pseudo-participation is being sold for genuine participation. The motives and methods adopted by the present-day entertainment and commodity promotion industry have been revealed in a forthright manner. They include the promotion of privatisation of play, the subtle advancement of the individual ego and greed, and the social and ideological context of the belief that mere products can replace friends and peers.

Varney has been systematic and forthright in bringing out the inadequate, the negative and even the harmful aspects of the glossy "advertised-commodity" toys. But these are products of the present time and present-day minds. While I agree with the broad perspective, I think the main problem is that today we are totally replacing diverse indigenous cultures. "This or that," "get the best" seems to be the approach. The "best" often gets mixed up with "latest, the most faddish and the conveniently available." Otherwise, how do we explain giving inferior or even questionable play material to our children? This is so in spite of the fact that today more parents are "educated" and there are more people professing an interest in "child development" research. How do we go ahead? In general it is necessary to promote diversity and indigenous development. It is important to realise that modern mass-marketed mono-cultural toys cannot replace the indigenous ones but that they will and can co-exist.

The telephone as a participatory mechanism at a local government level

Lyn Carson*

Introduction

I served as an elected representative on Lismore City Council (LCC). During that time I undertook research (for a doctoral thesis) on consultative methods. I had wanted to test participatory theory in action and had a particular interest in innovative methods such as policy juries, mediation, listening posts and so on.[1] These face-to-face participatory mechanisms had an advantage over technology-mediated mechanisms as they conformed to Benjamin Barber's definition of deliberative democracy. However, it is useful to focus on the characteristics of technology-mediated participatory mechanisms because of their potential to provide a useful adjunct to face-to-face mechanisms in the pursuit of genuine democracy. The telephone, ubiquitous in the Western world at least, offers both immersiveness and interactivity and comes closest to satisfying the goal of deliberative democracy. This chapter describes the use of the telephone as a technological mediator in participatory mechanisms.

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1. Evaluations of these mechanisms can be found in L. Carson, "How Do Decision Makers in Local Government Respond to Public Participation? Case study: Lismore City Council 1991-1995," unpublished PhD thesis, Southern Cross University, 1996.

Teledemocracy, which often uses a combination of television and computer technology, might allow for the involvement of larger numbers of citizens and could be described as being *either* immersive (television) or interactive (computers). The commonplace telephone is a form of technology which does both, albeit in the auditory dimension alone.

This chapter will survey the uses of the humble telephone as a participatory mechanism in local government. Because elected representatives and community members continue to focus on various, often sophisticated, methods of consultation and participation, I will explore some essential tools for the improvement of decision making. Whatever technology is used to facilitate participation, it will not improve the quality of decisions unless attention is paid to the constraints which prevent effective decision making from occurring. These tools—relationship building, questioning and listening—are clearly best practised with technologies which can replicate a virtual reality through the combination of immersiveness and interactivity. The establishment of closer relationships rather than the creation of new ways with which to consult might lead to better decisions, whether the decision makers are using face-to-face or technology-mediated approaches. We might do well to focus on an approach which could best be described as Heart Politics.

Background

Having been unexpectedly elected to LCC for a four-year term in 1991, I embarked on a steamroller approach to community consultation with my two female Community Independent colleagues. I was formerly an activist advocating greater participation in decision making so my colleagues and I were intent on increasing the existing level of consultation. We did so without a great deal of planning or consideration about the effectiveness of the measures for which we were arguing. Simultaneously, however, I researched a doctoral thesis on the topic of public participation in the local government decision-making process. Part of this research involved my Community Independent colleagues in an Action Learning Team and this helped to clarify our thinking about the methods we were advocating.

By analysing the part which power holders (elected representatives, senior staff) played in community consultation, the focus began to shift. By evaluating my own performance and the performance of my colleagues, I began to unravel the real impediments to effective decision making. It became increasingly clear to me that the two most absorbing questions in the consultative experience of activists rarely included a more important question. The two prevailing questions I found were: (1) Can we resolve the "participatory dilemma" (that is, whether or not citizens *should* participate or *to what extent* they should be consulted)?[2] (2) What method of consultation should be used? I saw both questions as futile unless they were coupled with a most important additional question: How can we reduce those constraints which make up a rather large and somewhat impenetrable wall which stands between decision makers and effective decision making? (See illustration on the front cover.)

We need to ask two questions. Why do we participate or wish to encourage or refine participation processes? Do we wish to participate in *discussions* or to participate in *decision making?* Anything that is less than the latter falls short of the democratic ideal. Though participation is also about building communities and empowering citizens and many similarly vague notions, it is ultimately about making better decisions. Defining what is *better* is of course sometimes quite problematic and can be a highly politicised act. Yet the theory of decision making, social change and public participation is most often involved with shifting power from one set of decision makers to another. Little emphasis is placed on *how* decisions are made or on the *constraints* which exist for all decision makers or on *how these constraints might be overcome.*

The work of American social researcher Fran Peavey provides a framework for understanding political activism by presenting a set of attitudes, values and principles. Her wisdom and practical advice proved more worthwhile than all the political writings I explored. The nub of Peavey's work is this:

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2. Alan Irwin discusses this in relation to the extent of citizen involvement in the science debate in *Citizen Science: A Study of People, Expertise and Sustainable Development* (London: Routledge, 1995), p. 137.

> … it's easier to be prejudiced against people you've never met. Fear and hatred can thrive in the abstract. But most of us, if given a protected situation and a personal connection to the people we thought we feared and hated, will come through as compassionate human beings.[3]

Instead of adopting an adversarial, siege mentality, Peavey recommends a path between cynicism and naïveté. Peavey's book *Heart Politics* has been influential for activists in questioning their value base. Peavey's language is the language of negotiation, resolution, compromise, liberation and creativity. When Peavey speaks of power, she speaks of it as connectedness, as having power *with* people, rather than *over* people.

Prior to my election I was aware of many successful attempts by activists (including me) to employ the principles of Heart Politics but I was able to use them in a completely different role as an elected representative. Since Peavey is an activist she speaks as one outside the corridors of power. I found myself inside these corridors (albeit within the tame portals of local government), trying to use similar tactics. My whole *modus operandi* as a councillor was based on a "heart political" approach.

The key to my research findings could be expressed in two words: relationship building. As a feminist woman I inevitably conducted my research and my Council work in a distinctively different way to my male colleagues. Perhaps not surprisingly, the essential tool which facilitated much of my work was the one with which women are so clearly familiar: the good old telephone. The telephone has a history of relationship building amongst women; what better tool to help me change my local government world?

The telephone

As I undertook my research, the power of communication and personal contact became obvious. The humble and ubiquitous telephone was the technological tool which proved to be the most valuable. It is humble because of its familiarity and its ease of use; less humble is the sophisticated technology which sustains

3. F. Peavey, *Heart Politics* (Philadelphia: New Society Publishers, 1986), p. 8.

it. My research was being completed in a regional area in Australia and the telephone is a significant means of breaking down isolation in such areas. It was an instrument with which I felt considerable comfort. It is simple to use, offers anonymity and familiarity (depending on one's need), and it allowed me to step inside homes (at least via the telephone line) where I would otherwise not have been invited.

I had formerly run an information research business for many years in a capital city and was constantly surprised by the extent to which people would divulge quite personal information to a stranger over the phone. In the same way, colleagues who had shown considerable resistance to my political or ideological approach opened up to me as an "interviewer" with a telephone between us.

The telephone was used in a number of areas of my doctoral research and the positive results were repeated each time. Community members were frank and loquacious with my research assistants who asked them survey questions by phone. Council's mediator used the telephone to good effect when making initial contact with opponents in a dispute. The telephone was an important point of contact for those who had been randomly selected to be part of citizen panels. Perhaps this openness equates with what at least one researcher sees as the more private nature of telephone conversations over those conducted face-to-face.[4] This would certainly be true of male colleagues who might not have wanted to be associated publicly with any of "the three women" (a phrase they often used to describe us).

When considering the possibilities offered by technological methods of participation, nothing seemed to compare with the reliable telephone with a warm, human voice at each end. Claude S. Fischer, in his comprehensive social history of the telephone in America up until World War II, showed that the adoption of the telephone probably led people to hold more frequent personal conversations with friends and kin than had previously been customary. He notes in particular the importance

4. C. S. Fischer, *America Calling: A Social History of the Telephone to 1940* (Berkeley: University of California Press, 1992), p. 266.

of the telephone to rural women and, like Ann Moyal in her Australian research, noted the significantly different use which men and women make of the telephone.

Moyal might have been surveying the women of my own regional, rural community, such is the similarity between her findings and my own experience. She noted that for rural Australian women the telephone is not just a route to distant family but is vital for emergencies. Country women were also seen to use the telephone for community networking and caring, much of which went unheeded from a policy making perspective. The telephone replaces transport on many occasions and "telephone neighbourhoods" were described.[5]

Clearly the telephone is an excellent means by which a relationship can be built. It has been referred to as a "technology of sociability,"[6] and this relationship building became a central focus of my research. In my four years on Council I steadily began to confirm the notion that it is the existence of relationship which unlocks the door between an existing belief and the acceptance of a new belief, that is, that change is often dependent on the existence of trust.

Lana Rakow talks about the telephone as gendered technology.[7] Her study of women's relationship to the telephone in a small midwestern US community has many parallels with Australian communities. Not just a mechanical device, the telephone is shown to be a system of social relationships and practices which has largely been ignored by scholars:

> That the telephone has been seen as a trivial and beneficent technology says more about scholars' perception of women than about the telephone or women's experiences with it.[8]

Rakow noted that women's use of the telephone was related to their restricted mobility and to decisions, often not of their own making, about where they live and what opportunities are

5. A. Moyal, "The feminine culture of the telephone: people, patterns and policy," *Prometheus,* Vol. 7, No. 1, 1989, pp. 5-31.

6. Fischer, op. cit., p. 254.

7. L. F. Rakow, *Gender on the Line: Women, the Telephone and Community Life* (Urbana: University of Illinois Press, 1992).

8. Ibid., p. 2.

available to them. Using the Australian context, Ann Moyal describes the experience of some Aboriginal women living in remote outstations and the way in which Aboriginal men dominated the telephone. Aboriginal women blamed this on the "white man" who "contaminated Aboriginal man's attitude to women"; when the women asked to use the outpost telephone they were told that "men must go first."[9]

Telephone calls can be critical for the continuation of relationships which cannot be physically sustained. There are other aspects of the telephone which make it important for society in general, beyond relationship building. Research done in relation to the telephone does not stop with gender. Researchers have looked at the history of its widespread acceptance, the technological advances, its power as a therapeutic medium and the isolation caused by its absence.

The telephone is also playing a role in providing support and assistance for latchkey children via community telephone "warmlines."[10] The telephone is used to provide supportive therapy, involving social workers offering therapy which might otherwise not be pursued, leaving clients isolated, but for the use of the telephone.[11] Family difficulties can be exacerbated in the absence of a telephone, particularly in the event of domestic violence.[12]

The telephone is an important tool in an educational setting. I use it extensively in my teaching work with external students. It allows me to assist and counsel students at a distance. I regularly conduct teleconferences to link far-flung students and learning partnerships are encouraged via the telephone. Students are able to make oral presentations by telephone as part of their assessment. The telephone is a medium that offers a more equal relationship between student and teacher. The

9. A. Moyal, "The gendered use of the telephone: an Australian case study," *Media, Culture and Society,* Vol. 14, 1992, pp. 51-72.

10. A. W. Nichols and R. Schilit, "Telephone support for latchkey children," *Child Welfare,* Vol. 67, No. 1, 1988, pp. 49-59.

11. P. Shepard, "Telephone therapy: an alternative to isolation," *Clinical Social Work Journal,* Vol. 15, No. 1, 1987, pp. 56-65.

12. C. Feyen, "Battered rural women: an exploratory study of domestic violence in a Wisconsin County," *Wisconsin Sociologist,* Vol. 26, No. 1, 1989, pp. 17-32.

student derives comfort from being in their own surroundings instead of being in a lecture or tutorial room within the teacher's "territory."

Of course, comfortable or nurturing exchanges by telephone are not always the case. There are annoyances and even terror attached to telephone use, again in particular for women. One American survey revealed that the majority of women surveyed had received an obscene phone call[13] and another Canadian survey placed the figure as high as 83%.[14] Rather than increasing social relationships, such calls are the source of anger, fear, disgust and degradation for women.[15]

Fear for women is further evidenced when one looks at ownership patterns of cellular phones. Though ownership is more concentrated in the hands of men, the majority of women purchasing mobile phones do so in order to feel more secure when away from their homes.[16] In one survey, most women were shown to have been given the mobile phone by their spouse for safety reasons in the gendered role of husband as protector.[17] It could be argued that the mobile phone presents an obstacle to community rather than a facilitator of it, particularly when a mobile phone interrupts the private and public space of others. The person receiving the call is removed from their immediate community and half of a very public conversation is imposed on reluctant listeners.

Ordinary telephones are also sometimes perceived as harassing. The convenience of having access to others means that they can have access to you, whether the callers are

13. J. E. Katz, "Empirical and theoretical dimensions of obscene phone calls to women in the United States," American Sociological Association, 1993.

14. M. D. Smith and N. N. Morra, "Obscene and threatening telephone calls to women: data from a Canadian national survey," *Gender & Society,* Vol. 8, No. 4, 1994, pp. 584-596.

15. C. J. Sheffield, "The invisible intruder: women's experiences of obscene phone calls," *Gender & Society,* Vol. 3, No. 4, 1989, pp. 483-488.

16. S. Reda, "Me and my cellular phone," *Stores,* Vol. 77, No. 1, 1995, pp. 48-50.

17. L. F. Rakow and V. Navarro, "Remote mothering and the parallel shift: women meet the cellular telephone," *Critical Studies in Mass Communications,* Vol. 10, No. 2, 1993, pp. 144-157.

unknown sales people or one's friends and relatives. Increased sociability can be a mixed blessing.[18]

Despite the telephone's massive infiltration into the family home, its coverage is still not total. In one study it was found that the single most influential factor in predicting the presence of a telephone in the US home is income.[19] Low penetration rates were found among women single heads of households as well as amongst African Americans and Hispanics.

The telephone has pitfalls too. The use of the telephone was shown to be problematic when its use became widespread amongst political leaders. Sir Paul Hasluck, a former Australian Governor-General, condemned the telephone as "that great robber of history" because of the importance of a historical record and the different interpretations that can be placed upon a telephone conversation.[20] The telephone affords a special privacy but generates no record of its own. More recently, political scandals have uncovered the vulnerability of intentional telephone tapping and unintentional eavesdropping (particularly when talking on mobile phones). As a participatory tool it can lead to exclusive and influential lobbying of politicians. Furthermore it has little value alone as a broad-based participatory mechanism.

Other technologies

In my own experience with the regular use of email and the Internet, with which I and my university colleagues have become enchanted and entranced, I have watched a tendency towards the formation of ghettos of like-minded people. (The reverse of this is also occasionally evident with the formation of respectful relationships among those with divergent opinions.) I don't necessarily see this as an example of the apparent inevitability

18. Fischer, op. cit., p. 268.

19. J. R. Schement, "Beyond universal service—characteristics of Americans without telephones, 1980-1993," *Telecommunications Policy,* Vol. 19, No. 6, 1995, pp. 477-485.

20. A. Moyal and R. Russell, "Politicians and the telephone: assessing the Australian evidence," *Australian Journal of Politics & History,* Vol. 34, No. 3, 1989, pp. 333-344.

or "tragedy of technology."[21] It disturbs me, though, to note that if the viewpoints of participants vary, we now simply "trash" the deviants. We can happily recoil from exposure to opposing views in a way which is not so easy with the telephone or face-to-face contact. It is more difficult and has more immediate consequences if one slams down the phone or walks away.

Although the telephone provides the means to involve more than two parties, for example through teleconferencing, it is not seen as a means by which large numbers of participants might be involved. For this to occur, practitioners in the political arena begin to speak of mechanisms such as televoting (electronic voting or electronic town meetings) or teledemocracy. This method usually involves televised proceedings coupled with a phone-in facility to enable participants to have their vote on an issue which can be instantly recorded. The phone is sometimes used but its position is no longer pre-eminent. It is used to register a vote, not for its interactive or immersive qualities.

Benjamin Barber advocates teledemocracy as a means of large scale decision making involving new communications and information technology.[22] It has been argued by others that, in terms of its ability to deliver genuine democracy, the advantages of teledemocracy might not outweigh the disadvantages.[23] As a potential system for providing instant and regular voting it has merit but teledemocracy does not provide a forum in which deliberative democracy might be enacted.

Electronic methods can be appropriate for small-scale democratic decision making, such as trade union decisions where a dispersed membership must "meet" to discuss issues and vote on motions as they are put. This method is being utilised increasingly by trade unions in Australia, where unions themselves are centralised and their membership widely dispersed, and where the technology—video link-up via satellite—is a feature of most large clubs and hotels. This

21. Irwin, op. cit., p. 2.

22. B. R. Barber, *Strong Democracy: Participatory Politics for a New Age* (Berkeley: University of California Press, 1984).

23. S. London, "Teledemocracy vs. deliberative democracy: a comparative look at two models of public talk," *Interpersonal Computing and Technology: An Electronic Journal for the 21st Century,* Vol. 3, No. 2, 1995, pp. 33-55.

method allows for at least limited interaction and relationship building.

A variation on electronic voting is computer conferencing which allows instantaneous communication between a large number of participants across a country or across the world. Messages can be typed into a computer then retrieved by participants at their own convenience. The potential of computer conferencing is for rapid resolution of national problems or mass input into large-scale planning from citizens with varying degrees of knowledge and diverse backgrounds. However, the widespread use of computer conferencing is dependent on participants' familiarity with the technology and their willingness to use it.

Scott London offers a comparative analysis of teledemocracy and deliberative democracy which is critical when thinking about the telephone as a deliberative mechanism. London considers that the rationale for teledemocracy is consistent with an approach founded on a "marketplace conception of the political world." By contrast, he sees deliberative democracy[24] as being

> … rooted in the ideal of self-governance in which political truths emerge not from the clash of pre-established interests and preferences but from reasoned discussion about issues involving the common good.[25]

London sees speed as being inimical to deliberative democracy. He notes that democracy is based on the principle of dialogue, not monologue, and that quality, not quantity, is the measure of democratic participation.[26] The telephone comes into its own when dialogue is considered as a prerequisite.

There is constant tension between the importance of relationship/community building and the need to make frequent, hurried decisions. Our world is moving at a pace unlike that experienced by our ancestors or by cultures who had the luxury of leisurely

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24. Iris Young and others would argue that "communicative democracy" rather than deliberative democracy should be our goal. I would not disagree with this redefinition beyond a belief that deliberation is both culturally neutral and universal. See I. Young, "Communication and the other: beyond deliberative democracy," in M. Wilson and A. Yeatman (eds.), *Justice & Identity: Antipodean Practices* (Sydney: Allen & Unwin, 1995), pp. 134-152.

25. London, op. cit., p. 34.

26. Ibid., p. 47.

deliberation which might or might not result in a decision. Getting a quick response or clarifying a point urgently by telephone is essential in decision making but such speed is snail-like compared with the speed of other electronic media. Television, radio and computers can provide instant, widespread communication without delays due to wrong numbers or the need for small talk or relationship building. Much of this speed may be attributable to the economic base on which our society is built to the detriment of what Eva Cox terms "a truly civil society."[27] We need to be wary of using a fast and efficient consultative method to feed this need for speed, to the detriment of effective decision making.

Electronic methods of consultation and participation have limited success in replicating aspects of face-to-face interaction. Radio and television reproduce auditory and/or visual dimensions but are not interactive. Fax and email messages are largely mediated through the printed word. Though a computer might be interactive it is not immersive. The telephone is blessed with a relationship-building capacity. Nevertheless electronic methods can offer us a great deal including a decentralised approach to decision making. This is good *but* it is not enough. Can we have a truly civil society in the absence of strong relationships and their familiar technological companions such as the telephone? My belief is that we cannot.

Relationship building

The significance of building relationships, the wall of constraints which I gradually constructed as a model, the tools for dismantling the wall, the importance of listening to *everyone,* have all been influenced in some way by Peavey's Heart Politics work. A mnemonic for me when I embarked on any project was often "will this lead to *connection?"*—connection between myself and others or devising a process that would allow for connection between residents and staff or representatives. This mnemonic alerted me to an early recognition of the importance of building

27. E. Cox, Lecture 1 of the 1995 Boyer Lectures, "Broadening the views," Sydney, ABC Radio National.

bridges,[28] as well as to the existence of the syndrome I came to recognise as "spot the baddie."[29] It is difficult to locate a better technology for *connection* than the telephone. Indeed, the term "telecommunication" means "distant connection."

The telephone was essential for the development of relationships between myself and my two closest colleagues. We would have a phone link up (or a PLU as we came to know it) at least once a fortnight, often more frequently than that. One Community Independent councillor was a single parent, living forty minutes drive out of town. Without this ability to link with each other spontaneously and regularly we would have been less organised and united in our approach to Council affairs. The PLUs allowed us to allocate tasks so that our many time-consuming jobs could be shared. These tasks often involved research and the phone again became our ally, as we phoned other councils, peak organisations and government departments beyond our own regional city.

Our regular telephone contact also ensured that we supported each other. When our spirits were low (usually because abuse was high) we could track one another down by phone. It also provided a vehicle for self- and peer-evaluation, two areas which were found to be lacking in most everyone I interviewed during my research—councillors, staff and community members alike. We became quite proud of the level of our concern for, and accountability to, each other and to our support group: the Friends of Community Independents (FOCI). We felt that we raised questioning and listening to an art form.

Questioning

Strategic Questioning is an important aspect of Heart Politics and an important tool for change which goes beyond relationship building. Peavey suggests that what we know of life is only where we have decided to rest with our questioning. Those who ask questions cannot avoid answers. If we rest with where we

28. L. Carson, "Lismore: where the men manage pre-schools and the women build bridges," *Refractory Girl,* No. 42, Autumn 1992, pp. 36-37.

29. L. Carson, "Spot the baddie!" *The Village Journal (Rosebank),* No. 76, November 1993, p. 5.

are and what we know, we miss the chance of working on a new discovery.[30] Peavey recognises the power of approaching a problem with the feeling of "I don't know." Perhaps it is not our ignorance that is the problem, it is clinging to what we know.

Peavey, with the help of a friend, Mark Burch, began to see two kinds of communication.

> Communication of the *first* kind is about what is. It usually involves the transmission of information in a static or passive way. There is an assumption of inertia in the communication… Communication of the *second* kind is focused on what reality could be. It creates information rather than communicating what is already known …the immersion of the person in a vibrating, tingling, undulating ocean of 'transactions' … I see strategic questioning as an important skill in the development of this communication of the *second* kind.[31]

According to Peavey, learning how to ask strategic questions is a path of transforming passive and fearful inquiry into a dynamic exploration of the information around us and the solutions we need.[32] I had been familiar with similar concepts such as open- and closed-ended questions[33] but Peavey's technique takes questioning in a more far-reaching way. Strategic Questioning requires much more empathy and a willingness to let go of one's belief in the answer, to mutually explore answers with the person being questioned.

The skill was invaluable to me in formulating the questions I asked in my research and was used with my Action Learning Team. It was the basis of all the telephone research which I completed with the exception of some quantitative data collection. The results confirmed the significance of Strategic Questioning as a tool for social change. It encouraged new ideas and previously unspoken solutions to emerge. I often found myself

30. F. Peavey, "Strategic questioning," in T. Green and P. Woodrow (eds.), *Insight and Action: How to Discover and Support a Life of Integrity and Commitment to Change* (Philadelphia: New Society Publishers, 1994), pp. 90-116.

31. Ibid., p.91.

32. Ibid., p.93.

33. V. Minichiello, R. Aroni, et al., *In-Depth Interviewing: Researching People* (Melbourne: Longman Cheshire, 1990).

replacing the telephone receiver and saying "wow" after fresh possibilities had been mutually discovered. The telephone allowed me to be undistracted in my note taking because I was not being watched. I did not have to dress neatly for interviews or feel self-conscious about my body language. It provided a relaxed environment in which the participant and I could explore new ideas.

Questioning is often manifested as a poll or a questionnaire and citizen surveys are enthusiastically supported by many researchers. Though I conducted a number of surveys throughout this research project I became wary of the way in which decision makers would happily ignore survey findings if lobbied, usually by phone, to change their position. The possible inaccuracies inherent in surveys and polling also became clear.

There were some occasions when the telephone was less effective than human contact. By conducting surveys door-to-door or face-to-face, using Strategic Questioning techniques I became much more satisfied with the results as did the respondents who were far less likely to want to reverse the decisions that were based on surveys completed in this way.

Benjamin Barber warns against the dangers of seeking undeliberated responses through surveys or polls, often conducted by telephone, and the way in which they can encourage individualism to the detriment of civic responsibility.

> There is no common discourse, no political interaction, no rational constraint—just a blurting out of wishes and wants, biases and prejudices, desires and needs. The subjects of surveys are always assumed to be interested individuals, never citizens. The questions are never phrased: 'As a citizen, what do you think would be beneficial to the community to which you belong?' Rather, they boil down to 'Whaddaya want, huh?'[34]

Listening

An integral part of Strategic Questioning and an essential aspect of relationship building is an ability to genuinely listen.

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34. B. R. Barber, "Opinion polls: public judgment or private prejudice?" *The Responsive Community,* Vol. 2, No. 2, 1992, pp. 4-5.

Without this ability there is no opportunity to move forward by building on the responses that are heard in order to create change and there is little opportunity for strengthening relationships. The importance of listening is well covered in communications and group theory. In discussing the possibility of institutionalising the procedures and conditions of communication, Simone Chambers makes the point that "Everyone might have the opportunity to speak, but if no one is listening, the result is chaos."[35]

Power holders do a lot of talking: speech making, debate, media interviews, berating staff, placating community members. They do much less listening. For example, at one public meeting I attended in a nearby shire, I timed the speakers: the chair, audience participants and councillors. Even though the councillors were not guest speakers, had not convened the meeting and were not chairing the meeting they absorbed three times as much time as the audience participants.[36] The telephone does not guarantee that good listening skills will be practised but it helps. Reducing the number of distractions can be an important aid to good communication. Because three of my Council colleagues were hearing impaired, I found a significant impediment to good face-to-face or group communication could be instantly removed if we spoke by phone.

Listening is a topic which I never tired of exploring because it had so much relevance to both my research work and to the rest of my life. It proved to be a panacea for so many ills. It is fundamental to the idea of a democratic personality,[37] to the success of mediation,[38] to the effectiveness of social change[39] and

35. S. Chambers, "Feminist discourse/practical discourse," in J. Meehan (ed.), *Feminists Read Habermas* (New York: Routledge, 1995), pp. 163-179.

36. Carson, 1996, op. cit., p. 231.

37. C. C. Gould, *Rethinking Democracy: Freedom and Social Cooperation in Politics, Economics, and Society* (New York: Cambridge University Press, 1988) and D. Metzger, "Personal disarmament: negotiating with the inner government" *ReVISION,* Vol. 12, No. 4, 1990, pp. 3-9.

38. L. Carson, "The hows and whys of mediation in local government," *Community Quarterly*, No. 32, 1994, pp. 49-52.

39. K. Shields, *In the Tiger's Mouth: An Empowerment Guide for Social Action* (Sydney: Millennium Press, 1991).

to an awareness of the negative consequences of power.[40] Power holders without listening skills are destined to fail their constituents, yet these skills were often absent. Listening can add another dimension to responsibility: responsiveness. Camilla Stivers thinks this responsiveness would "reduce the tension between administrative effectiveness and democratic accountability, both in theory and in practice."[41]

Brenda Ueland's research on women's distinctive ways of knowing showed that, due to their gendered socialisation and cultural expectations, women are generally better listeners.[42] Ueland's observations were duplicated by me as I watched and listened to older, male elected representatives who seemed incapable of being silent long enough to hear, so anxious were they to respond. Thankfully, listening skills were evident in other men who I encountered in the political sphere so I was relieved to note that one's sex need not determine one's ability to listen.

Perhaps this is why women have such comparative ease with the telephone. Some community members who participated in LCC's Public Access sessions commented that female councillors listened to them when they nervously addressed Council. Male councillors, in contrast, were observed reading, writing or talking to others. Similarly, community members reported that they had felt "listened to" by the women councillors when they rang to lobby their representatives.[43]

As a result of my reading I began to appreciate the rare periods of silence. I had always felt discomforted by silence but began to value the richness of non-speech when it occurred. I noted, for example, that in groups made up of Australian indigenous people, silence was much more apparent than in local government gatherings. I am intrigued by the worthiness of silence in the consultative process but found few opportunities to employ and evaluate it.

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40. F. M. Lappé and P. M. Du Bois, "Power in a living democracy," *Creation Spirituality,* September/October 1992, pp. 23-25, 42.

41. C. Stivers, "The listening bureaucrat: responsiveness in public administration," *Public Administration Review*, Vol. 54, No. 4, 1994, p. 365.

42. M. F. Belenky, B. M. Clinchy, et al., *Women's Ways of Knowing: The Development of Self, Voice, and Mind* (New York: Basic Books, 1986).

43. Carson, 1996, pp. 105-115.

Conclusion

The literature review I undertook and the action research which I completed to test participatory theory in action revealed to me a number of inappropriate behaviours: that people are treated as though they are their roles; that power must be *over* others instead of *with* them; that we indulge in spotting the "baddies"; that we make frequent and hurried decisions to the detriment of a civil society. Writers such as Fran Peavey offered practical methods which could be applied to my local government world; Strategic Questioning and listening skills informed many of my trials. Relationship building and the need for connectedness provided an early recognition of the importance of building bridges.

The technology which proved not only useful but essential for me as a researcher and as an elected representative was the humble telephone which allowed for skilled questioning, listening and deliberation. Having unearthed writing about the need we have to satisfy our hunger for community and the catalytic effect which community building can have on change, I was able to apply relationship building in the community context. Friendship and unconditional positive regard found their rightful place in my political circle.

My own research with my Action Research Team confirmed the value of relationship and trust building in a political environment and the importance of the telephone in achieving this. The research convinced me that political structures will never be changed in a sustainable way without attending to the hearts of those inside the structures. Decision makers without listening skills would seem to be destined to fail their constituents.

In choosing a participatory mechanism to assist in the making of effective decisions, attention should be paid to the presence of a technology or medium that will allow the above skills to be realised. While being aware of culturally-specific limitations, the telephone has historically-tested, impeccable credentials.

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Commentary by Ann Moyal*

It has been fascinating to learn from Lyn Carson's chapter of the role the old "pots and pan" telephone can, and has in her experience, come to play in building strong consultative and relational links between policy-maker and public. It is particularly rewarding to me as an early researcher on the role of women and the telephone in Australia to discover that women's listening skills, enshrined in their telephone talk, have contributed notably to the building of direct and warm relationships between the Council member and the respondent as "citizen". "The humble telephone," Carson writes, "…allowed for skills of questioning, listening and deliberation." "It was an instrument with which I felt considerable comfort. It offers anonymity and familiarity (depending on one's need), and it allowed me to step inside homes … where I would not otherwise have been invited."

Such skills in the feminine culture of "listening and deliberation" have, alas, been severely underestimated and neglected by federal politicians and telecommunication policy makers. Yet from an ethnographic study of 200 women of all backgrounds, ages and situations in Australia, it was apparent that the telephone communication of women in its function of kinkeeping, nurturing, volunteering and friendship has contributed to building a support system that underlies the health, development and progress of the nation.[44]

Carson's study carries this theme of personal connectedness, of "intimacy at a distance" which the telephone establishes, into the realm of participatory democracy where her account both of her own use of the technology for discussion among her working (women) colleagues and, as a means of deliberative discussion with constituents (again notably women), marks an important contribution to this gender field. More broadly, she reports from

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* Ann Moyal, AM, is a historian of science and telecommunications and the author of *Clear Across Australia* (1984) and *Women and the Telephone in Australia* (a study prepared for Telecom Australia, 1989).

44. Ann Moyal, "The feminine culture of the telephone: people, patterns and policy," *Prometheus,* Vol. 7, No. 1, June 1989, pp. 5-31; "The gendered use of the telephone: an Australian case study," *Media, Culture and Society,* Vol. 15, 1992, pp. 51-72.

her research and practice that the telephone, with the use of "strategic questioning" based on asking, listening and readiness to shed old viewpoints, opened up fresh possibilities and "provided a relaxed environment in which the participant and I could explore new ideas." The ubiquitous telephone, she concludes, with its immersiveness and interactivity, "comes closest to satisfying the goal of deliberative democracy."

Clearly this methodology works most fruitfully in the more informal arena of people-oriented council policy-making than its application in state or federal power structures might induce. Yet the thrust of Carson's approach as a Councillor, through relationship building, questioning and listening, could, I believe, most usefully be transferred to a mechanism I have long advocated for injecting women's views into national telecommunication policy through the establishment of a Women's Advisory Telecommunication Council to assist bureaucrats and carriers on social aspects of telecommunication change.

On one point only, I differ from the author. Despite the value of US social researcher Fran Peavey's book *Heart Politics* and her persuasive linking of power with "connectedness," let us *not* adopt the sentimental title "heart politics" for this form of policy approach in Australia. "Phonpolitics" perhaps?

Commentary by Wendy Sarkissian*

Lyn Carson's work makes a highly significant contribution to the growing Australian literature on community participation.[45] She extends the discourse in important new ways. Particularly in rural areas and in times of economic stringency, local councils

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45. The Open Government Network, *Reaching Common Ground: Open Government, Community Consultation and Public Participation,* Proceedings of the Reaching Common Ground Conference, 23-24 October 1996 (Sydney: The Open Government Network, 1997).

need to explore participatory processes for achieving presence at a distance. Yes, the humble telephone offers many opportunities.

This approach offers an antidote to highly problematic "hothouse" techniques such as *charrettes*, those popular fast-paced "design-in" workshops favoured by some architects, councils and developers. They risk reduced participation because of compressed time periods, inadequate time for reflection, "railroading" the process, and problems with unrepresentativeness of stakeholders.[46] Carson's telephone participation certainly addresses some of these concerns, particularly time for reflection.

As a fan of Peavey's and Carson's work on strategic questioning,[47] I was surprised to find myself feeling somewhat unsatisfied with Carson's chapter. Two concerns arose, neither one strong enough to discredit Carson's model but perhaps meriting some consideration. First, what about urban people? So many of us feel harassed by the telephone; engage in "phone tag"; live our lives through voice mail and answering machines; and screen calls before answering them. We dread telephone marketing surveys, that bright voice at the end of a harrowing day. How effective would the telephone be in encouraging us to participate in local affairs? I sigh when my home telephone rings. Not an auspicious start to a participatory process!

My second concern is captured by Darryl's bumbling lawyer in *The Castle*, that wonderful Australian film about home as mirror of self. The lawyer stammers to explain the relevance of the Constitution: *It's the vibe of it. Just the vibe of it.* In participatory processes, I work largely "with the vibe," finding myself in another dimension. Entranced, I am sensing what is happening, processing visual, auditory and kinaesthetic clues. Are we moving toward agreement? Is collaboration possible? How does it feel?

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46. Kathleen Shui Lai Ng, "Community Participation and How it Influences Urban Form," unpublished Master of Urban Design dissertation, University of Sydney, Urban Design Program, Faculty of Architecture, December 1996, pp. 23, 56; Wendy Sarkissian, Andrea Cook and Kelvin Walsh, *Community Participation in Practice: A Practical Guide* (Perth: Institute for Science and Technology Policy, Murdoch University, 1997).

47. Lyn Carson, "Perspectives on community consultation: strategic questioning in action," *Australian Planner,* Vol. 32, No. 4, November 1995, pp. 217-221.

What's the vibe of it? On countless occasions, I have sensed things shift, the energy change, as something I cannot describe struggles into form. Sometimes I call it a "healing impulse." The urge to cooperate.

I am certain Carson and Fran have sensed this, too, and marvelled at its power. It's primarily a sensory experience. At these times I need all my senses. I listen with my third ear. Glimpse it with eyes in the back of my head. Sense with my skin. It's embodied, palpable and certainly real. Whatever it is.

The telephone admits some of this, to be sure. I just hope that, in these impoverished times, we won't lose all our opportunities for those community moments when the vibe shifts and something collaborative—and wonderful—struggles to be born.

Commentary by Monica Wolf*

"Now the telephone business has become strong, its next anxiety must be able to develop the virtues and not the defects of strength."[48] Herbert Casson, who wrote this in 1910, would be heartened by Lyn Carson's testament to the virtues of the telephone. The centrality of the phone in Carson's work presents a vital argument for a reassessment of the "humble" phone in political participation.

Carson's exploration of the phone's capabilities to improve decision-making presents something of a challenge. On an individual level, the phone is such an intrinsic part of our daily work and domestic lives that we rarely, if ever, step back to assess its impact or potential. This is also the case on a sociological level, where research on the phone is akin to "thinking about the invisible."[49]

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48. Herbert Casson, *The History of the Telephone* (Chicago: A. C. Mclurg and Co, 1910), p. 288.

49. Peter White, "Research on the telephone: thinking about the invisible," in A. Moyal and A. McGuigan (eds.), *Research on Domestic Telephone Use,* Proceedings

As Carson notes, there are certain inherent qualities of the phone that predispose it to being a useful tool in the building of relationships. But beyond this, is the phone a neutral tool able to be applied without bias?

Over the last 120 years, the phone has been imbued with clear norms, and modes of use are highly differentiated.

The three well-known norms decree that if the phone rings, you are obliged to answer; if you answer you are obliged to respond and participate; and terminating the call is the role of the caller, not the recipient. Inherent power, it seems, lies with the caller, a fact well exploited over the years by various sellers, surveyors and the like.

As Carson implies, phone use often reflects and reinforces unfortunate social realities, such as gender inequality and social disadvantage.

Rules governing access also apply. In the non-domestic sphere, power relativities dictate if, when and to whom calls are made, taken or returned. Senior government officials rarely take the direct calls of, say, a community representative. They tend to return them, if at all, within a period of time that one could surmise reflects the relative status given to the call. If a "superior" does call, it is likely to be mediated by a secretary making the initial connection. Perhaps a reinforcement of the status differential?

Society, as Herbert Casson predicted, has "… fit telephony like a garment around the habits of the people."[50] And amongst those habits are those that Carson rejects: power over others rather than with and people being "treated as though they are their roles."

So how does all this relate to the phone as a participatory tool?

Firstly, who calls who really matters. Carson's entrée to "the portals of power" elevated the activist to a peer, with rights of access and reception. This might suggest that the phone as a participatory tool in general is most effective where power relations are equal.

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of a Workshop, Centre for International Research on Communications and Information Technologies, 1992.

50. Casson, op. cit., p. 289.

Secondly, the motives of the caller are crucial. The caller as an activist and advocate of participative decision making will adhere to the principles of equality and objectivity. But the caller as a political number-cruncher will work to the opposite end and exploit the fact that the phone can be just as easily used to manipulate or subvert the participative process.

Which brings us back to the most important point Carson makes, a point that is so often overlooked in enthusiastic "how to's" on participation: "Whatever technology is used to facilitate participation, it will not improve the quality of decisions unless attention is paid to the constraints which prevent effective decision making from occurring."

Lap-tops against communicative democracy: international non-governmental organisations and the World Bank

Miriam Solomon*

1. Introduction

International non-governmental organisations (INGOs) frequently invoke arguments for the democratisation of the institutions they are attempting to influence. However, in their own organisational structures they themselves find that following democratic principles is very challenging. Furthermore, their work is vitally dependent on communication technologies, but these technologies are not independent of their social context, for they reflect and consolidate unequal power relations, and in certain senses exacerbate the already enormous obstacles for democratic participation in the global public sphere. In this chapter I outline a model of communicative democracy and describe a matrix of power relations amongst INGOs campaigning against the World Bank, to ask two questions: what does a model of communicative democracy have to offer for interpreting this case study material, and what does a study of the role of technology in global participation reveal about the model?

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2. Background: INGOs and the World Bank eyeball to eyeball

Madrid, October 1994

Thousands of economists, government officials and other stakeholders gather in a multimillion dollar conference centre, built for this occasion. Spain feels privileged to be hosting the prestigious 50th anniversary celebrations of the World Bank and the International Monetary Fund (IMF). The Spanish Queen will inaugurate the auspicious occasion. INGOs are likewise gathering for their own parallel conference, "Alternative Forum: Other Voices of the Planet." I am here to join thousands of activists from around the world who are coming to protest against the devastating results of the World Bank's policies towards the so-called "developing" countries.[1]

The much touted "development" model, imbued as it is with modernist conceptions of reason and progress,[2] has been a monumental failure. International "debt" and the debacle of "structural adjustment," as it is euphemistically termed, continues to drain many times more money from the "third world" than the so-called "aid" which is *sold* to them, conditions attached. The World Bank is one of the most powerful institutions in the contemporary world. Its model of aid becomes, frequently, the imposition onto "developing" countries of inappropriate technologies such as large dams or highly polluting coal plants that devastate local, social and environmental systems.[3]

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1. These are primarily advocacy and activist organisations, not aid groups that did not participate at Madrid.

2. Feenberg describes modern societies as encoding the cultural horizon of instrumental rationality and efficiency, which are often prioritised over social values. Andrew Feenberg, "Subversive rationalization: technology, power, and democracy," in Andrew Feenberg and Alastair Hannay (eds.), *Technology and the Politics of Knowledge* (Bloomington: Indiana University Press, 1995).

3. On INGO responses to the World Bank, see Kevin Danaher (ed.), *50 Years is Enough: The Case Against The World Bank and the International Monetary Fund* (Boston: South End Press, 1994); John Cavanagh, Daphne Wysham and Marcos Arruda, *Beyond Bretton Woods: Alternatives to the Global Economic Order* (London: Pluto Press, 1994); Bruce Rich, *Mortgaging the Earth: The World Bank,*

> The result, many say, is *further* poverty, starvation, social dislocation, homelessness, disease, environmental destruction and even, the INGOs claim, the Bosnian war[4] and the Rwandan holocaust.[5] The affected people and their supporters are outraged. The operations of the World Bank, the INGOs claim, systematically violate sovereign rights of nations, human rights of local and indigenous peoples, and democratic principles. It is itself completely undemocratic, essentially unaccountable[6]—run from Washington as a giant corporate organisation on the principle not of "one person (or one country)/one vote," but "one *dollar*/one vote."[7] With the IMF and the World Trade Organisation, it takes its position as a finely-tuned machine for the spread of market liberalism across the globe. It determines the fate of billions with no means of influencing its activities, other than through protest aimed at exposing and delegitimising it.

With this goal the INGOs launched a global campaign to publicise their objections during the entire year of the World Bank's fiftieth anniversary. It consisted of protest actions, conferences, seminars, meetings, numerous ongoing computer conferences, and a concerted media campaign throughout the world. The campaign was to culminate in a flurry of activities surrounding the World Bank's own 50th anniversary celebrations in Madrid, coinciding with its 49th annual meeting.

Environmental Impoverishment and the Crisis of Development, (London: Earthscan Publications, 1994); Susan George and Fabrizio Sabelli, *Faith and Credit: The World Bank's Secular Empire* (Harmondsworth: Penguin, 1994); "The Madrid Declaration Resolution of the Alternative Forum: Other Voices of the Planet conference," *Eco* (Facultad de Medicina, Universidad Autónoma of Madrid, 1994).

4. Laszlo Andor, "Stabilisation and structural adjustment in Hungary," paper delivered to *Alternative Forum: The Other Voices of the Planet,* Madrid, 1994.

5. Michel Chossudovsky, "IMF and World Bank and the Rwandan holocaust," *Aid/Watch Newsletter* (Sydney), No. 5, February 1995, p. 7 (reprinted from *Third World Resurgence,* No. 52).

6. Accountability is to the board of executive directors, bureaucrats who are appointed, in many cases, by undemocratic regimes.

7. The number of votes each country has reflects its financial contribution to the Bank.

I arrive at the airport having received no information about my accommodation, other than a phone number which is not answering. I look around and see a man holding a placard labelled "World Bank Conference," who will usher people into a waiting air-conditioned bus which is to deliver the dignitaries to their five-star hotels. I approach him and explain my plight. I am not actually a delegate to the official conference, although I do have "observer status" there. I have come to research the INGOs. He graciously offers me a seat on the bus. I will be deposited at a hotel in the centre of town, from where I can go in search of my own conference accommodation, *if* I can find it.

I enter the bus in jeans and t-shirt, my much-abused rucksack (house) on my back, and smaller back-pack (office) on my shoulder. The immaculately groomed occupants of the bus look at me bemusedly as I walk past them to the back of the bus, until it is "explained" to them that I am "one of the protesters." On the way we pass a group of some 50 tents in a park alongside the main road.[8] Someone calls out "that's your people!," which incites raucous laughter from the crowd in the bus. I smile politely.

One week later

The Queen is hosting a special concert in honour of the dignitaries. On the plaza outside a group of about 300 activists is staging an "alternative concert." Remember they have come to Madrid with their "other voices of the planet." This is a non-violent symbolic "concert," where they are casually sitting on the pavement, joyously chanting to the beat of home-made percussion instruments.

The police are there in full riot gear. One of them gives a nod about 30 minutes before the Queen is due to arrive, and within one minute the activists have been surrounded by police to block their escape, and the batons start thumping over their heads. For 15 minutes pandemonium reigns as people desperately scramble for cover, screaming and shouting out "murderers" at the police. The streets are cleared in

8. This was the camp of the Spanish 0.7 movement, campaigning for Spanish foreign aid to be increased to 0.7% of gross national product.

> about 15 minutes. The ambulances that are waiting on stand-by remove the broken people who did not manage to escape. The casualty ward of the hospital fills, and the next morning two women are flown back home to Sweden with head injuries. I am relatively "lucky," since I was not actually in the demonstration but only observing on the side: large purple bruises and welts cover the entire length of both my thighs.

Thus we see the dark face of "development," the level of protection deemed necessary by our global masters against any who would dare to challenge their legitimacy. The state comes out in violent force against its own unarmed citizens and international visiting activists. The vested interests of the World Bank and the International Monetary Fund (IMF), the financial markets and transnational corporations who are the real beneficiaries of "aid" and the global economy, must after all be protected. The stakes are indeed high, as high as they get.

Enter our INGOs, putatively as representatives of "global civil society." They occupy, it is said, an intermediary role between "the people" (of the world) and the major global (governing) institutions. However neither are the leaders of any of these official institutions nor their opposing INGOs actually democratically elected. The INGO members are mostly either self-appointed voluntary workers or salaried professionals.

During the year of the fiftieth anniversary, thousands of activists around the world joined the campaign to condemn the Bank and to demand change. But what change? Who exactly has the formula for eliminating global injustice, for devising an alternative to global capitalism, and the crisis of "the new world (dis)order"? And what political strategies might the INGOs most usefully adopt? These are some of the difficult questions INGOs confront. What might contemporary democratic theory offer to assist INGOs in making such decisions?

3. Communicative democracy

Iris Young has proposed an idealised model of communicative democracy.[9] It suggests procedures for communicative exchanges in relationships in which others are recognised and acknowledged on their own terms, in their specific and particular needs, perspectives, feelings and desires. Appropriate decisions can become clear when this kind of understanding becomes available from all who will be affected by them. This can only truly occur under ideal conditions, with the elimination of domination and oppression.[10]

Young's model is aimed at including all social and cultural groups, regardless of their backgrounds. Her starting point assumes difference and distance. Because power sometimes enters the form, the style and the content of speech itself, the more marginalised groups usually tend to be excluded or silenced. To counter this Young proposes "an equal privileging of any forms of communicative interaction where people aim to reach understanding."[11] This involves speaking and listening across wide differences of culture, social position, need and commitment, recognising others in their particularity.[12] To facilitate the participation of multiple voices in decision-making,

9. Iris Marion Young, "Justice and communicative democracy," in Roger S. Gottlieb (ed.), *Radical Philosophy: Tradition, Counter-Tradition, Politics* (Philadelphia: Temple University Press, 1993); Iris Marion Young, "Communication and the Other: beyond deliberative democracy," in Margaret Wilson and Anna Yeatman (eds.), *Justice and Identity: Antipodean Practices* (Sydney: Allen & Unwin, 1995).

10. In her model, Young draws on, but modifies, Habermas's communicative ethics. See also Jodi Dean, *Solidarity of Strangers: Feminism after Identity Politics* (Berkeley: University of California Press, 1996); Johanna Meehan (ed.), *Feminists Read Habermas: Gendering the Subject of Discourse* (London: Routledge, 1995), especially chapters by Johanna Meehan, Jane Braaton, Georgia Warnke and Joan Landes.

11. Young, 1995, op. cit., p. 139.

12. On democracy and difference, see Chantal Mouffe (ed.), *Dimensions of Radical Democracy: Pluralism, Citizenship, Community* (London: Verso, 1992); Anne Phillips, *Democracy and Difference* (Cambridge: Polity Press, 1993); Seyla Benhabib (ed.), *Democracy and Difference: Contesting the Boundaries of the Political* (Princeton: Princeton University Press, 1996); Susan Bickford, *The Dissonance and Democracy: Listening, Conflict, and Citizenship* (London: Cornell University Press, 1996).

she advocates the entry of multiple modes and styles of communication, in an open process with no predetermined outcomes, but through which opinions, preferences and perspectives are transformed.

Communicative democracy expects conflict and difference, and rather than presuming criticism and dissent to be dangerously disruptive by creating divisions that need to be overcome, this model celebrates difference, disagreement and challenge, regarding them instead as resources to draw on for increased understanding.[13]

Communication is integral to this theory of democracy. Young writes of the need for "a broad and plural conception of communication that includes both the expression and extension of shared understandings, where they exist, and the offering and acknowledgment of unshared meanings."[14] This supports less conventional (by Western rationalist standards) modes of communication than critical argument alone, affirming "the culturally variant ways that humans produce and make use of multiple representations,"[15] including such things as greeting, rhetoric, story-telling,[16] and gesture.[17] "Our task," Joan Landes argues, "is surely not to resort to texts in place of images, but instead to comprehend and deploy all means of representation in a counterhegemonic strategy against established power wherever it resides."[18]

These suggestions primarily focus on the recognition of difference. But as Nancy Fraser's formulation of justice emphasises, equitable distribution of social, economic and political resources (distributive justice) may be just as crucial as the recognition of differences (recognition justice) for democratic communication.[19] Unequal access to resources and cultural

13. See also Dean's (op. cit., p. 29) discussion of Uttal's concept of "getting messy."

14. Young, 1995, op. cit., p. 149.

15. Joan B. Landes, "The public and the private sphere: a feminist reconsideration," in Meehan, op. cit., pp. 91-116, at p. 109.

16. Young, 1995, op. cit.

17. Landes, op. cit., p. 101.

18. Ibid., p. 110.

19. Nancy Fraser, *Justice Interruptus: Critical Reflections on the "Postsocialist" Condition* (New York: Routledge, 1997), chapters 1, 7 and 8.

misrecognition both impede democratic participation by disadvantaged groups, who suffer differentially from the effects of domination, oppression and isolation due to material, structural, social, political and cultural constraints. I thus include redistribution also in my model of communicative democracy.

Can this model be extended to the global field? From my research I conclude that decision-making in global organisations, as in national and local entities, absolutely requires personal contact where relationships of trust, mutual respect and solidarity can begin to develop. Especially for the hard decisions on contentious issues, there is no substitute for face-to-face contact, whatever logistical, financial and other difficulties this entails. To this extent a communicative model of democracy can provide valuable guidelines for global organisations, since difference is even more pronounced in the global setting, as is maldistribution. The vexed question of who gets to participate in these meetings raises the problem of representation.

Below I examine my case study findings using a model of communicative democracy, revised to include recognition, redistribution and representation, as they affect participation in face-to-face meetings.[20] Of course any model of global democracy will always be highly contestable and for good reasons, but I regard such proposals as a tactic for addressing present day concerns. There is already a de facto system of global governance that is entirely undemocratic,[21] to which the INGOs rightly draw our attention. While these institutions exist, there is no escaping the importance of challenging them, such as by calling for their democratisation, abolition or replacement with "genuinely" democratic structures. It is clear that in their present form they could not survive radical democratisation. As will be clear from the foregoing, neither would the current structures of INGOs remain unchanged by radical democratisation, for they themselves tend to mirror this undemocratic global hierarchy.

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20. See Iris Marion Young, "Unruly categories: a critique of Nancy Fraser's dual systems theory," *New Left Review*, Spring 1997, for a critique of Fraser's dichotomous "redistribution/recognition dilemma."

21. David Held, *Democracy and the Global Order: From the Modern State to Cosmopolitan Governance* (Cambridge: Polity Press, 1995).

4. The matrix of INGOs against the World Bank

The INGO world is pervaded by hierarchies of power, resources and influence in a matrix along several intersecting axes. Here I focus on two of these. The first depends on the philosophical approach to change of the World Bank, roughly divided between "reformists" and "abolitionists." The second I loosely describe as the North-South hierarchy, arguing that power relations and hence participation among INGOs reflects the international hierarchy among nation-states. I suggest that the dynamics of these relationships, and hence their communications and the technologies associated with them, are preconditioned by, but also reinforce, these power differentials.

4.1 Abolition-Reform axis

> At Madrid it is plain that the activists here are roughly divided between two principal approaches to the World Bank: abolition and reform. To simplify, the abolitionists feel that the Bank is the evil tool of the imperialist capitalists, acting in the interests of global capital and the G7,[22] an irredeemable monster, agent of death and destruction, for which the only solution can be its complete abolition. They mostly eschew direct lobbying, preferring to work at the grassroots level, believing that to lobby the Bank is to confer legitimacy upon it. The reformists, on the other hand, argue for exerting pressure to convert it into a friendly, benevolent bank, by lobbying against specific projects while at the same time pressuring for its democratisation and structural reform.[23]

22. The group of seven countries with the largest industrialised economies, as it was known in 1994, has now been converted to the G8 with the inclusion of Russia.

23. This is of course a somewhat simplified dichotomy. The terms abolitionist and reformist are in some senses misnomers, as they conceal both internal differences within each group, the overlap between them, and alternative categorisations. See Paul Nelson, "Conflict, Legitimacy and Effectiveness: Who Speaks for Whom in Transnational NGO Networks Lobbying the World Bank?" Occasional Paper No. 17, Harrison Program on the Future Global Agenda, http://www.bsos.umd.edu/harrison/papers/paper17.htm, also published in *Nonprofit and Voluntary Sector Quarterly,* Vol. 26, No. 4, Winter 1997.

The reformists are primarily the leaders of NGOs in industrialised countries and, here in Madrid, a very small number of representatives from the South (and fewer from Eastern Europe). They have the education and resources necessary for gaining access to officialdom, and their prominence, international reputation and influence are often substantially facilitated when they are effective electronic communicators. These lobbyists have worked relentlessly for over a decade, battling on in an unremitting word war, fax machines at their sides, and lap-top computers in their arms as they traverse the globe in search of information and networks of support. Their campaigns against the Bank have delivered some serious blows. By invoking the arguments for democratic legitimacy, they have obtained some significant concessions in recent years from the Bank.[24] But in the words of one of my interviewees, a key figure in the bureaucratic NGO lobbying centre of Washington: "We got what we wanted. Now what?"

> The lobbyists' arenas are the corridors of power, a world dominated by meetings behind closed doors, where they rely on rational argument produced on their computers, combined with muscle-flexing based on their clever use of the media to dramatise and sensationalise the scandal of "aid." Here in Madrid they slip in and out of the Alternative Forum, but consolidate their energies as they gather together in the "NGO room" at the World Bank's Annual Meeting.
>
> By contrast, abolitionists in their thousands fill the streets and huge public halls of the Foro Alternativo—"Las otras voces del planeta."[25] These are the sites of rhetorical flourish and direct protest, principally by the abolitionists. Justice

24. For example, the Bank installed an ombudsman-like complaints mechanism called the Inspection Panel, which was invoked to withdraw its support for the Arun III dam in Nepal. The Bank has subsequently further curtailed the power of this already constrained body. But see Shripad Dharmadhikary, "Large dams—the beginning of the end?" *Aid/Watch Newsletter,* No. 13, November 1997.

25. Alternative Forum—"The Other Voices of the Planet."

> and survival is their battle cry: "50 Años Creando Miseria, Desturyendo el Planeta"[26]; "Cinquento años bastan!"[27]. The two factions, the abolitionists and the reformists, hardly talk to each other. They speak different languages, ideologically and literally. The Foro Alternativo is conducted mostly in Spanish, interpreted—where possible—into several languages (via headsets in the large plenaries). The lobbyists' business is in English.
>
> I manoeuvre between the two arenas. On the streets at night I get beaten up with the abolitionists, and the next day I wear my "rational," middle-class professional hat to join the reformists and talk bureaucratese and political expediency. I scurry between the tightly packed schedules of the two conferences, on opposite sides of town, from the large crowds of the Foro Alternativo to the plush setting of the World Bank Annual Meeting, where a small elite group of lobbyists are vigorously tapping on their lap-tops, in between their meetings with World Bank officials.

4.2 North-South axis

Lobbying power in relation to the Bank is however not equally distributed. It parallels the governing structure and influence within the Bank itself. NGOs in the wealthy countries, led by the United States (the Bank's major shareholder with the highest voting rights in the Bank), have the greatest opportunities for exerting direct pressure. They understand the bureaucratic language of "development" and bear down hard on the Bank with the full force of their critique. They have a sophisticated understanding of political processes which they use to full effect. They assess the full range of political contingencies impacting on the Bank, and effectively manoeuvre to take advantage of its vulnerable points. They strategically gather, process and disseminate information and resources. Information is often leaked to them, particularly those in Washington where the World Bank is based, by anonymous sympathetic officials with whom they cultivate a trusting relationship.

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26. "50 years of creating misery and destroying the planet."
27. "Fifty years is enough!"

But conflicts inevitably arise. Assessments of what is deemed to "work" in terms of political influence in the United States (influence that is crucial for decision making within the Bank) or in terms of broad longer term goals, at times differ from assessments by people directly affected by these decisions in the here and now.[28] How may these differing perspectives and opinions be reconciled? What is the effect of this matrix of power relations on the scope for democratic communications between the groups, and what role do communication technologies play in these dynamics? The next section examines these questions through the application of distributive and recognition aspects of the model of communicative democracy presented above, and their impacts on participation and representation.

5. Technology for communicative democracy?

5.1 Distribution and representation

Consider the abolition-reform axis in terms of distribution. The abolitionists are a highly diverse and complex group, consisting of the more radical NGOs and their social movement constituencies. In the Alternative Forum there was a multitude of mostly poorly resourced groups from disparate backgrounds (mainly Spanish and other European), most of whom either had a disdain for high technology (associating it with the "dominant paradigm") or limited access and skills for using it.

The principal media of communication by the abolitionists are the microphone at large meetings, the megaphone at mass actions, the written word conveyed in their newsletters, and of course the telephone and the fax machine. They also make use, where possible, of cameras, videos and tape-recordings. Many groups do have access to computers, some with email facilities, but they are not dependent on them for the greatest part of their work. Their power lies in their capacity to mobilise masses onto the streets.

The principal tools for campaigning by the lobbyists are the lap-top computer and the fax machine. They strategically employ the internet and produce instantaneous press-releases (often pre-planned) for high speed dissemination to national and global

28. See Nelson, op. cit.

publics. In the current geopolitical context, these technologies, particularly the fast and efficient usage of fax and email, are indispensable for the effectiveness of their campaigns.

The Foro Alternativo was organised primarily by the abolitionists, and in evidence at Madrid were deep tensions between them and the Northern lobbyists, so much so that the abolitionists received limited financial and practical support from the lobbyists for the organisation of the conference. As a consequence, they did not have the resources to create an organisational structure that would promote ease of communication between the organisers and the delegates. The conference was plagued from the outset by logistical problems and confusion of the program and agendas. This was in evidence in the availability of technical facilities and of resources for follow-up documentation. Gaining access to email was difficult. For the thousands of delegates present, there were in fact only two computers available publicly with the facility for email.

The Northern lobbyists, however, had no need for them, having brought with them their lap-tops which gave them 24-hour access to document, fax and email facilities, and having computer facilities available to them in the NGO room of the World Bank. Communications by the abolitionists to the local Spanish media was predominantly via fax messages and press conferences, while the reformists made representations to the outside world via the internet, to the international media via press releases and personal contact in the media room at the World Bank Annual Meeting, and directly to Bank officials via lobbying. Here we see the impact of the distribution of resources on representation, across the abolition-reform axis.

The North-South axis also affects representation. Madrid was an opportunity to bring NGOs together from around the world to jointly consult on goals and priorities for future campaigns. There were vital and controversial decisions to be made in the coming months. To achieve this would have required funding for Southern representatives to travel to Madrid, in time to overcome the considerable political and logistical obstacles to such travel.

But this funding and logistical support was minimal. Few Southern INGO representatives were in fact present. In practice, the dependence of Southern NGOs on Northern NGOs means

that the people from the South who receive funding to attend these conferences tend to be those who are preferred by their Northern partners. For those Southern lobbyists who gained accreditation to the World Bank Annual Meeting from the few Southern governments that granted it, the Northerners went to enormous lengths to provide the support necessary for their effectiveness at lobbying. Nevertheless, they were still in the minority amongst the larger number of Northerners, and were still working in a socially and culturally unfamiliar environment, and still constrained by the conditions in their home countries.

Southern NGOs who are involved in international activist networks often find themselves deluged by excessive quantities of information often coming at prohibitive costs,[29] and usually already filtered by their Northern colleagues. They have limited resources with which to interpret, translate and further filter it so as to make it accessible, comprehensible and pertinent for their local context.

Thus along the North-South axis, the distribution effects severely limit the opportunities for representation of the poor, as do problems with recognition, discussed below. The resource and access constraints of poorer groups, particularly those in the South, including their difficulties with the English language as well as with computer technology, and with often highly inadequate infrastructural support in their host countries,[30] limit their capacity to make full use of computer technologies, or to participate in any other way. But presumably they have a better understanding than the Northerners of their own needs and justice claims. These cannot often be adequately communicated by technological means alone, nor even by the written word, for it requires face to face contact in an atmosphere of cooperative problem-solving, under conditions of "free and equal participation."

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29. This expense is compounded by the large volumes that are often sent indiscriminately.

30. Communicating between rural and remote areas in Southern countries can take weeks. They may not have a telephone at all, the cables may be faulty, there may be poor service support, a lack of training facilities, and language problems. Fax machines are dependent on telephone lines, and even mail is not always reliable.

5.2 Recognition and representation

There were many advocacy NGOs from the South concerned with the World Bank but not present in Madrid. This was partly due to a lack of funding and other support, but more interestingly due also to a conscious decision on their part to boycott the kind of global activism that involves travel to exotic conferences. I travelled to the Philippines and Thailand to interview some of them. Whilst many of them agreed that global networking and campaigning is important, they prioritised work at the local level, largely because of their frustrations in operating in Northern dominated global arenas so distant from their local base. Many of them spoke about the difficulty that Northerners have of listening to them and respecting their preferences of agenda-setting and actions. They were keenly aware of the limits of resources available to them and their financial and political dependence on Northern NGOs, particularly for information. On the other hand they felt frustrated that Northern NGOs rarely acknowledged their dependence on their Southern partners for other kinds of information and support.[31] Without support from their Southern counterparts, and information about their circumstances and their perspectives, Northern NGOs cannot claim to legitimately represent their needs.

I contend that the lack of distributive justice both promotes the conditions for a lack of recognition justice, and is also rooted in this same lack of recognition justice. The two are thoroughly imbricated with each other.[32] I am suggesting then that the full potential for redistributive support for participation by Southern NGOs is not realised in practice in large measure *because* of the cultural factors that interfere with the capacity of the dominant groups to seek out, hear and respond to a diversity of other voices. While Northern groups tend to place high value on rational arguments expressed through the written word, Southern cultures are often more orally disposed, and less exclusively oriented towards "rational" argument. Furthermore,

31. On the difficulty of acknowledging mutual interdependence, see Jessica Benjamin, "The shadow of The Other (subject): intersubjectivity and feminist theory," *Constellations,* Vol. 1, No. 2, 1994, pp. 231-254.

32. Fraser, op. cit., chapter 1, admits this, despite her dichotomous treatment of them. See Young, 1997, op. cit.

it is clear that communication technologies, particularly the lap-top in this case, are inextricably tied to these social structures of domination and dependency. They "lock into institutional arrangements and social forces; they link up with those perennial structures of power and hierarchies of class, ethnicity, race, and gender that have dominated much of the substance of politics in history."[33]

Not only is the South disadvantaged in terms of economic and political resources, but the few Southerners who do manage to overcome this to the extent of being able to attend international meetings are also disadvantaged by the difficulty of finding a suitable avenue for expressing their needs and perspectives. In Young's terms, power entered speech itself. It particularly privileged those who were most proficient at producing rational discourse on their lap-tops.

And what they produced on their lap-tops largely determined the content and agendas for the global lobbying and media campaigns. They used them to produce influential press releases and other documents, many of which did not address needs and priorities of groups outside their own circles. This regularly happens at international conferences, despite the occasional requests from Southern groups to raise different agenda items. When they at times do so, it commonly occurs by the appropriation of the Southerners' ideas as their own.[34] Here we see an example of conflict suppression by the exclusion of disadvantaged groups.

In the Alternative Forum of Madrid, conflict suppression manifested itself by the confusion of the program and agendas at the Forum, so that different factions held separate meetings without notifying the public (that is "outsiders") of them. In lobbying meetings the little conflict which was aired appeared

33. Majid Tehranian, *Technologies of Power: Information Machines and Democratic Prospects* (Norwood, NJ: Ablex, 1990), p. 242. Tehranian suggests that for technologies to assist democratic world development and augment public discourse and democratic will formation, they have to be interactive, universally accessible and linked to participatory, democratic institutions and networks.

34. Iris Marion Young, *Justice and The Politics of Difference* (Princeton: Princeton University Press, 1990), p. 15, makes this same point which I consistently heard from my interviewees.

limited both by the unrepresentativeness of those present and by the domination of the discussions by the more numerous Northerners using "rational" discourse. Lobbyists from the North, particularly the men,[35] were very comfortable with their lap-tops, but their receptiveness to alternative modes of communication appeared limited. The poor, by contrast, had little access to this technology, and were often not comfortable expressing themselves by a "rationalised" Western procedure.

It is widely recognised that during consultations, even within the INGO community, Northerners commonly do most of the talking.[36] Perhaps less widely discussed, however, is that another inhibitor of intercultural communication occurs when the ambience of a meeting is pervaded by the sound of the most influential among the Northern lobbyists pounding on their lap-tops, hardly lifting their gaze towards the others in the room. Here the primary relationship is not between the typist and the other people present but between the typist and his lap-top,[37] and unknown distant audiences of the future. Arguably their effectiveness at campaigning hinges on such efficient usage of time and resources, and on a pragmatic acceptance of the unequal distribution of these resources, lamentable as this reality may be. Equally, however, it may be that their effectiveness, far from being compromised, would be instead enhanced by promoting the conditions for mutual recognition through reciprocal listening aimed at encouraging mutual understanding. For this would be an effectiveness grounded in satisfying interpersonal relationships and solidarities-in-sameness-and-difference, freed from the effects of suppressed resentments.

35. Judy Wacjman, *Feminism Confronts Technology* (University Park: Pennsylvania State University Press, 1991), pp. 141-142, discusses gender differences in the use of computer technologies.

36. "We do far too much talking and not enough listening." Northern INGO member.

37. Judith A. Perrole "Conversations and trust in computer interfaces," in Charles Dunlop and Rob Kling (eds.), *Computerization and Controversy: Value Conflicts and Social Choice* (Boston: Academic Press, 1991).

6. Conclusion

I have adapted Young's model of communicative democracy to address Fraser's concerns, projected it onto the global public sphere and used it to examine the role of communication technologies in participation in INGO decision making. Through this lens, the ambivalence of the lap-top for these INGOs becomes apparent. Tensions emerge as they employ communication technologies while articulating with hegemonic powers. In their lobbying work they are forced, as they challenge the legacies of modernity, to be inside the machine created by it. Although technology cannot be said to be determinative, neither is it neutral. It is socially and normatively biased to favour hegemonic interests and exclude difference. Its influence is by structural, socio-economic and cultural means, all of which tend to be mutually reinforcing. "Once introduced, technology offers material validation of the cultural horizon to which it has been preformed."[38] This is a cultural horizon of instrumental rationality and efficiency, centralisation and hierarchy. "The technical object," Feenberg argues, "is fully accommodated to a particular culture, the culture of the West. The planetary triumph of that culture results not so much from superior rationality as from the fantastic accumulation of political and military power in the long networks built by congruent design."[39]

Lap-tops are thus revealed as a double-edged sword for international activists. While their usage of communication technologies is subversive of global power relations, it is also simultaneously reinforcing of hierarchical relations amongst their own networks. These technologies undoubtedly enhance effectiveness and influence, being well suited for campaigning purposes and for sharing information—these aspects themselves reflecting democratic aspirations of INGOs vis-a-vis the World Bank—but they are ill suited as mediators for communicative democracy within INGO networks. Their unintended consequence is that they reflect and augment unequal power relations across the globe amongst INGOs, symbolically and practically.

38. Feenberg, op. cit., p. 12.

39. Andrew Feenberg, *Alternative Modernity: The Technical Turn in Philosophy and Social Theory* (Berkeley: University of California Press, 1995), p. 230.

Far from offering a solution to the difficult task of democratic decision making, they facilitate diffusion into the NGO context of those obstacles to democratic functioning inherent in the wider context of economic, social, political and cultural injustices, locally and globally. They can easily stifle relationships of solidarity, even as they facilitate the effectiveness of campaigns based on the solidarities that do exist; they affect, and are affected by, the distributive and recognition aspects of INGO interrelationships, both of which limit democratic representation and participation.

Viewing the model through the impact of technologies on communication amongst INGOs, distributive aspects of participation emerge as equally significant for participation as recognition aspects, but the interdependence between the two also becomes apparent. The findings also bring to light yet another critical factor, that of political representation, not reducible to the other two. Inequitable distribution of resources profoundly distorts the representativeness of participants present at meetings, and this occurs in conjunction with historical and ongoing misrecognitions which also exclude many who might otherwise participate. Once present, marginalised people can feel inhibited by the difficulty others have of listening to them in diverse modes and styles of communication (often due to the fears of conflicts that might surface), and this is further exacerbated by inequitable distributive effects such as the ways in which lap-top computers are used, even during consultative meetings, and their non-recognition effects.

Communicative democracy is about creating the conditions for speaking, listening and hearing different others on their own terms and through their own modes of expression, to open up the scope for enhanced mutuality and trust, and hence for democratic approaches to the most difficult decisions. It depends on respect for the plurality of needs, perspectives, interests and desires and their expressions through diverse cultural forms of communication. Despite their effectiveness for lobbying, lap-tops perform badly at these tasks. At best, they can only be tools for campaigning on predetermined goals, or adjuncts as one among many forms of human communication, each of which expresses something unique and important that needs to be heard.

The implications of this for INGOs are two-fold. Firstly, it suggests that computer technology should be regarded as both invaluable for achieving strategic goals, but also hazardous due to their rationalising, homogenising and exclusory tendencies. Reliance on Western procedures for "rational" discourse—so thoroughly inscribed in the usage of the lap-top—are indispensable for campaigning purposes, but it can also have the effect of suppressing other modes of expression, and in this way fostering the exclusion of a diversity of other voices from participating in deliberations. The result is a tendency to homogenise the outputs towards the preferences of those with the greatest opportunities to participate in this manner. Secondly, I propose that to improve the opportunities for more participation and more appropriate representation, these tendencies could be countered with concerted efforts towards enhancing distributive, recognition and representational justice in INGO interrelationships, to the extent that this is possible. Ideally this would entail redistribution of economic, social and political resources, and a commitment to recognising others in their differences as well as their commonalities, to create the conditions in which relationships of respect and solidarity can flourish.

The ideal of communicative ethics urges participants toward agreement on procedural rules and commitment to internal justice and equal respect. However theory alone, in my reading, has not provided adequate guidance as to how such agreement and commitments may be obtained within a context of pre-existing structural inequalities. If anything, it presents a pessimistic view of such possibilities, and the long history of distributive and cultural injustices everywhere indicates that the obstacles are indeed massive and should not be underestimated. This indicates that the inevitable obstacles to representation and participation will always remain, since conditions will always remain non-ideal. But it is precisely through ongoing practical struggles of groups such as INGOs working on the ground, engaging with the multiple dilemmas that confront them, that advances in the theory will occur.[40] A model of democracy thus

40. Accordingly, I am currently adapting this model further in my "global cacophonous democracy."

revised must acknowledge these dilemmas and must acknowledge that any agreements that are made necessarily remain provisional, pending new and emerging interpretations and needs from interests hitherto unrepresented. Crucially, more inclusive and hence more representative decisions will be facilitated when space is created for disadvantaged groups to openly express difference, dissonance and conflict.

Once again, lap-tops (and computer technologies generally) perform contradictorily in this regard. While they can in limited ways assist in revising decisions among those who have access to these avenues of communication, they do not easily lend themselves to challenges by those excluded from them. Moreover, in rationalised structures of governance, the specific powers of the written word often endure long after non-written communications have been forgotten.

Technology can too easily become a safe refuge from the fears of dealing with interpersonal conflicts, and yet still uphold a feeling that we are working for justice. The hardest questions still need to be addressed in face-to-face meetings. No technology can substitute for human relationships in which all parties feel that they have exercised their voice, been listened to, heard and respected, and that others are prepared to institute structural changes to support their justice claims.

> "We whities [who are] sitting here comfortably and spending our time on policy decisions and having organisations with resources and offices and travel budgets are by far the minority of the world's population and the majority world is rarely represented in our thinking and our contacts and the networks we operate in."[41]

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41. Northern NGO interviewee.

II
Public participation processes

The politics of jury competence†

Gary Edmond and David Mercer*

1. Introduction

How appropriate is it for lay juries to evaluate scientific and technical evidence? Most discussions of this question have assumed that science provides a direct access to truth—a positivist approach.[1] They have been preoccupied with determining how to guarantee the clear transmission of scientific knowledge from its scientific source to the public and the clear reception (without distortion) of that knowledge by the public. Within this framework the assessment of the appropriate role for the jury has predominantly been set against the question of whether or not the jury can be considered scientifically competent. Supporters of the jury have emphasised that juries display an adequate level of scientific literacy to facilitate their important role in assessing matters of science and technology. Other

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† The following discussion focuses on common law jurisdictions (e.g. Australia, New Zealand, US, UK, Canada). For a more detailed discussion of similar themes see G. Edmond and D. Mercer, "Scientific literacy and the jury: reconsidering 'jury competence'," *Public Understanding of Science,* Vol. 6, 1997, pp. 329-357.

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1. American Bar Association, *Jury Comprehension in Complex Cases* (Chicago: ABA, 1989).

commentators contend that the jury's role in these matters should be limited because of its technical incompetence. There has been a failure, across both sides of this debate, to consider what jury comprehension of science means in more sociologically or philosophically informed terms.

In the following discussion we provide an overview of the arguments made by both proponents and opponents of the jury. We outline a constructivist approach to the public understanding of science, which considers the social negotiations involving both experts and the public that determine what should count as valid scientific and technical knowledge. This approach reveals inadequacies in the viewpoints held by both proponents and opponents of the jury. In our conclusion we reflect on the importance of recognising the politically loaded nature of assessments of the scientific competence of the jury.

Before embarking upon an examination of debates over jury competence, a brief overview of the history, rationale, structure and function of the jury serves as a prelude to our analysis.

2. The history and objectives of the jury

a. History of the jury

As early as the reign of the Tudors, the jury had begun to instil itself in popular mythology as a champion of public liberty against excessive or oppressive governmental demands.[2] Seminal English cases such as *Bushel* and the *Seven Bishops Case* gave the jury an overtly political character and helped to entrench the jury as a form of lay participation in the interpretation and operationalisation of the state's laws.[3]

Yet, the jury's ability to incorporate public considerations of morality and justice into the legal system—free from requirements to act rationally and in accordance with the law—has led to apprehension concerning its inconsistency and lack of

2. J. Stone and W. A. N. Wells, *Evidence: Its History and Policies* (Sydney: Butterworths, 1991), pp. 16-22; J. Hunter and K. Cronin, *Evidence, Advocacy and Ethical Practice: A Criminal Trial Commentary* (Sydney: Butterworths, 1995), pp. 96-145.

3. M. Galanter, "The civil jury as regulator of the litigation process," *University of Chicago Legal Forum,* 1990, pp. 201-271.

accountability.[4] The continued operation of the lay jury has not prevented an active judiciary from developing doctrines which have provided a means of circumventing public participation. Changes in the admission standards for evidence combined with judicial activism have functioned as important means of restricting the influence of the jury.

b. Rationale for the jury

Public recognition of the political importance of the jury owes much to a number of early obstinate jurors and juries withstanding attempts at judicial/political impeachment.[5] The dominant rationale for the continued operation of the "modern" jury is as a check to political and judicial tyranny. The jury is believed to provide a lay constraint on government and the interpretation and application of laws determining matters affecting the lives, liberties and reputations of other citizens.[6] The participation of the public provides a means of continual rejuvenation of the jury, enabling the institution to retain vibrancy and relevance.[7]

c. Structure and function of the jury

Juries are generally composed of twelve (and sometimes as few as four) members, selected randomly to listen to evidence of varying kinds in an attempt to determine matters which often dramatically impact upon the lives of the parties involved. The jury is selected from a panel where lawyers, depending upon jurisdiction, have varying opportunities to shape its composition. Jurors are invariably strangers to each other and (usually) to the

4. New South Wales Law Reform Commission, *The Jury in a Criminal Trial: A Discussion Paper for Community Consultation* (Sydney, 1985), p. 48.

5. E. P. Thompson, "Trial by jury," *New Society,* Vol. 50, 1979, pp. 501-502; A. de Tocqueville, *Democracy in America,* Vol. I (New York: Alfred A. Knopf, 1963, 9th ed.), pp. 280-287; V. Hans and N. Vidmar, *Judging the Jury* (New York: Plenum Press, 1986), p. 114.

6. P. Devlin, *Trial by Jury* (London: Stevens, 1956), p. 164; G. Mungham and Z. Bankowski, "The jury in the legal system," in P. Carlen (ed.), *The Sociology of Law* (Keele: Sociological Review Monograph, 1976), p. 217.

7. V. P. Hans, "Attitudes toward the civil jury: a crisis of confidence?" in R. Litan (ed.), *Verdict: Assessing the Civil Jury System* (Washington, DC: The Brookings Institution, 1993), pp. 248-281, at pp. 248-249; P. H. Schuck, "Mapping the debate on jury reform," in ibid., pp. 306-340, at pp. 328-329.

parties, and are expected to have no interest in the proceedings. During the trial the jury is selectively exposed to arguments constructed by lawyers (and often others) incorporating evidence and witnesses deemed admissible by the judge. Without training, and guided in issues of law by the presiding judge, jurors are expected to decide issues of fact and apply them to legal standards. The jury's eventual verdict is determined in camera and justifications for the decision are not required nor provided. In most jurisdictions the verdict must be unanimous. Failure to reach a decision (hung jury) can lead to the swearing in of a new jury and a completely new trial. After the trial, the jury is disbanded and will never again function in that formal fact-finding capacity. Appeals from jury verdicts are traditionally only granted when interference or "obvious errors" have been deemed to have taken place.

3. Current debates about the jury and science

a. Jury proponents

Those who defend the jury's role in cases involving scientific and technical evidence can be roughly divided into four main categories.

i. Moral/political defence of the jury

For those defending the jury on moral/political grounds, juries are not obliged to employ rigid and legalistic interpretations of the law.[8] Nor are they compelled to accept the evidence of witnesses, even expert opinion evidence from eminent sources. The jury is not obliged to accept any of the competing expert claims and may legitimately reach a decision on other grounds.[9] Kalven and Zeisel, authors of the seminal text *The American Jury,* suggested that juries were capable of disregarding evidence and law to achieve a "just" solution, especially if they believed

8. Hans and Vidmar, op. cit., p. 116.

9. R. J. Allen, "Unexplored aspects of the theory of the right to trial by jury," *Washington University Law Quarterly,* Vol. 66, 1988, pp. 33-45, at p. 35; C. A. G. Jones, *Expert Witnesses: Science, Medicine, and the Practice of Law* (Oxford: Clarendon Press, 1994), p. 119. However, Jones discusses the concern raised by such practices. See also *R v Duke* (1979) 22 SASR 46 at 48.

one party had acted improperly. For example, where police improperly or illegally obtained evidence, jurors might acquit regardless of the strength of the case or "technical guilt" as a form of relief from, and discipline for, improper conduct.[10]

Another important public function of the jury in the moral/political framework (as well as a number of pro-jury perspectives, such as in the following subsections ii and iii) is the effective requirement that the testimony and evidence in trials must be comprehensible to the lay public. That is, the institution of the jury places a burden on the parties to present evidence in a clear and simple manner, at the risk of alienating the jury and displacing the legal system from the public domain.[11] Research suggests that jurors do not simply accept the testimony of those witnesses rated high on expertise.[12]

ii. The jury as scientifically competent.

In these approaches it is commonly asserted that: "the jury often appears to do *surprisingly well* in the face of complexity"[13] and "juries are one of our society's most reliable decision-making institutions."[14] Such assertions are normally supported by research suggesting that the high level of convergence between

10. H. Kalven and H. Zeisel, *The American Jury* (Boston: Little, Brown, 1966), p. 165.

11. Lord Roskill, *Fraud Trials Committee Report* (London: HMSO, 1986), p. 196.

12 S. S. Diamond and J. D. Casper, "Blindfolding the jury to verdict consequences: damages, experts, and the civil jury," *Law & Society Review,* Vol. 26, 1992, pp. 513-563, at p. 558.

13. R. Lempert, "Civil juries and complex cases: taking stock after twelve years," in Litan, op. cit., pp. 181-247, at p. 182 [emphasis added]; J. S. Cecil, V. P. Hans and E. C. Wiggins, "Citizen comprehension of difficult issues: lessons from civil jury trials," *American University Law Review,* Vol. 40, 1991, pp. 703-774, at pp. 729-734, 744-745, 750-753; N. Vidmar, "Are juries competent to decide liability in tort cases involving scientific/medical issues? Some data from medical malpractice," *Emory Law Journal,* Vol. 43, 1994, pp. 885-911; M. S. Jacobs, "Testing the assumptions underlying the debate about scientific evidence: a closer look at juror 'incompetence' and scientific 'objectivity'," *Connecticut Law Review,* Vol. 25, 1993, pp. 1083-1115.

14. M. J. Saks, "Do we really know anything about the behavior of the tort litigation system—and why not?" *University of Pennsylvania Law Review,* Vol. 140, 1992, pp. 1147-1291, at p. 1239; Hans, op. cit., p. 274.

jury and judicial decisions on "appropriate" disposition of the same case (about 75-80%)[15] does not vary for cases selected as complex.[16] Such high levels of agreement have inspired some researchers to ask whether juries might actually out-perform judges.[17]

It is also worth noting that, in this approach, the areas of disagreement between judges and juries are normally not interpreted as jury misunderstanding but the result of other factors.[18] Juries are seen to be able to act as a social "lightning rod" because of the relief they provide for judges by assuming adjudicative roles.[19] Significantly, juries remain most popular amongst the judiciary. This suggests that at times the jury has the flexibility to arrive at a decision a judge may desire but be unable to deliver—constrained by legal conventions.[20] Apparent jury incomprehension and misunderstanding are also occasionally explained as a product of legal procedures and language rather than the complexity of scientific and technical evidence. [21]

Most jury supporters accept that there are areas of jury administration and court procedure which could be modified to enhance jury performance.[22] Such reforms include allowing jurors

15. It is worth briefly acknowledging that the tendency to use the judge as a "yardstick" for evaluations of jury competence has been subject to criticism: Cecil, Hans and Wiggins, op. cit., pp. 762, 764; A. Kapardis, *Psychology and Law* (Cambridge: Cambridge University Press, 1997), pp. 130-131; R. MacCoun, R., "Inside the black box: what empirical research tells us about decisionmaking by civil juries," in Litan, op. cit., pp. 137-180, at p. 164; Kalven and Zeisel, op. cit., pp. 9, 11.

16. Kalven and Zeisel, ibid.

17. MacCoun, op. cit., pp. 166-67, 177; Lempert, op. cit., p. 219.

18. Hans and Vidmar, op. cit., p. 118. There are many similarities with the work of J. Baldwin and M. McConville, *Jury Trials* (Oxford: Clarendon, 1979).

19. Saks, op. cit., pp. 1230-1231; Hans, op. cit., p. 265.

20. E. Knittel and D. Seiler, "The merits of trial by jury," *Cambridge Law Journal,* Vol. 30, 1971, pp. 316-325, at p. 321.

21. Lempert, op. cit., pp. 191-192, 196, 201, 204, 208; R. E. Litan, "Introduction," in Litan, op. cit., pp. 1-21, at p. 11; R. W. Harding, "Jury performance in complex cases," in M. Findlay and P. Duff (eds.), *The Jury Under Attack* (Sydney: Butterworths, 1988), pp. 74-94, at pp. 90-91.

22. New South Wales Law Reform Commission, *The Jury in a Criminal Trial: A Discussion Paper for Community Consultation* (Sydney, 1985), p. 133; New South Wales Law Reform Commission, *Criminal Procedure Report: The Jury in a Criminal Trial* (Sydney, 1986), p. 87.

to take notes during trials, providing copies of transcripts and giving juries access to expert reports or court-appointed experts, pre-trial instructions, simpler instructions and allowing juries to keep a copy of the charges and instructions.[23]

In addressing criticism of jury performance based on apparent inconsistency and unpredictability, some jury supporters have explained that those cases which eventually reach jury trial are generally the most closely balanced and therefore the most unlikely to reach settlement before trial.[24] The type of case rather than jury deficiency is used to assist in explaining difficulties in predicting or reconciling outcomes.[25] Others have noted that often the close balance of competing arguments for the various parties can make any verdict appear as reasonable or "rational."[26] The more restrictively judges apply admission criteria, the more coherent any judicially manipulated jury verdict might appear. Conversely, other commentators have celebrated the absence of jury verdict consistency as an indication of genuine political independence.[27]

iii. Support for the jury conditional on enhanced judicial gatekeeping

As mentioned earlier, the development of an independent jury as an ostensible tribunal of fact emerged in conjunction with a complex law of evidence to protect the jury from exposure to certain types of information deemed to be inappropriate.[28] Recently in the widely cited and extremely influential case of

23. L. Heuer and S. Penrod, "Increasing juror participation in trials through note taking and question asking," *Judicature,* Vol. 79, 1996, pp. 256-262; G. T. Munsterman, "A brief history of state jury reform efforts," *Judicature,* Vol. 79, 1996, pp. 216-219.

24. See J. A. Henderson and T. E. Eisenberg, "The quiet revolution in products liability: an empirical study of legal change," *UCLA Law Review,* Vol. 37, 1990, pp. 479-553, at pp. 491, 534-535.

25. Schuck, op. cit., p. 308.

26. Lempert, op. cit., p. 202.

27. Baldwin and McConville, op. cit., p. 131.

28. Schuck, op. cit., pp. 310, 319; E. R. Sunderland, "The inefficiency of the American jury," *Michigan Law Review,* Vol. 13, 1915, pp. 302-316; Hans, op. cit., p. 249.

Daubert v. Merrell Dow Pharmaceuticals, Inc.,[29] a majority of the US Supreme Court appeared to express confidence in the institution of the jury, even in complex cases. Whilst this case has been described as the "highpoint of recent international expression of confidence in the intellect of juries," this approach may also provide a means of eroding the jury evaluation of disputed "knowledge claims."[30] The emphasis on strict examination of expert evidence and rigorous judicial screening outlined in *Daubert* allow the case to be interpreted as a covert attempt to restrict the types of evidence which can be presented to the jury, thereby undermining an opportunity for public input in the evaluation of controversial knowledges. Despite a (purportedly) broad confidence in juror capabilities, the tightening of admission standards—via judicial gatekeeping[31]—preventing evidence reaching the jury, provides a means of surreptitiously shifting the locus of decision-making away from juries whilst apparently maintaining public support for, and confidence in, that institution.[32]

iv. Support for the jury conditional on improved scientific literacy

The final category of support for the jury consists of those who argue for the importance of the jury but decry the current lack of scientific literacy in the general community, which limits the ability of the average jury to competently evaluate scientific and technical evidence.[33] In these frameworks the problem of the jury is part of a general community failure. The solution is to embark on improving the public understanding of science across society. Proponents of these views draw on traditions from both the left

29. 113 S.Ct. 2786 at 2798 (1993).

30. I. Freckelton, "Expert evidence and the role of the judiciary," *Australian Bar Review,* Vol. 12, 1994, pp. 73-106, at pp. 77-78, 84, 85, 90, 105.

31. G. Edmond and D. Mercer, "Keeping 'junk' history, philosophy and sociology of science out of the courtroom: problems with the reception of *Daubert v Merrell Dow Pharmaceuticals, Inc," University of New South Wales Law Journal,* Vol. 20, 1997, pp. 48-100.

32. Consider F. J. Ayala and B. Black, "Science and the courts," *American Scientist,* Vol. 81, 1993, pp. 230-239, p. 230.

33. A. Wildavsky, *But Is It True? A Citizen's Guide to Environmental Health and Safety Issues* (Cambridge, MA: Harvard University Press, 1995), pp. 395-409.

and right of the political spectrum.[34] Many of their arguments concerning the public understanding of science are shared with those who desire the role of the jury and current legal system limited in relation to the adjudication of scientific and technical matters. The overt focus on scientific literacy and the public understanding of science, characterised by this position, will be discussed in more depth at a later point.

b. Critics of the jury

For as long as the modern jury has been operating, there has been intense debate over the ability of ordinary citizens to understand legal and evidentiary issues involved in trials.[35] For a long time there have been broad critiques of jury capacity:

> Proclaiming that we have a government of laws, we have, in jury cases, created a government of often ignorant and prejudiced men.[36]

The debate over juror competence has been exacerbated in recent years through an increase in the prevalence of technical and scientific evidence.[37] Whilst criticism of jury capacity has been a central feature in the arsenal of jury critics, it appears to be most powerful when targeting juror assessments of complex and/or conflicting technical and scientific evidence.[38]

Part of the motivation for challenging juror competence and seeking to exclude juries from trials which are deemed as unsuitable is located in a belief that the majority of the public is scientifically illiterate. This belief, underpinning much of the

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34. A. Irwin, *Citizen Science: A Study of People, Expertise and Sustainable Development* (New York: Routledge, 1995), pp. 9-17.

35. New South Wales Law Reform Commission, 1985, op. cit., pp. 14, 41; Schuck, op. cit., p. 307; S. Daniels, "The question of jury competence and the politics of civil justice reform: symbols, rhetoric and agenda-building," *Law and Contemporary Problems,* Vol. 52, No. 4, 1989, pp. 279ff.

36. J. Frank, *Law and the Modern Mind* (New York: Bretano's, 1930), p. 178. Compare, P. Robertshaw, *Judge and Jury: The Crown Court in Action* (Aldershot: Dartmouth, 1995), pp. 200-201; B. S. Oppenheimer, "Trial by jury," *University of Cincinnati Law Review,* Vol. 11, 1937, pp. 141-147, at p. 142.

37. H. Zeisel, "The debate over the civil jury in historical perspective," *University of Chicago Legal Forum,* 1990, pp. 25-32, at p. 30.

38. L. Hand, "Historical and practical considerations regarding expert testimony," *Harvard Law Review,* Vol. 15, 1901, pp. 40-58, at pp. 54-56.

critical jury literature, has been reinforced through extensive surveys of formal scientific literacy conducted in both the US and UK.[39] In their assault on the jury in complex cases, jury critics often emphasise this alleged public scientific illiteracy.[40] Jurors are portrayed as inept.

Much of the largely anecdotal criticism attacking the competence of the lay jury is based on apparent inconsistencies in trial outcomes. So-called (mass) toxic tort cases (such as litigation surrounding Bendectin[41] and breast implants) in the US have attracted a great deal of interest as critics portray juries as incomprehensibly and irrationally oscillating in their preferences between plaintiff and defendant evidence in ostensibly identical cases. Such variations are represented as compelling evidence against the ability of lay juries to "competently" evaluate complex and competing knowledge claims.[42]

In the context of wide publicity over an apparent "litigation explosion" and "insurance crisis" surrounding tort law in the US from the mid 1980s, critics blamed jury inconsistency as one of the factors implicitly responsible for encouraging speculative litigation and an influx of dubious or "junk science" evidence in the court.[43] Ultimately the effect of broadly publicised inconsis-

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39. B. Wynne, "Public understanding of science," in S. Jasanoff, G. E. Markle, J. C. Petersen and T. Pinch (eds.), *Handbook of Science and Technology Studies* (Thousand Oaks, CA: Sage, 1995), pp. 361-388, at pp. 365-370.

40. P. W. Huber, "Junk science and the jury," *University of Chicago Legal Forum,* 1990, pp. 273-302, at p. 273; L. Loevinger, "Science and legal rules of evidence. A review of *Galileo's Revenge: Junk Science in the Courtroom,*" *Jurimetrics Journal,* Vol. 32, 1992, pp. 487-502, at pp. 501-502; Note, "Confronting the new challenges of scientific evidence," *Harvard Law Review*, Vol. 108, 1995, pp. 1481-1605, at pp. 1583, 1585. Compare G. Edmond and D. Mercer, "Manifest destiny: law and science in America," *Metascience,* No. 10, 1996, pp. 40-58.

41. G. Edmond and D. Mercer, "The secret life of (mass) torts: the 'Bendectin litigation' and the construction of law-science knowledges," *University of New South Wales Law Journal,* Vol. 20, 1997, pp. 666-706.

42. D. E. Bernstein, "Junk science in the United States and the Commonwealth," *Yale Journal of International Law,* Vol. 21, 1996, pp. 123-182, at p. 180; M. Kersten, "Preserving the right to jury trial in complex cases," *Stanford Law Review,* Vol. 32, 1979, pp. 99-120.

43. P. W. Huber, *Galileo's Revenge: Junk Science in the Courtroom* (New York: Basic Books, 1991), p. 3; D. Quayle, "Civil justice reform," *American University Law Review*, Vol. 41, 1992, pp. 559-569, at p. 565.

tent trial outcomes was portrayed to be undermining public confidence in the legal system.[44]

The representation of the jury as incompetent and irrationally sympathetic toward plaintiffs has led to criticisms that litigation costs and tremendous damage awards severely impact upon the productive capacity of US industry—reducing the availability of putatively safe pharmaceuticals, medical devices and interventions.[45] Not surprisingly, jury critics have a tendency to be politically conservative and supporters of (and supported by) industry and large corporations.[46]

The entrenched symbolic role of the jury, especially in criminal trials, has meant that those favouring its abolition or substantial reformation have pragmatically supported making admission of expert testimony more demanding. The justification is that more rigorous judicial gatekeeping would protect the jury from much of the "junk science" which purportedly hinders its ability to render rational verdicts. By enforcing more restrictive criteria, judges could ensure that only mainstream, "authentic" science appears in court, thus tremendously simplifying the role of a credulous and incapable jury:

> A compelling argument for conservatism lies in the need to screen proffers of scientific evidence for 'junk science' claims that would distort the fact-finding if admitted into evidence.[47]

However, most critics believe that merely tightening admissibility rules will not resolve the problems.[48]

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44. P. W. Huber, "Junk science and the jury," *University of Chicago Legal Forum,* 1990, pp. 273-302, at pp. 297, 296, 293.

45. Interestingly, much of the empirical research tends to undermine such claims. See V. P. Hans and W. S. Lofquist, "Jurors' judgments of business liability in tort cases," *Law and Society Review,* Vol. 26, 1992, pp. 85-115; B. J. Ostrom, D. B. Rottman and J. A. Goerdt, "A step above anecdote: a profile of the civil jury in the 1990s," *Judicature,* Vol. 79, 1996, pp. 233-248.

46. M. Galanter, "Reading the landscape of disputes: what we know and don't know (and think we know) about our allegedly contentious and litigious society," *UCLA Law Review,* Vol. 31, 1983, pp. 4-71.

47. E. J. Chan, "The 'brave new world' of *Daubert*: true peer review, editorial peer review, and scientific validity," *New York University Law Review,* Vol. 70, 1995, pp. 100-134, at p. 102.

48. Bernstein, op. cit., p. 181.

Whilst jury critics often advocate reform to standards for admitting evidence, they usually propose alternatives to the currently available jury trial. Various alternatives have been suggested including blue-ribbon juries (composed of high school, college and university graduates), blue-blue-ribbon juries (composed of individuals with "relevant" or general scientific training),[49] increasing use of court-appointed experts and special masters,[50] expert panels, science courts[51] and more stringent professional regulation—to prevent certain unacceptable or non-scientific knowledges from ever reaching courts. Whilst some of the suggestions, such as masters and technical advisers, might assist the jury, on the whole they are predicated upon the unsupported belief that reaching a certain threshold of technical or scientific literacy will improve repeatability (the same verdict for allegedly the same evidence).[52]

In addition, jury critics often favourably contrast the capabilities and attributes of allegedly rational and competent judicial verdicts to the random, unpredictable and idiosyncratic outcomes of jury trials. This commitment is often supported through the celebration of judicial attributes such as familiarity with the law, tertiary education, experience and impartiality.

4. Reconceptualising jury "understanding" of science

Since the 1980s there has been renewed interest and research undertaken on public understanding of science.[53] Two main

49. D. Drazan, "The case for special juries in toxic tort," *Judicature,* Vol. 72, 1989, pp. 292-303.

50. Fed. Rules Evid. Rule 706 U.S.C.A.

51. B. Caspar and P. Wellstone, "Science court on trial in Minnesota," in B. Barnes and D Edge (eds.), *Science in Context: Readings in the Sociology of Science* (Cambridge, MA: MIT Press, 1982), at p. 250. See also A. Kantrowitz, "Democracy and Technology," in C. Starr and C. Ritterbush (eds.), *Science, Technology and the Human Prospect* (New York: Pergamon Press, 1980), pp. 199-211, at p. 199; K. G. Nichols, *Technology on Trial* (Paris: OECD, 1979), pp. 97-101.

52. Note, "The case for special juries in complex civil litigation," *Yale Law Journal,* Vol. 89, 1980, pp. 1155-1176, at p. 1159.

53. A. Irwin and B. Wynne, *Misunderstanding Science?* (Cambridge: Cambridge University Press, 1996); B. Barnes, *About Science* (Oxford: Basil Blackwell, 1985); D. Nelkin, *Selling Science* (New York: Freeman, 1994); also M. C. LaFollette (ed.), *Quality in Science* (Cambridge, MA: MIT Press, 1982); P. Slovic, Fischhoff and S. Lichtenstein, "The psychometric study of risk perception,"

opposing perspectives can be identified. First, there has been an approach which could be described as positivist—preoccupied with the public's correct understanding and use of scientific and technical knowledges. The other approach could be described as constructivist—preoccupied with the social negotiations, involving both experts and the public, that determine what should count as valid scientific and technical knowledge.

Positivist approaches have been nurtured by concerns among scientific organisations and industry lobby groups that there has been a decline in their social authority in relation to the planning of new technologies and the promotion of scientific and technical education because of failure in the public understanding of science.[54] Science policy researcher Brian Wynne argues that this dominant concern with the legitimation of science has encouraged those maintaining positivist approaches to deploy simplistic images of science and equally simplistic models for the public understanding of science. Such approaches tend to treat the scientific source as correct without question, whereas all non-scientific sources are open to scrutiny. Ideally, in this picture, the ultimate meaning of a scientific message remains intact no matter what forms and contexts it passes through, until it is received by the unquestioning lay person who soaks up the information. In a sense, the quality of the communication channel can be measured according to the lack of distortion introduced along the way, according to the competence of the receiver to accurately decode the message. Problems surrounding the receiver's competence and the clarity of the message are open to examination. In contrast, there is no consideration of the authority of the source, or the content of the message. Problems in the construction of scientific meaning are transformed into problems of communication and comprehension. It is assumed that any active construction of the content of the scientific message, other than at the source, constitutes bias, distortion or misunderstanding. The correct interpretation of any message is

in V. T. Covello, J. Menkes and J. Mumpower (eds.), *Risk Evaluation and Management* (New York: Plenum Press, 1986); D. Mercer, "Science, technology and democracy on the STS agenda: review article," *Prometheus,* Vol. 16, No. 1, 1998, pp. 81-91.

54. Wynne, op. cit., pp. 362-363; Irwin, op. cit., pp. 9-36.

seen to be that made by authoritative scientists and scientific institutions.

The various approaches to the role of the jury outlined in section 3 of this chapter predominantly rely on the positivist literacy deficit (PLD) model of the public understanding of science outlined above. Critics of the jury draw attention to the contradictory results of jury deliberations concerning supposedly identical scientific evidence as support for the lack of scientific literacy among juries. Even those not critical of the jury implicitly assume the existence of a straightforward notion of scientific literacy against which jury performance may be measured. For example, jury proponents can be divided between those who argue that the jury's scientific literacy is sufficient to satisfy its role—usually compared to the "rational" temper of judges—or, because of overriding political reasons, the jury should be defended in spite of its literacy deficit. The discussion to be developed below provides an indication as to why the PLD model is inadequate.

Juxtaposed to the simplistic PLD model, alternative constructivist approaches have emerged. Constructivist approaches have been inspired by the sociology of scientific knowledge, insights from anthropology, and various currents in sociological thought.[55]

> This area of research shares a commitment to avoiding a priori assumptions about what 'proper' science is. Through ethnography, participant observation, and in-depth interviews, it attempts to examine the influence of social contexts and social relations upon people's renegotiation of the 'science' handed down from formal institutions as if already validated and closed. This general approach immediately opens to question the very notion of what counts as a scientific-technical issue or as scientific-technical knowledge.[56]

A number of key themes have emerged from these studies. In the following discussion we outline these themes, drawing attention

55. U. Beck, *Risk Society* (London: Sage, 1992); A. Giddens, *Modernity and Self-Identity: Self and Society in the Late Modern Age* (Cambridge: Polity, 1991). Irwin, op. cit., pp. 43-52.

56. Wynne, op. cit., p. 375.

to the ways they encourage a reconsideration of dominant views of jury competence.

a. Differences in scientific "sources" of information, reconstruction and politics of simplification

In many instances, particularly in controversial areas such as those generally arriving in legal forums, one simple closed or coherent scientific message will not be available for reconstitution into a form of public knowledge. Differing interpretations of the state of a particular science at a public level may merely reflect pre-existing disagreements. PLD models can easily gloss over such differences by assuming there is one simple correct scientific interpretation that can be transmitted to the public. Such models can also play a political role by allowing expert protagonists to claim that opposing views represent populist distortions rather than views ultimately drawn from competing experts. In the context of discussions of jury competence, the jury can take on the role of a scapegoat for a side losing in litigation. Jury competence is an easier target than expertise.

PLD models gloss over the fact that the existence of scientific viewpoints in legal contexts can shape the actual source of scientific information. For instance, there has been a growth in numerous law-science knowledge-making cultures which tailor their knowledge and areas of research interest according to the demands of legal institutions. The very constitution of certain types of scientific knowledge such as forensic pathology[57] can be shown to be shaped by the demands of legal/quasi-legal institutions.[58] Recognising the role of such law-science hybrids adds a further complexity to PLD models of the jury because, in a sense, jury comprehension constitutes part of the context against which such knowledges are constructed.

The existence of hybrids also raises the importance of considering the construction of science occurring at a number of points

57. R. Smith and B. Wynne (eds.), *Expert Evidence* (London: Routledge, 1989), p. 15.

58. S. Jasanoff, *Science at the Bar* (Cambridge, MA: Harvard University Press, 1995); D. Mercer, "The NIEMR/EMF Controversy: The Social Construction of Scientific Knowledge and Science Policy in the 'Gibbs' Powerline Inquiry 1990/91," PhD Thesis, University of Wollongong, 1993.

across society and not just in expert settings.[59] In these studies special attention has been dedicated to the need to acknowledge that the process of stabilising scientific knowledge claims involves the movement of such claims beyond narrow expert contexts. This process involves the active reworking of the meaning of scientific knowledge claims so that they are tractable in various social and technological contexts. Scientists from differing specialties may have slightly different interpretations of the meanings of apparently identical scientific concepts depending on the context at hand. This work implies that it is unrealistic to look for any single source for the meaning of scientific knowledge claims as this ignores the active processes of construction which take place at numerous locations including non-expert settings. The law-science hybrids, where non-expert demands shape knowledge claims, are indicative of processes which are a normal part of science. In the context of the jury this work is important in highlighting the dynamic processes occurring as scientific knowledges are reconstructed into tractable terms for presentation to the jury—processes which are more complex than some kind of distortion of the original scientific message.

The reconstruction of scientific knowledge along a continuum of sites can also be seen to have a number of important political dimensions. According to Stephen Hilgartner, the image of popularised/debased science (scientific knowledge produced at a distance from its purer site of construction) has been used to satisfy political aims in scientific controversy in two main ways. First, the image of a debased currency of scientific knowledge can be used by scientists in contrast to the correct pure science undistorted by the path of popularisation, simplification or pressures of policy. Second, scientists can demand the right to pronounce on whether or not a simplification or popularisation is appropriate. As Hilgartner puts it:

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59. J. R. Ravetz, *Scientific Knowledge and its Social Problems* (Oxford: Oxford University Press, 1971), pp.181-208; B. Latour, *Science in Action: How to Follow Scientists and Engineers through Society* (Cambridge, MA: Harvard University Press, 1987); T. Shinn and R. Whitley (eds.), *Expository Science* (Dordrecht: D. Reidel, 1985).

> scientific experts enjoy great flexibility in public discourse. On the one hand, when it suits their purposes, they can issue simplified representations for broader audiences; the notion of the appropriate simplification justifies this practice and enables scientists to invest these representations with the authority of the cultural symbol 'science.' On the other hand, scientists at all times can draw on the notion of distortion to discredit publicly available representations.[60]

The politics of simplification are extremely important for understanding the question of jury comprehension of science. The necessary process of simplification involves the importation of broader metaphors and narrative strategies. The use of these strategies provides a vehicle for later recriminations about processes of legal distortion and jury misunderstanding.

Problems in identifying a simple epistemological source for images of science is not restricted to controversy involving specific knowledge claims. It has been observed that in some contexts there can be difficulties in identifying a simple consensus in defining the more general features of science. A good example is debate over the nature of the "scientific method." Surveys indicate that scientists rarely reflect on abstract definitions of scientific method in their day-to-day work. On those rare occasions when they do, that reflection is not undertaken in a particularly coherent way.[61]

This debate has also been played out in legal settings such as in the cases involving creation science[62] or the recent US Supreme court *Daubert*[63] decision. In both contexts, courts attempted to define the nature of the scientific method. These

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60. S. Hilgartner, "The dominant view of popularisation: conceptual problems, political uses," *Social Studies of Science,* Vol. 20, 1990, pp. 519-539, at p. 523.

61. M. Mulkay and N. Gilbert, "Putting philosophy to work: Karl Popper's influence on scientific practice," *Philosophy of the Social Sciences,* Vol. 11, 1981, pp. 389-407; B. Wynne, "Knowledges in context," *Science, Technology, & Human Values,* Vol. 16, 1991, pp. 111-121, p 114; M. Hamm, "Textbook portrayals of science and technology: issues in a television age," *Science, Technology, & Human Values,* Vol. 16, 1991, pp. 88-98.

62. *McLean v. Arkansas* 529 F. Supp. 1255 (1982) and *Edwards v. Aguillard* 107 S.Ct. 2573 (1986).

63. 113 S.Ct. 2786 (1993).

attempts have been subjected to considerable criticism in legal and philosophical circles.[64] Challenges to the legitimacy of juries playing a role in scientific cases, because of difficulties anticipated in their ability to understand the scientific method, appear superficial when the difficulties in achieving an authoritative consensus on the nature of the scientific method are recognised.[65]

b. Trust and identification.

Another important factor to consider in relation to the public understanding of science has been the observation that members of the public do not evaluate knowledge claims in isolation from their experiences and perceptions. In this context Mike Michael has emphasised the need to distinguish between the knowledge and judgment of particular areas of science and more general perceptions of the idea of science.[66] It would appear that whilst members of the public have confidence in science, even as a synonym for truth via tacit notions of progress, method and norms,[67] in specific contexts they have been more reluctant to accept scientific claims emanating from supposedly authoritative scientific institutions and individuals.

It might be expected, following from the above discussion, that juries evaluate the specific scientific knowledge claims of institutions and individuals, at least in part, according to their ability to identify with and "trust" them. The evaluation of institutions

64. G. Edmond and D. Mercer, "Recognising *Daubert*: what judges should know about falsificationism," *Expert Evidence,* Vol. 5, Issues 1 & 2, 1996, pp. 29-42; P. Quinn, "The philosopher of science as an expert witness," in J. Cushing, C. Delaney and G. Gutting (eds.), *Science and Reality: Recent Work in the Philosophy of Science* (Indiana: University of Notre Dame Press, 1984).

65. See the dissent of US Chief Justice Rehnquist in *Daubert v. Merrell Dow Pharmaceuticals, Inc.,* 113 S.Ct. 2786.

66. Mike Michael, "Lay discourses of science: science-in-general, science-in-particular, and self," *Science, Technology, & Human Values,* Vol. 17, 1992, pp. 313-333; D. Mercer, "Understanding Scientific/Technical Controversy," Science and Technology Policy Research Group, University of Wollongong, Occasional Paper No. 1, 1996; G. Edmond, "*Down by science:* context and commitment in the lay response to incriminating scientific evidence during a murder trial," *Public Understanding of Science,* Vol. 7, 1998, pp. 83-111.

67. Jasanoff, op. cit., pp. 3-4.

and their knowledge together opens up the opportunity to consider the social contexts in which various forms of knowledge are generated and put to use, rather than treating scientific knowledges as made up of artificially isolated events frozen in time and isolated from any kind of social context.[68] Jury consideration of science constitutes a process of social deconstruction and renegotiation of knowledge claims rather than a simplistic process of competence or incompetence. Writers such as Wynne and Irwin have emphasised this as an important factor in helping to explain public resistance to nuclear power, despite the construction of elaborate quasi-legal public rituals by the state and nuclear industry in an attempt to establish public "acceptance."

An example where this process may have operated can be drawn from considering the well known paternity case involving the famous actor Charlie Chaplin. A jury found that Chaplin should be held responsible for fathering a child even though blood test evidence was presented which appeared to challenge this assessment. Critics of jury comprehension of science such as Huber celebrate this as an example of sentimental absurdity and jury incompetence. Jasanoff in *Science at the Bar* draws from Saks to suggest an alternative explanation—that the jury decision was a "socially rational" judgment reflecting social mores of the time. Chaplin was a wealthy man and treated the mother of the child as if she were his wife; paternal obligations, therefore, should still apply. In such a context, jury sensitivity to uncertainties in scientific claims might be expected.[69]

c. Differentiated publics and the importance of tacit knowledge

In constructivist (and some PLD) accounts of the public understanding of science there has been a call to acknowledge that the public is differentiated, or that there are "publics" in regard to science. Certain segments of the public are more interested or attentive to scientific and technical issues than

68. B. Wynne, *Rationality and Ritual: The Windscale Inquiry and Nuclear Decisions in Britain* (Chalfont St. Giles: British Society for the History of Science, 1982), Chapter 7.

69. Huber, 1991, op. cit., pp. 148-149; Jasanoff, op. cit., p. 11.

others.[70] Factors influencing attentiveness include formal education, gender[71] and direct personal involvement in matters involving the negotiation of the meanings of scientific and technical knowledges. Such differentiated public interpretations of specific areas of science will also be strongly influenced by differentiated tacit knowledges of the specific context at hand and tacit knowledge of science more generally. Past experiences, expectations and immediate experience are welded together in an active process of translation and reconstitution. Depending on the context, various members of the public will exhibit more or less interest in specific scientific matters for a variety of reasons. They may also, by incorporating local tacit knowledges, develop understandings of science different to those of experts. A number of recent case studies have appeared exploring these processes at work in the construction of lay interpretations of medical knowledge such as menstruation, safe sex, cholesterol and Down's syndrome, amateur sciences such as astronomy and ornithology, and industrial and workplace hazards such as those due to nuclear power and chemical plants.[72]

The impact of these points is rather complex. In theory, juries are brought together without prior knowledge of the specific case at hand, retain anonymity, and should reflect a representative cross-section of the broader community. In most cases juries are drawn from a cross-section of the public with relatively diverse tacit knowledges. On a preliminary assessment these factors make it difficult to transport concepts such as attentive publics and tacit knowledge to the jury context and it will be difficult to ascertain how prior tacit knowledge of the particular jurors has influenced the formulation of any particular jury decision. There is, nevertheless, a broader sense in which the concepts "attentive publics" and "tacit knowledge" possess relevance. In a sense, through participating in the legal process, the jury becomes a *de facto* attentive public. The jury is expected to rapidly learn about

70. K. Prewitt, "The public and science policy." *Science, Technology, & Human Values,* Vol. 7, 1982, pp. 5-14; J. D. Miller, "Scientific literacy: a conceptual and empirical review," *Daedalus,* Vol. 112, 1983, pp. 29-48.

71. J. Ziman, "Public understanding of science," *Science, Technology, & Human Values,* Vol. 16, 1991, pp. 99-105, at p. 103.

72. Irwin and Wynne, op. cit.

the specific scientific viewpoints of the protagonists. Their evaluation of such positions will in turn be influenced by impressions of the importance of their role in the general and particular administration of justice and confidence in, and commitment to, the polity. Jury assessments may be affected by broader shared tacit knowledges of science, tacit knowledge of the operation of the legal system, the perceived seriousness of juror roles and jurors' responses to public perceptions of social problems. These observations also overlap with our earlier discussion of institutional identification and trust.

Belief that the jury provides a site for public education about specific scientific issues hints at the difficulties involved in making generalisations about the conclusions made by juries that do not take into account the specific features of the case at hand and how it is presented to them.

5. Conclusion: the politically contested nature of the concept of jury competence

There are a number of implications for public participation flowing from a constructivist approach to jury competence. The first is that there is no simple basis on which competence may be determined. We would contend, nevertheless, that recognising this implication does not lead to complete idealism or nihilism in which all knowledge claims are treated as equally valid.[73] Rather, evaluating competence inescapably involves social/political judgments. In some contexts the role of judgment may become largely invisible—such as where there is a high level of agreement in relation to the trustworthiness of individuals, institutions and the efficacy of their knowledge(s). However, juries typically work in contexts where there is a lack of consensus over these very issues. Ascribing or denying competence to jury decisions is a highly charged political activity. Claims about competence/incompetence are used by protagonists in legal contexts to both legitimate and delegitimate jury decisions. For many jury critics, the general image of incompetence is most commonly deployed to delegitimate the role of the jury abso-

73. B. Barnes, *The Elements of Social Theory* (London: UCL Press, 1995), pp. 110-111.

lutely. For others, including many jury proponents, it is jury competence in the specific context that is most regularly challenged. There are broader political implications in recognising the politically charged nature of competence. For those working in an Enlightenment positivist framework, images of jury competence have regularly been linked to images of democratic capability. According to this approach, maintaining the jury system is dependent on improving the scientific literacy of the lay public to achieve democratic outcomes:

> Citizens who train themselves to read and understand the primary sources, the original scientific studies, can participate meaningfully; those who do not, cannot.[74]

Within such frameworks, disbanding or restricting public participation in the jury might not constitute a challenge to democratic processes if the public is unlikely to attain the requisite degree of competence. The legitimatory rhetoric of competence disguises points of political conflict in contemporary society. For instance, the occasional fragmentation and political conflict between expert knowledges and the important interplay between lay and expert understandings of science and technology—in short, the fundamentally political nature of modern science and technology—are disguised.

The failure to recognise and deal with the political nature of jury competence could well create problems for those wishing to maintain the social authority of the legal system. Using a strict technocratic model to deny the jury input into decision making provides a challenge to notions of democracy in which the public has a right to shape decisions which directly affect them. It also implies that contemporary science and technology are beyond the grasp and control of the public. Such a situation might contribute to the development of polarised public responses—drawing from romantic perspectives—calling for the total rejection of science and technology.[75] Challenging jury competence in relation to specific decisions could also lead to problems of legitimacy for legal institutions. The conclusions drawn by juries can be influenced by the contingencies in the knowledge-making setting.

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74. Wildavsky, op. cit., p. 408.
75. Beck, op. cit.

Our earlier discussion highlighted the importance of public understandings of science linked to contingencies such as tacit knowledge, trust and institutional identification, simplification and exposition. Uncritical notions of competence deny the complexities involved in deriving legal decisions in relation to science and technology. Ironically, denying these contingencies leaves legal institutions vulnerable to criticisms of denying themselves a textured means of explaining the outcome of their decisions. The failure to adequately problematise scientific knowledge and the notion of its public understanding, as is the case in the dominant discourse on jury competence, has meant institutions anxious to maintain their public authority by promoting the public understanding of science may be contributing to the opposite outcome. [76]

Commentary by David Bernstein*

Edmond and Mercer identify three justifications for the use of civil juries. The first is that the collective wisdom of six to twelve individuals from a cross-section of the community is more likely to lead to an objectively correct result than is a lone judge's ruminations. This view, while plausible with regard to run-of-the-mill cases, is almost certainly mistaken with regard to toxic tort cases and other civil cases involving complex scientific evidence.[77]

A second reason that juries might be preferable to judges is that juries are perceived to be a check on legal rigidity. Juries are expected to base their verdicts on "extralegal values" or "their

76. Wynne, 1995, op. cit., pp. 364-365.

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77. As I am limited to 500 words of commentary, I direct the reader to my article "Procedural tort reform: lessons from other nations," *Regulation,* No. 1, 1996, at p. 67, for a detailed argument on this point.

sense of justice."[78] A jury can therefore legitimately punish Charlie Chaplin's sexual misconduct by finding he was the father of an illegitimate child, even though genetic tests showed this was impossible. But if the Chaplin verdict was correct, then jury trials are no more than popularity contests, and the rule of law is reduced to a mere rhetorical device.

Finally, sundry sociologists of science, such as Sheila Jasanoff and, apparently, Edmond and Mercer, believe that in the absence of a *consensus* over the trustworthiness of various "claimants to knowledge," it makes far more sense to allow scientific decisions to be made democratically through juries than to allow the technocratic elite to make them. It must be realised, however, that consensus is no real standard at all. Given the diversity and breadth of the scientific (and pseudo-scientific) community, and the financial incentives for experts involved in major product liability cases, consensus is extremely rare.

The availability of important products including vaccines, contraceptives and medical-grade silicone has been threatened by US jury verdicts. Allowing scientifically ignorant jurors to determine whether these products are to be available makes absolutely no sense from a public health point of view. I would be content to allow Edmond and Mercer the option of letting a random sampling of the public to vote on whether *their* families may have access to such products. On the other hand, I believe the rest of us to be very much entitled to use these products regardless of the upshot of the whim, superstition and "sense of justice" of sundry panels composed of six to twelve of our fellow citizens.

Fortunately, over the last decade or so, US judges have become increasingly interested in ensuring that legal decisions actually conform to the underlying evidence. This inevitable result has been a welcome decline in the authority of civil juries.

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78. E.g., Marc Galanter, "The regulatory function of the civil jury," in Robert E. Litan (ed.), *Verdict: Assessing the Civil Jury System* (Washington, DC: The Brookings Institution, 1993), pp. 88-90 .

Commentary by Ian Freckelton*

The debate about the jury's capacity to process the complexities of scientific evidence adequately has an analogy in the game of cricket. The focus in criminal trials on the jurors is like the focus in cricket on the batsmen. But one can also factor into the evaluation process the condition of the ball, the state of the pitch, the skills of the bowler, the impact of the home ground, the effect of a supportive crowd and even the role of the umpire. If the focus of inquiry is solely or even predominantly on the batsmen's ability to bat, the inquiry risks losing perspective.

The fundamental question in the context of jurors being able to grapple effectively with scientific evidence is how to regulate the delivery of information to lay decision makers to maximise their chances of dealing adequately with it. The persons responsible for this are expert witnesses, lawyers and judges. That their several performance at times have left something to be desired does not necessarily reflect upon the juror's competence at all.

For over a century, what has characterised the debate about juror competence is a remarkable lack of empirical information—a defect that has not deterred in the slightest advocates of juror competence or of juror incompetence from making assertions in support of their positions.

The passion engendered by the debate arises primarily from the symbolic significance attributed by many to the role of the jury as a populist bulwark against judicial and executive tyranny. Commentators have also highlighted the imperative for jurors to "get it right" when processing information that may result in erroneous conviction or acquittal. Both notions are unrealistically positivist and encumbered by unhelpful romanticism.

There is no shortage of examples of "rogue" forensic scientists and of poor scientific practice which was only exposed by the legal system too late for those convicted. In the United States there have been controversies aplenty in the last decade, for example about the evidence of the discredited footprint expert Louise Robbins[79] and about the forensic assertions of odontolo-

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79. M. Hanson, "Believe it or not," *American Bar Association Journal*, Vol. 79, June 1993, p. 64.

gist Michael West.[80] In England forensic science's travails have been prominently exemplified in the IRA bombing cases where partisan and inaccurate information was presented to juries in relation to explosives' analysis. In Australia, inadequate forensic science has come to the fore in the royal commissions into the Splatt and Chamberlain cases and then in relation to the evidence given by "Bomber Barnes," the former Deputy Director of Australia's largest forensic science laboratory in Victoria, in relation to gunshot residue.[81]

The problems of the evidence have included abandonment of neutrality, poor record-keeping, adoption of questionable techniques, bad methodology, use of tests still under development, failure to disclose inconsistent results and failure to submit to proper peer review processes. How is the jury to learn of such matters? By effective and informed cross-examination and by contrary expert evidence. In countries such as Australia and New Zealand, where the pools of experts available to the defence are shallow in the extreme, especially with the death by attrition of legal aid, the role of lawyers in keeping the scientists honest has become all the more important. The truth, though, is that trial lawyers' record as the fourth estate of the criminal courtroom has been far from formidable. If the scientific understanding of the lawyers is blurred, both judge and jury will be left with a mass of scarcely understandable data, generating the potential for miscarriages of justice.

It may be that a combination of initiatives is necessary: improvement in scientific competence and communication; more judicial involvement to clarify issues in dispute; courts appointing their own experts in cases that require such a measure; enhancement of trial lawyers' competence to make expert witnesses accountable; and introduction of procedures to enhance the capacity of lay decision makers to arrive at their decisions on the basis of reasoned evaluation.

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80. M. Hanson, "Out of the blue," *American Bar Association Journal*, Vol. 82, February 1996, p. 50.

81. See Ian Freckelton, "Judicial attitudes toward scientific evidence: the antipodean experience," *University of California Davis Law Review,* Vol. 30, No. 4, 1997, pp. 1139-1227.

Response by Gary Edmond and David Mercer

The responses by Bernstein and Freckelton rely upon idealised images of law and science and their interaction. For Bernstein there is an implicit appeal to a resolution to scientific debate available to be invoked by rational judges or technocratic elites. For Freckelton, the "problem" can be resolved (or at least substantially reduced) by improving the communication of science to lay audiences and improving scientific and legal practices, such as eradication of scientific fraud and requiring competent cross-examination. Both commentators fail to grapple with occasions when scientific experts disagree. In cases where experts disagree, obtaining yet another expert opinion is unlikely to offer any decisive benefit over drawing from the opinion of a lay person.

These difficulties have been clearly displayed in the failure of science courts to achieve widespread scientific, legal and public acceptability. Science court proposals have received criticism for assuming that the use of court-like procedures would be able to separate scientific facts from social preconceptions. One problem is that for a scientist to gain sufficient authority to pronounce in an authoritative way on a matter of scientific controversy, such a scientist is normally already a participant in the controversy in question. Selecting "scientist-judges" or "experts" who possess scientific authority but are not simultaneously embroiled in the proceedings is difficult. Further, selection of scientist-judges without prior involvement may well lead to inconclusive and/or non-authoritative conclusions. This highlights divisions within the so-called technocratic elite. In this context, Bernstein's position is contradictory. Whilst Bernstein accepts that "[given] the diversity and breadth of the scientific (and pseudo-scientific) community, and the financial incentives for experts involved in major product liability cases, consensus is extremely rare," he retains an unexplicated confidence in the ability of a so-called technocratic elite to resolve such issues.

It is also worth noting that Freckelton does not engage with our position and Bernstein uncharitably misrepresents us. With respect to Bernstein, nowhere in our discussion do we contend that juries are "more likely to lead to an objectively correct result

than is a lone judge's ruminations" nor that juries should base their verdicts solely on extralegal values or their sense of justice. Rather it has been our intention to argue that the choice of who should adjudicate between competing (expert) opinions is intrinsically political.

"Community participation" in urban project assessment (an ecofeminist analysis)

Janis Birkeland*

Introduction

The "problem" in urban planning is often depicted as the top-down imposition of an ordered environment by technocratic planners. The "solution" is to achieve more genuine forms of bottom-up community participation in the evaluation of development proposals.[1] Based on many years experience in advocacy planning and participatory design, I suggest it is not that simple. The failure of urban management systems to resolve conflict over development proposals and to achieve optimal projects from a social and environmental viewpoint *cannot* be achieved by greater participation alone. Adding more meaningful forms of community participation onto existing processes, while important, may only mask the need for deeper institutional reforms. Moreover, the main paradigms of partici-

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1. Charlie Pye Smith and Grazia Borrini Feyerabend with Richard Sandbrook, *The Wealth of Communities* (London: Earthscan Publications, 1994); Helen Forsey (ed.), *Circles of Strength: Community Alternatives to Alienation* (Gabriola Island, BC: New Society Publishers, 1993); Christine Meyer and Firth Moosang (eds.), *Living With the Land: Communities Restoring the Earth* (Gabriola Island, BC: New Society Publishers, 1993).

pation in development approval processes—technocratic (top-down), liberal (incremental), and radical (bottom-up)—are themselves problematic in some respects.

This chapter sets out some of the ways in which traditional urban management systems (superseded by theory but not in practice) fail to achieve effective and constructive participation. These traditional approaches are then contrasted with a feminist model which reflects recent trends in participatory practice.[2] The discussion is limited to the design of structures or processes for participation in project evaluation and approval systems. It does not discuss the many strategies and practices employed by progressive planners at the person-to-person level to ascertain preferences and improve the value of the participatory experience.[3] These strategies, while valuable, are slow to change the broader institutional framework of decision making, which can subvert the positive results gained through participation. In my view, we cannot rely on the "trickle-up" effect alone to change institutional systems.

The typology in Table 1 (see pages 116-117) is intended as a communication aid. As with any typology, it is important to note that it is based on *ideal* types. Most people would have a mix of positions. While Table 1 makes distinctions among the first three models, it is their *similarities* that are significant here. Traditional models of participation are based on abstractions of society that artificially segregate "experts" from "ordinary citizens" (i.e. polarising them by emphasising differences). In fact, the terms "top-down" and "bottom-up" expose a hierarchical and dualistic social order which belies the myths of pluralism by which participation is generally legitimised.[4] That is, there is a misfit between the democratic values espoused and the dualistic

2. For a description of ecofeminist theory, see Janis Birkeland, "Linking Theory & Practice," in Greta Gaard (ed.), *Ecofeminism: Living Interconnections with Animals and Nature* (Philadelphia: Temple University Press, 1993), pp. 12-59; Maria Mies and Vandana Shiva, *Ecofeminism* (London: Zed Books, 1993).

3. See Wendy Sarkissian and Kelvin Walsh (eds.), *Community Participation in Practice: Casebook* (Perth: Institute for Science and Technology Policy, Murdoch University, 1994) for a comprehensive overview of this area.

4. Janis Birkeland, "An ecofeminist critique of 'manstream' planning," *The Trumpeter: Journal of Ecosophy,* Vol. 8, No. 2, 1991, pp. 72-84.

conceptual framework through which they are meant to be realised.

Frameworks for decision making that are based on myths about agency or wisdom residing in *either* professionals *or* citizens are inherently divisive and place the parties in active and reactive roles. It will be shown that the community-expert dichotomy works to marginalise community interests which, over the long term, must lose to the increasing power of special interests. Based on hierarchical/dualistic thinking, these paradigms of participation may foreclose the kinds of creative, lateral, problem-solving strategies required for ecologically and socially optimal solutions. The resultant linear decision-making processes favour an accountancy, or "bean counting," approach in decision technologies. It will be suggested that a team-based *design* approach is needed to recognise and resolve the multi-dimensional environmental and social parameters that development decisions entail. An ecofeminist model would tend to foster collaborative, interdisciplinary, design-based strategies that involve the participants as innovative actors.

Participation models: a primer

The models of participation that are set out in Table 1—technocratic, liberal and radical—are associated with different philosophies of planning—comprehensive, incremental and advocacy, respectively. Because these planning and participation models overlap both conceptually and historically, a capsule introduction to these three forms of planning is provided along with its associated model of participation. For simplicity, the variations between planning in the Western democracies are disregarded here and there is a greater focus on the United States which arguably has had a longer participatory planning experience.[5]

5. See generally J. Barry Cullingworth, *The Political Culture of Planning: American land Use Planning in Comparative Perspective* (New York: Routledge, 1993).

Table 1: Summary of participatory planning models

	TECHNO-CRATIC/ COMPRE-HENSIVE	LIBERAL/ INCRE-MENTAL	RADICAL/ ADVO-CACY	ECOFEM-INIST BIORE-GIONAL
CONCEPT OF COM-MUNITY	A gener-alised public interest determined by experts	A market of individual interests and preferences	Under-rep-resented groups threatened by devel-opment	Humans in complex social and ecological systems
FORM OF PARTICI-PATION	Public con-sultation by experts	Consumer choice	Develop-ment of counter-plans and offers	Team design process
PLANNER'S KEY ROLE	Determine optimal solutions	Determine public preferences	Ensure equal access to decision making	Facilitate bioregional/g lobal perspective
PROCESS	Scientific evaluation	Democratic representa-tion	Law-based, adversarial	Collabora-tive
FAVOURED METHODS	Cost-bene-fit based methods, EIA, etc.	Voting analogues e.g. survey, participation	Educa-tional and adversarial strategies	Self-help and empow-erment
ETHICAL BASIS	Utilitari-anism	Liberalism	Critical theory	Feminist/ biocentric

	TECHNO-CRATIC/ COMPRE-HENSIVE	LIBERAL/ INCRE-MENTAL	RADICAL/ ADVO-CACY	ECOFEM-INIST BIORE-GIONAL
KEY ROLE OF COM-MUNITY	Input into scientific process	Input into pluralist process	Counter-plans, protest, obstruction	Self-deter-mination
GOVERN-MENT'S IDEAL ROLE	Weigh expertise and other policies	Balance competing interests	Distribute wealth; arbitrate	Meet basic needs; facilitate
PROJECT INITIATOR	Private or public developer	Private or public developer	Private or public developer	Community self-reliance
PHILO-SOPHICAL AIM	Rationality	Procedural justice	Distribu-tive justice	Justice; well-being
COMPETING VALUES	Majority wins	Balance of interests; trade-offs	Equal op-portunity; fair game rules	Design for many parameters
PREFERRED REFORMS	Trans-parency of decision making	Deregulation and less government	More community power and autonomy	Systems change

Comprehensive, technocratic or top-down planning

"Comprehensive" planning initially only meant that whole municipalities were zoned (i.e. certain land uses were restricted to certain areas). Eventually, however, zoning and other forms of development control, or "statutory planning," conformed to simple master plans aimed at distributing land uses to reduce their impacts on adjacent properties (rather than the broader impacts of development). These early forms of development control proved too rigid to accommodate technological and social change.

In the 1960s and 70s, comprehensive planning evolved to accommodate other values in master planning, usually through the form of policy documents. Strategic planning subsequently integrated the economic dimension into the setting of public planning goals, reflecting the growing influence of business management paradigms, language and ethos.

With the rise of economic rationalism and tougher economic times during the 1980s cold war, planning as a "vision for the future" succumbed to its rhetorical association with post-war slum clearance programmes and centrally-planned economies. These legacies also did much to throw systems thinking or ecological planning "out with the bath water." However, "bioregional planning," which attempts to integrate community and ecology through systems of social organisation tailored to the regional ecology, is giving comprehensive planning a rebirth in some circles.

Community participation within the traditional comprehensive approach to planning was characterised as technocratic and top-down. Despite references to multiple publics or a multiplicity of values, the "community" was conceived as a monolith (Figure 1) whose best interests were translated into physical form by experts. Critics maintained that participation just meant consultation or "input" in planning and development approval systems, while experts (or expediency) determined what was best for the whole community. The government agency (planning authority or commission) weighed and balanced this advice with a range of competing policy objectives. Comprehensive planning presupposed that an optimal result for the community could be objectively determined, and that planning decisions flowed

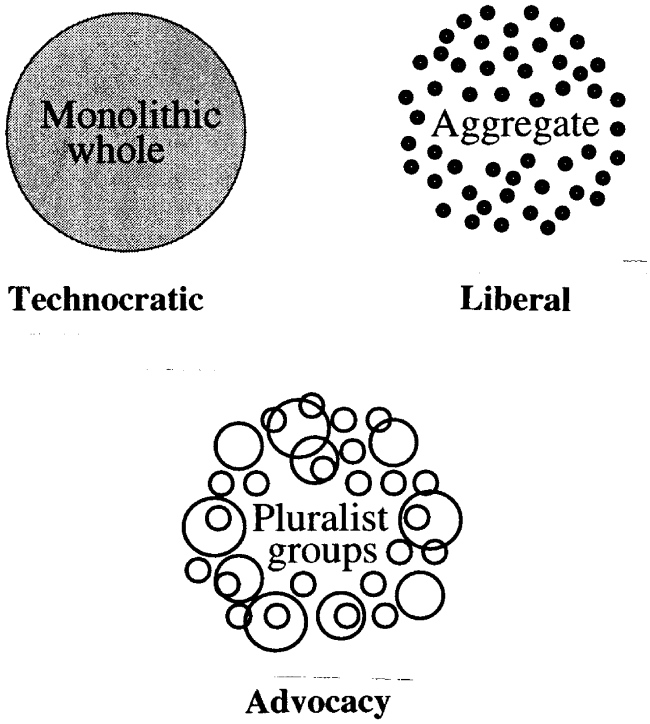

Figure 1: Differing models of community

directly from information. Hence abstract, "objective" decision aids developed, such as cost-benefit analysis, risk analysis and environmental and social impact assessment which, being highly technical, arguably exclude lay people from genuine involvement.

In this tradition, participation is seen as disciplining the decision-making process. Increasingly, more open procedures enable the public to oversee the administrative process (e.g. "transparent" processes, plain language, impact statements, written decisions and other accountability measures). But while public hearings allow the general public to express its views, these need not be acted upon. Objectors must often find errors in the technical procedures employed by experts which can be legally challenged, at least for negotiation purposes.

Faith in the objectivity of decision technologies may mean that information gleaned from consultation is discredited where it does not appear "rational" in the eyes of the experts. For example, the risk of a nuclear power plant meltdown is theoretically much less likely than that of an earthquake on the same site. Yet consumers generally "prefer" the risks of earthquakes to that of nuclear meltdowns. Therefore, their preferences have been defined as "irrational": a psychological problem to be overcome or accounted for. Subjective feelings about security, well-being or a sense of place and community are thus delegitimised. (In that case it was assumed that an earthquake on the site would not damage the nuclear power plant.)

Incremental, liberal or non-planning

Incremental (or liberal) planning came into vogue in the 1960s. It was a pragmatic response to the problems of implementing comprehensive plans, and was an attempt to fit planning within liberal ideology.[6] Incremental decision making is supposed to minimise the risk of big mistakes by making marginal, tentative adjustments in direction or approach.[7] In the context of resource or land use allocation on a finite planet, it is really "non-planning," because such decisions mask cumulative effects that are largely irreversible from an ecological perspective. Case-by-case development decisions convert land and environmental "goods" to private consumption, thus reducing future public options, while simultaneously obscuring the cumulative social and environmental impacts and the opportunity costs of these resource transfers. Over time, incremental choices form a "decision tree": at each branch, planning decisions may be rational, but taken as a whole they may not be, as we could end up out on a limb. Although many planners subscribed to a belief in a "public interest," when economics became the state religion in the 1980s, many redefined their position as "entrepreneurs," whose role was to attract investment to the community.

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6. Paul Davidoff, "Advocacy and pluralism in planning," *Journal of the American Institute of Planners,* Vol. 1, November 1965, pp. 331-338.

7. C. E. Lindblom, "The science of muddling through," *Public Administration Review,* Vol. 19, Spring 1959, pp. 79-88.

Whereas the comprehensive model has traditionally viewed society as homogeneous, the liberal model has portrayed society as an aggregate of individuals (Figure 1). The community ("whole") is merely the sum of the individuals ("parts"). Because the community is an aggregate, decision analysis techniques place an emphasis on various analogues of "voting," such as surveys or statistical analyses, to determine preferences. It is not the whole person but their values and preferences that count, as expressed through the pocket book, survey or vote. That is, these methods presume to separate interests or values from their complex individuals in order to measure them.

While the technocratic model of participation can be selective about public opinion, the "liberal" model presupposes that consumer preferences and producer needs correspond with optimal planning decisions. This suggests that the role of planning is merely to resolve conflict among competing interests when the market fails to do so. Planning is therefore subservient to consumption, and the producers and businesses which sustain consumerism. The consumer or voter is still relatively passive in this model of participation. The individual expresses wants, but it is the expert who collates and interprets community preferences and advises governments (the final arbitrator). This liberal model obscures the obvious, that as powerful firms and individuals incrementally acquire more resources through the planning and resource allocation system, their influence over decision making grows. Further, critics note, consumer demand (whether ascertained by research, market or voting mechanisms) is a function of prior resource allocations, opportunities and advertising.

The model also perpetuates the sometimes fanciful technical assumptions of its parent ideology: traditional economics. For example, the model presumes that the public sector is blinkered, while the individual voter or consumer (even if working in the public sector) is omniscient. It also assumes that, although individuals act selfishly, the aggregate of their self interested acts will result in optimal outcomes. Yet a community near a national park or wilderness area will often support development in their neighbourhood for financial gain, on the assumption that there will always be other wilderness areas they can enjoy on

holiday. This is partly because individuals do not have the capacity to prepare a plan for the region or nation which would reveal that other places are under similar threat.[8]

Radical, advocacy or bottom-up planning

Comprehensive planning was not designed to consider who gained at whose expense, or the effect of development on values like sense of place and community. Jane Jacob's book on the *Death and Life of Cities* (like Rachel Carson's *Silent Spring*) spurred a countermovement against this modernist approach. Foreshadowing postmodernism, some planners and architects began to realise that "ghetto dwellers" (many of whom were recent migrants) had life styles, value structures and cultures which needed to be accommodated in the built environment. The virtue of giving the poor more meaningful participation was demonstrated by the riots of the 1960s. The US "war on poverty" made possible a spate of advocacy planning and design agencies organised along the lines of legal aid offices. Inspired by the civil rights movement, advocacy planners sought to give disadvantaged communities a voice in the land use investment and development decisions that affected them. When external support dried up, a few offices survived by doing paid consultancies in the public interest.[9] Many radical planners dispersed into government planning agencies, where they continued to advocate social justice issues.[10] While advocacy and radical planning can be distinguished, they are both fundamentally concerned with social justice and meeting the needs of the under-represented, by whatever avenues the political situation at the time presents.

Advocacy planning was a genuine attempt at bottom-up planning. Advocacy planners tried to empower the community by providing technical support and political advice, without imposing their own values, decisions or strategies on their client groups. They worked to overcome cultural, class and language barriers to assist under-represented and under-resourced

8. Doug Aberley (ed.), *Futures by Design: The Practice of Ecological Planning* (Philadelphia: New Society Publishers, 1994).

9. The Community Design Center still survives in San Francisco.

10. John Forester, *Planning in the Face of Power* (Berkeley: University of California Press, 1989).

community groups in communicating with technocrats and negotiating with administrators. In this model, the community takes an active role in planning and design through hands-on involvement, rather than "consultation." Advocacy may be more likely than the other participation models to result in conditions being placed on a development approval, such as more energy-efficient design, cleaner technology or even a better site for the project. These modifications, however, are only likely where they cost little, improve a project's image and deflate public opposition.

In pluralist theory, which legitimises advocacy planning, the individual is the embodiment of many interests and affiliations which lead to alliances with different interest groups (Figure 1).[11] Because advocacy makes claims of being representative, it has been criticised for assuming that self-selecting participants can truly speak for the community. This critique assumes numerical "representation" is the primary objective rather than planning outcomes that represent community interests.

Perhaps the biggest frustration among advocates is that most hard-won victories are usually pyrrhic. For example, citizens spend thousands of hours trying to prevent a fast-food facility from displacing a local heritage property, while the parent chain continues to destroy rain forests to supply that chain's cheap beef. Thus, although many advocacy planners have socialist values, the praxis and the pluralist interpretation of society upon which it is based is not necessarily "radical." For example, many radical planners implicitly accepted the traditional view of social interaction as a contest among competing interests, groups, classes or alliances of interests, for political influence or control of social and natural resources. Great progress has been made in improving communicative strategies and techniques among participants, but little has occurred to improve the effectiveness of participatory processes in changing the resource transfer process. Whether the advocate works outside the system or inside a government organisation, the objective is to improve participation or, at most, reduce the power differentials

11. Davidoff, op. cit.

between vested interests and community groups, rather than to change the decision-making system fundamentally.[12]

Problems to be avoided

As illustrated by Table 1, these "ideal" models have many differences. To take some examples: (a) they portray "their community" either as a homogeneous whole (monolith), an aggregate of individuals (market), or victimised group (minority); (b) the community "participates" either as a passive recipient, a voter/consumer or an adversary; (c) community interests are determined either by scientific evaluation with consultation, democratic representation and choice, or adversarial negotiation. However, such distinctions conceal other commonalities which could undermine meaningful participation. Some frequently encountered problems are set out below.

Marginalisation In these traditional models, the "community" is often abstracted, pedestalled and set apart, parallel to the way the "environment" has traditionally been treated as separate from ourselves and made a ward of the state. This is more understandable in advocacy planning, because it comes into play when the life quality of a marginalised community is threatened by government or corporate action. However, in representing the subject community as a "minority" or "noble savage," advocacy planning does little to strengthen the community's claim. Our society does not respect victims. While modern participation specialists promote a different perception of community, this traditional view is still deeply imprinted in the collective imagination.

Anthropocentrism The first three models are anthropocentric in that the concept of "community" excludes nature. Other species and future generations cannot vote, and models of participation which exclude or invisibilise natural and social support systems work against rational planning (because survival is a fundamental goal of rational behaviour, by definition). A denial of the interdependencies between human and natural communities also prevents an understanding of the impediments to social justice and their causes—which should be

12. See Forester, op. cit.

a *raison d'être* of participatory models. It is largely the power imbalances that result from the inequitable distribution and ownership of natural resources, the raw material of power, that makes participation seem ritualistic.

Objectification Similar to the way that the community and environment are reified in these models, the individual is treated as an abstract "unit," whether seen as part of a whole, aggregate or pluralist group (Figure 1). That is, people are black boxes—containers of values or preferences that can be separated from the person. Recent "bottom-up" models, which draw upon the rhetoric of complex systems theories, still treat humans as a "node" in a communication network. Such androcentric oversimplifications can cause planners to miss the mark. Humans are a complex of emotions, motives and behaviours that are poorly understood, both by themselves and by their "interpreters." Feelings are often more relevant in finding ways to meet basic needs and improve human well-being than so-called "objective" indicators.[13]

Androcentrism This objectification of the "lay person" has its counterpart in the casting of the expert as the archetypal white male of Western mythology. Decision makers are viewed as rational calculators who optimise public, personal or class interests (depending on the model). It is assumed that given sufficient information "input," they will make an objective decision or bargain. Notions of rationality mask the personal motives which can unconsciously influence government officials and experts against ecologically-sound decisions; for example, frailty in the face of power, the desire to display tools of the trade regardless of their applicability, the entrenched faith in objectivity, situational ethics, and loyalty to the brotherhood.

Dualism These paradigms dichotomise community and experts; alternatively, we could all be considered both experts and part of the broader community. Dualisms lead to "either or" thinking: *either* centralised top-down *or* bottom-up planning; *either* expert *or* community-based decisions. Some call for

13. See Clive Hamilton, "Genuine progress indicators," in Janis Birkeland (ed.), *Eco-Logical Design* (Sydney: Allen and Unwin, 1999, forthcoming).

combining both bottom-up and top-down systems,[14] but in this case the transformation of both is required, not just an adding together of procedures. Binary oppositions can limit choices, reinforce conflicting positions, create barriers to optimal solutions and generate opportunities for blaming and buck passing. For example, professionals can use community participation to absolve themselves of personal responsibility: i.e. "the market made me do it." Yet people can hardly choose better plans and designs when examples of these options do not exist in the market.

Procedural Participation often becomes the goal, rather than a *means* to meet everyone's needs in the optimal way. The three models of participation are thus "procedural" in that if the process is right, the outcomes will presumably take care of themselves. Thus, community participation debates have often focused on how representative of marginal perspectives the *process* is, rather than outcomes. Cumulative resource transfers will inevitably silence the "multiplicity of values" which participation seeks to foster. Participation specialists are developing strategies that enable "listening" which complement procedures that ensure everyone can speak.[15] A collaborative, proactive orientation which can transcend the basic "development versus environment" conflict is possible if people consider themselves on the same side. A mutual concentration on design issues through "charrettes" (community-design workshops)[16] and other devices (if done properly!) helps to achieve this common focus, in my experience at least.

Linear Participation is generally only one step in a linear and sequential decision-making system. A corporate or government developer initiates a plan or project for its own purposes, and then the proposal is evaluated with community input and approved or rejected. Participation is thus part of a process of evaluating choices that are defined by proponents or vested (corporate or government) development interests. Even the

14. Mary Ganis, *People and Physical Environment Research,* Paper 47, 1995, pp. 3-6.

15. See Sarkissian and Walsh, op. cit.

16. Peter Wear, "New age ghetto blasters," *The Bulletin,* 23-30 January 1996, pp. 46-48.

"counter-plans" of advocacy planners are usually responses to threats posed by development proposals. This sequential process means that unforeseen environmental impacts may be "approved" in advance when the planning or building permit is issued (although performance bonds may be used). Participation often appears to be a stamp of approval.

Reactive In project review, the debate is often over mitigation measures rather than the best land use. For instance, more rational land use and healthier, more interesting jobs might be created by solar, wind or wave energy rather than by fossil fuels, but there is a developer ready to invest in a coal-fired plant. The best use of investment capital and land, therefore, often depends on special interest initiative and profit, tempered somewhat by political restrictions on the developer's ability to externalise the costs onto the wider community. As restrictions are determined politically, they also reflect the power of development interests. Thus, present forms of participation can do little more than tax development by requiring that their adverse impacts be modified.[17]

Quantitative In these models, participation is often reduced to a debate over the figures in an environmental impact assessment report, partly because of the unspecified assumptions and rubbery nature of the figures. Numerical approaches give preference to quantities over qualities; for instance, the number instead of the kinds of jobs. Thus, dam construction will appear to be better for employment than the solar alternative, because qualitative aspects and "remote" costs are played down—such as the nature of the work, the social displacement entailed by a short-term construction project in (often) a remote area, the value of wilderness, the ecological "services" provided by nature, and alternative projects foregone.

Bounded Quantitative analysis tends to narrow the system boundaries, as long-term costs (such as likely effects on future generations) seem uncertain and difficult to measure. Moreover, if the benefits to the developer are deemed merely to "outweigh" environmental risks to the general public, the project can still be

17. Janis Birkeland, "Redefining the environmental problem," *Environmental and Planning Law Journal,* Vol. 5, No. 2, 1988, pp. 109-133.

considered a good investment. Even when the risks are considered, they are "discounted" or reduced to current values (i.e. the reverse of interest rates is applied). In fact, however, environmental values and costs can amplify over time. Also, the equations also usually omit the indirect subsidies and pre-existing benefits that the developer receives from being in a community. These include the contextual factors and conditions that make the project likely to be profitable in the first place, such as an adjacent park or lake, and the existing infrastructure of roads, grants, tax shelters, fast-tracking procedures and cheap loans. Limited time horizons enhance the bias caused by narrow system boundaries.

Power-based The realities of power relationships are generally discounted in the traditional models. In fact, significant projects are often taken out of the planning system and fast-tracked through the political process because they involve powerful interests and controversies. This can mean that major developments are negotiated with politicians without public oversight (known as "decision making by brown paper bag").[18] Even pollution and health standards (regardless of the validity of methods by which "acceptable" pollution levels are determined) are negotiated by politicians, applied by consultants (in the pay of project proponents) and overseen by bureaucrats. This is hardly a recipe for confidence.

Accountancy-based The traditional models of participation are "accountancy-based." The technocratic process uses quantitative analysis, the liberal process counts preferences and advocacy planning attacks the figures. Healthy buildings and environments, however, are not achieved through accountancy and legalities, but through design. For example, the adverse impacts of a building or land use greatly depend on the choice of materials, layout, processes and components.[19] Good building design *can* reduce energy consumption by 90%, while increasing employee productivity and eliminating the "sick building

18. In Australia, whether and when an EIS is required is ultimately up to ministerial discretion.

19. See David Malin Roodman and Nicholas Lenssen, *A Building Revolution: How Ecology and Health Concerns are Transforming Construction* (Washington, DC: Worldwatch Institute, 1995).

syndrome."[20] Means to improve projects at the design stage are therefore more important than measuring impacts.

Ecofeminist paradigm

More recent work in planning has begun to challenge the traditional models. The "ecofeminist" paradigm summarised in Table 1 does not share the "similarities" (above) still often found in traditional models of participation. Ecofeminism challenges the androcentric interpretation of humans, nature and society, the dualistic and linear framework of reason, and the hierarchical structures of Western society upon which the other models are based. Space does not permit an exposition of ecofeminism here, so only a few relevant aspects are set out below. The general import of the following values is to suggest that the previous processes should be replaced with a "team-design" approach to participatory planning and design.

Inclusiveness Ecofeminism calls for inclusiveness: the integration of voices of women, children, classes, indigenous cultures and other species—categories marginalised by patriarchy. The civil rights and feminist movements forced a "postmodern" perspective which recognises that where one stands is conditioned by where one sits. A wider range of values and interests is now acknowledged in planning policy. However, the androcentric decision theories, processes and technologies remain tailored around one human stereotype (the self-interested radical individualist male of Western philosophy) and are, therefore, inherently exclusionary. This essentialist "model of man" is being dislodged by a "broader" (feminist) archetypal human that is interdependent with community and nature. This validates concerns that are largely disregarded in mainstream planning: the sense of well-being obtained from belonging to a community, contact with nature, and a healthy, safe environment.

Ethical discourse In the absence of a culture of normative debate, the androcentric decision aids and linear, reactive review processes, though designed merely to "inform" decision makers,

20. See Hunter Lovins, "Productivity and energy efficiency," in Janis Birkeland (ed.), *Rethinking the Built Environment, Proceedings of the Catalyst 95 Conference* (Canberra: Centre for Environmental Philosophy, Planning and Design, University of Canberra, 1995).

have in fact been deterministic. They have dictated what kind of future we are creating. Also, much of the accumulated knowledge about planning is being privatised in widely dispersed consultancies. An ecofeminist paradigm would require that decision-making technologies and processes be redesigned to foster ethics-based decision making rather than quantitative decision technologies, which tend to count only those things that can turn a profit or can at least be represented by numbers. An ecofeminist system would therefore seek to replace case-by-case decision making with face-to-face communication and mutual learning.

Ethic of care Ecofeminism calls for an ethic of care which respects the intrinsic value of other beings and nature. Instrumentalism would be supplanted by reciprocity and community building. Instead of "marshalling linear flows of time, resources and human or natural energy in the service of a manifest destiny," planning would strive to foster symbioses with nature and Other. Feminists do not accept the concept of knowledge as context-free, value-neutral universal ideas. Knowing is grounded in emotion, experience and values, and has normative content. A ecofeminist attitude toward participatory planning would involve learning by immersion with a community, rather than by eliciting information through empirical questions and surveys.

Redistribution of wealth Theoretically, neoclassical economics has sought to ensure that improving the welfare of a group or individual does not make any others (the whole) worse off. This means the risks of uncertainty or unforeseen environmental impacts are borne by (or externalised upon) the community as a whole or communities in other countries. The focus on weighing up interests or costs and benefits, or making trade-offs, in order to choose winners, distracts attention from questions pertaining to the value of a development or industry itself, or the best long-term use (or non-use) of public resources and investments. In contrast, public investments within an ecofeminist economics would be directed toward restoring or protecting the whole natural and social support system in ways that would not make any groups or individuals worse off. It is often countered that there are insufficient public resources to solve these big problems. To the contrary, eliminating "perverse subsidies" through planning would represent a public invest-

ment in ecologically-benign production systems and products. A fraction of the world military budget could restore air, soil and water to an adequate standard.

Spiral reason Linear, dualistic and hierarchical structures of reason create inherent biases against the health and preservation of natural systems, such as "cause and effect," "either or," "them versus us" thinking that fuels mistrust and hostility. The ecofeminist structure of reason is spiral, in contrast to the ladder of patriarchy or "great chain of being."[21] Recently, hyper-abstract models based on complex systems or chaos theory have been latched onto as a new model for seeing the world. (The deceptively value-free, transcendent and detached metaphor of complex systems may explain their appeal.) In contrast, the ecofeminist model is self-consciously normative and immersed in real world issues and, I suggest, provides a better basis for designing the future. It also means that since expert knowledge and technologies are not superior by virtue of being (ostensibly) objective, rational and detached, the expert must become accountable for outcomes. Mere adherence to the methodology of the brotherhood will no longer constitute responsible behaviour.

Celebration of diversity Incrementalism is not a good concept upon which to base an adaptive planning model, because it is one-dimensional: it is linear in time. Incremental planning should not be confused with the multi-dimensional green strategy of "working on all levels whenever and wherever one can be effective in making positive social change." Instead, it means taking tentative steps in policy implementation and, if they are later seen to fail, something else can be tried. This is reminiscent of the computer game called Lemmings and not the systems view to which incrementalists sometimes lay claim. The ecofeminist celebration of biological and cultural diversity would foster diversity in planning and participation systems. It would therefore be more "adaptive" than incremental strategies. As I have explained elsewhere, participation in an ecofeminist framework would be designed to prevent the abuse of power and promote decision-making systems that fit the nature of the

21. Patsy Hallen, "Careful of science: a feminist critique of science," *The Trumpeter,* Vol. 6, No. 1, 1989, pp. 3-8.

particular context or issue.[22] In this regard, ecofeminism offers a theoretical base for bioregional planning,[23] which holds that the social organisation and decision-making structures of a community should be designed to fit the local ecology.

Design-based approach Measuring, administering, monitoring and enforcing compliance-based assessment processes and cross-subsidies should *not* be the highest goal of environmental management. Rather than mitigating problems after the basic decisions have been made and developers have invested in plan development, waste and pollution should be prevented where possible. Thus, in an ecofeminist model of participation, ecodesign (synthesis of imagination and systems thinking) would replace linear project evaluation systems (Box 1). Because it focuses attention on joint problem solving, the design-based approach moves conflict away from ideological positions towards lateral solutions. Different strategies and tools can be applied to structure the design process. Quantitative, mechanistic decision aids would be applied within, and subsidiary to, an ethics-based framework for decision making in the (watershed or bioregional) community. These methods would be expanded to involve an analysis of industries, urban areas and construction projects as complex energy and resource metabolisms nested in wider ecologies.[24]

A design-based approach is always contextual and responsive to the particular site and cultural conditions. Although it also takes into account general principles of ecological design, it is geared towards outcomes rather than adherence to a specific process. The following is an example of how this team-based concept might be structured in one institutional and geographical context.

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22. See Janis Birkeland, *Planning for a Sustainable Society: Social Transformation and Institutional Reform,* PhD thesis, Department of Geography, University of Tasmania, 1993, which redesigns the institution along ecofeminist principles.

23. Judith Plant, "Searching for common ground: ecofeminism and bioregionalism," in Van Andruss, Christopher Plant, Judith Plant and Eleanor Wright (eds.), *Home! A Bioregional Reader* (Philadelphia: New Society Publishers, 1990), pp. 79-85.

24. Birkeland, 1999, op. cit.

Box 1: Ecodesign
Ecodesign re-examines needs, ends and means in the context of the social and ecological systems in which they function. On the *physical* plane, ecodesign involves rethinking the materials, industrial processes, construction methods, building forms or urban systems to "close the loops" at both site-specific and regional levels. On the *social* plane, it means rethinking the end uses which products, buildings and systems serve and how these affect the community, social equity and environmental ethics. Unlike the environmental management fields, ecodesign also goes beyond the physical and social dimensions, acknowledging a *spiritual* dimension. This entails rethinking how built environments can affect our sense of being, belonging and place in community and nature.[25]

Design review process

Project assessment (for these purposes) begins after a land use or development proposal has been deemed permissible in concept. This should only happen when a project fulfils the environmental, ethical and economic objectives of a comprehensive plan and meets other environmental standards and policies. The purpose of the project review system is to achieve both the developer's and general public's goals in the optimal ecological, social and economic way. The particular system below is simply to illustrate how the above ecofeminist principles could translate into a pragmatic transitional system.[26] It has three components: a design competition, impact assessment and design development stage.

A collaborative (community/expert) team-design approach would occur in open community workshops in order to draw upon practical experience in the community. Team members would represent different forms of knowledge as well as different areas of expertise. This team-design process would benefit the developer, since it should increase creative ideas, improve ecological and cost efficiencies, and reduce conflict by giving the

25. Janis Birkeland, "Responsible design," *Architectural Theory Review,* Vol. 2, 1996, pp. 13-15.

26. This example was presented in Janis Birkeland, "Towards a new project review system", *Bogong,* Vol 16, No. 5, 1996, pp. 10-13.

community a sense of ownership of the planning and design process. The jury or project assessment and design (PAD) team would have the support of staff planners and administrative assistants, as do planning commissions. The PAD team would *not,* however, be composed of political appointees or long-term elected members. Instead, the members would be called for occasional "jury" service from a revolving list of certified volunteers (who might receive stipends). They would generally be expected to have a demonstrable ecological understanding and experience in both community involvement (activism) and offer interdisciplinary design knowledge.

Design competition stage The first stage is a type of design "competition" (which has a long history in the design professions). The design jury in this case, however, is a select cross-section of the community drawn from the roster. The appropriate number and mix of jurors is determined through an open scoping process by the responsible planning authority. For a major project, the jury might include an ecological economist, environmentalist, engineer, unionist, landscape planner, psychologist, community group representative, sociologist and biologist and others. At this stage, their job as jurors is to evaluate information dispassionately. Unlike their legal counterparts, however, they would examine the proposals using environmental and ethical criteria relevant to their area of expertise, which could be that of a child carer, immigrant, urban Aboriginal or unemployed youth.

Impact assessment stage The second stage begins when a "design and construct" team is selected or assembled by the jury. The jury then becomes an advisory body that assists in both impact assessment and the search for more creative solutions to any issues that surface. At all stages, the meetings would be open to contributions by observers. The assessment processes are flexible; information and experts can be tested by inquisitorial or adversarial processes as appropriate to the circumstances of the case. As is presently the case, the developers pay social and environmental impact consultants, but the PAD team and planning staff assess these studies for reliability and accuracy. By assuming authorship, the planning agency accepts responsibility for its contents (not presently the practice in Australia).

While technical matters may be contracted out to specialists, the costs and time involved in project assessment would be significantly reduced by integrating impact assessment with project design and development.

Box 2. Further reading

M. Albert and R. Hahnel, "Participatory planning," *Science and Society,* Vol. 56, No. 1, Spring 1992, pp. 39-59.

Douglas Amy, *The Politics of Environmental Mediation* (New York: Columbia University Press, 1987).

M. Bamberger, "The importance of community participation," *Public Administration and Development,* Vol. 11, No. 3, May-June 1991, pp. 281-284.

R. Fisher and S. Brown, *Getting Together: Building Relationships as We Negotiate* (New York: Penguin, 1988).

Allan D. Heskin, *The Struggle for Community* (Boulder, CO: Westview, 1991).

S. Kaplan and R. Kaplan, "The visual environment: public participation in design and planning," *Journal of Social Issues,* Vol. 45, Spring 1989, pp. 59-86.

A. S. Lackey and L. Dershem, "The process is pedagogy—what does community participation teach?" *Community Development Journal,* Vol. 27, No. 3, pp. 220-234.

Wendy Sarkissian and Kelvin Walsh, *Community Participation in Practice* (Perth: Institute for Science and Technology Policy, Murdoch University, 1994).

Carmine Scavo, "The use of participative mechanisms by large US cities," *Journal of Urban Affairs,* Vol. 15, No. 1, 1993, pp. 93-109.

L. Susskind and Jeffrey Cruickshank, *Breaking the Impasse: Consensual Approaches to Resolving Public Disputes* (New York: Basic Books, 1987).

B. West, "Public consultation—is it just a public relations exercise?" *Urban Consolidation and Planning Conference,* Sydney, 16-19 March 1992.

Design development stage In the final stage, the PAD team works with the selected firm in an interactive, "roundtable" design process that remains open to public input and involvement. Ecological efficiencies discovered by the PAD team and planning staff come free to the developer and mean long-term

economic public benefits. The way design competitions and impact assessments are presently structured means much valuable information "disappears," because the information is generated case-by-case and is relatively inaccessible. Because of the continuity provided by the proposed system, in contrast, a "learning system" is created. The planning staff can develop and maintain "evaluation tool kits" for both assessing and rating future developments proposals. This community-based team process would enable citizens to take back some responsibility for the quality of their built environment.

Conclusion

This chapter has attempted to outline traditional planning and participation models and contrast these with some features of an ecofeminist alternative. While other models dichotomise experts and lay citizens, this model would recognise that all individuals are a mix of special knowledge, experience and ignorance. While there is a long history of participation in planning and design, and substantial progress in the area of improving participation methods, the translation of those experiments into government level decision making has been limited. To direct attention to the structural level, the chapter has provided a model for a "transitional" or sub-optimal system, which illustrates how broader feminist principles can be used to modify the generic project review system in a practical way.

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Commentary by Bronwyn Hayward*

There is a growing unease amongst academics, planners, and community members alike. Despite many laudable attempts to achieve a more participatory approach to planning, it seems, as Birkeland argues here, that the introduction of participatory processes alone has not achieved significant institutional reform.

Janis Birkeland identifies three schools of planning thought and explores how each school approaches the issue of public participation. These schools—technocratic, liberal and radical/ advocacy—are then contrasted with an alternative ecofeminist vision of participatory planning.

In contrast to the former planning schools, Birkeland argues that an ecofeminist approach holds the key to effective institutional reform because it promotes more inclusive public participation (integrating a wide range of voices), and gives emphasis to the ethics of discourse, social learning, grounded knowledge and the "intrinsic value of other beings and nature." Ecofeminism also encourages a redistribution of wealth (with an emphasis on restoring nature and social supports), new forms of reasoning and diversity in design.

This ecofeminist vision is commendable, but will it work? My initial reaction is to note that ecofeminists are not alone in articulating new visions for public participation. Planners working with theories of deliberative democracy share many of the aspirations outlined above. For example, authors like Dryzek,[27] Hillier,[28] Forester[29] and Fischer[30] have been influenced by Habermasian theories of critical theory and communicative

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27 John S. Dryzek, *Discursive Democracy: Politics, Policy and Political Science* (Cambridge: Cambridge University Press, 1990).

28 J. Hillier, "To boldly go where no planners have ever gone before," *Environment and Planning D Society and Space,* Vol 11, 1993, pp. 89-113.

29 J. Forester, *Critical Theory Public Policy and Planning Practice* (Albany: State University of New York Press, 1993).

30 Frank Fischer, "Citizen participation and the democratisation of policy expertise," *Policy Sciences,* Vol. 26, 1993, pp. 165-187.

action. These authors seek practical ways to create planning forums in which citizens can come together to discuss issues of concern, in a situation where discussion is influenced only by the force of the better argument, and not by power or wealth. Some deliberative democrats like Dryzek argue that new social movements provide the kind of inclusive forum we need if we want more voices in planning debate. Others like Frank Fischer try to help citizens to work on complex technical issues in team situations with planners and other "experts."

A second school of thought which shares many of the aspirations of ecofeminists is that of communicative planning. Authors like Iris Marion Young[31] and Patsy Healey[32] are amongst the foremost authors of this new school of thought. Communicative planners complain that many approaches to public participation, including the discursive school, simply end up privileging those people who feel most comfortable with the western rational (male) adversarial model of argument. Communicative planners attempt to achieve a more inclusive public discussion by ensuring that voices coloured by emotion, rhetoric, and story telling are recognised as valid and authoritative and that public participation occurs in forums in which time has been taken to ensure that participants first know and trust each other.

Communicative planners, deliberative democrats and ecofeminists all advocate slightly different approaches to public participation, but they share a common concern for social justice. All three planning approaches force planners to revisit questions of social justice in two ways. First these new approaches challenge us to consider the justice of decision-making *procedures* (how decisions are made, who gets heard and with what authority) and second we are asked to consider issues of *distributive* justice (who benefits and who bears the burden of planning outcomes). These approaches remind us that if we want to achieve effective institutional reform in planning it is not enough to introduce more opportunities for public participation; we need

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31 Iris M. Young, "Communication and the Other: beyond deliberative democracy," in M. Wilson and A. Yeatman (eds.) *Justice and Identity* (Wellington: Bridget Williams Books, 1995).

32 Patsy Healey, "Planning through debate," *Town Planning Review,* Vol. 63, No. 2, 1992, pp. 143-163.

to ensure that planning outcomes are equitable and that the participatory procedures are inclusive and just.

Commentary by Paul Selman*

At the outset, let me affirm my sympathy with many of the author's ideas about reconstructing urban planning. Nevertheless, despite being a supporter of community-based approaches, I do question their potential to be wholly reconciled with human (and not just male) nature. On balance, I think that Birkeland's views provide an interesting basis for debate, but that her prescriptions are neither definitive nor the exclusive domain of ecofeminism.

Initially, I must agree that urban planning represents a patriarchal tradition. This is an observation rather than a criticism, for I do not believe that one generation should pass judgement on a previous one. Despite being a staunch defender of my profession (hopefully, not mere "loyalty to the brotherhood"), I cannot escape the conclusion that traditional urban planning is irredeemably a male-oriented product of twentieth century modernism. My professional institute has done all the right things—electing women presidents, taking our daughters to work, supporting "women in planning" groups, etc.—yet still any gathering of senior planners approximates to the proverbial smoke-filled room of middle-aged men. This reinforces my belief that urban planning contains assumptions about change and progress which appeal to the male psyche, and I suspect that its traditional conception is nearing the end of its shelf-life.

However, I believe the author too lightly dismisses and caricatures past practice, and ignores the positive reasons why "theoretically superseded" systems prove ineradicable. It is important to see the different models not as progressive substitutes over time but as conceptual clusters of imperfect

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approaches which contain various workable features. Adversarialism may not be fashionable, but it is still probably the most satisfactory way of resolving most planning issues; equally, incrementalism is an effective way of making decisions in most situations, whereas mould-breaking "social learning" occurs only intermittently. The hallmarks of ecofeminism also seem distinctly eclectic and, whilst it may "reflect recent trends," it cannot lay more than a partial claim to notions and mechanisms of adaptive planning, industrial ecology, team-design, roundtables, contextualised knowledge, inclusiveness or advocacy. Many of the propositions are thus neither distinctively feminist nor even terribly contentious.

My main concern is that the chapter reflects an idealised view of human nature, often found in theories of citizenship, localism and communitarianism. It may be regrettable that economics has become a "state religion" since the 1980s (partly as a result of a certain woman prime minister), but this is because it provides a depressingly accurate view of human behaviour, and does help us comprehend the nature, values and usage of environmental resources. Men and women, given comparable opportunities, show remarkably similar proclivities to materialism, mobility and consumption. Even the most laudable community, team-based designs must take account of this side of human nature, as well as the increasing atomism of complex societies. I should like to contend numerous other statements but, despite my caveats, I find this an optimistic essay, which signals many features of a re-defined urban planning in the 21st century.

Response by Janis Birkeland

Selman objects that the participatory processes canvassed in my chapter are "not the exclusive domain of ecofeminism." I would hope not, as we inhabit the same social system. When participation issues are discussed within a "malestream" communitarian, anarchist, socialist or other paradigm, they do not attract such dog-in-the-manger retorts. Ecofeminist theory challenges the dualistic nature of traditional Western thought, so

it would not be consistent to reject all concepts produced in a male dominant culture (at least since the advent of first-wave feminism). The traditional defence of patriarchy has been to regard things associated with the feminine in oppositional or exclusionary terms, and this ploy still serves to marginalise feminist thought. Ecofeminism is not an opposition, but an evolving and creative synthesis which seeks to heal the lobotomy of patriarchal culture.

This "exclusionary principle" in malestream academia does harm to its heirs as well as those it serves to dispossess. Feminists know and understand the malestream culture, but also read feminist analyses, so they have the benefit of broader insights and dimensions. Thus, for example, had Selman understood ecofeminist theory, he might not have such a fatalistic view of "human nature" embedded in economic rationalism or Thatcherism. The fact that game theory experiments show that people trained in neoclassical economics act more selfishly than others demonstrates that economic rationalism is not biologically preordained. While women are capable of taking on the most perverse values, their tradition of care for millions of years has not yet been annihilated by the economist paradigm. If women's experience counted, it would belie the universality of patriarchal human nature.[33]

Selman's complaint that my "prescriptions are not definitive" seems to be demanding patriarchal outputs from ecofeminist theory. In an ecofeminist framework which (within the constraints of language and culture) could be understood as systems design thinking, terms like "definitive prescriptions" make no sense, and would certainly be inappropriate criteria for social change. Patriarchal thinking is also revealed in Selman's projection that feminism is passing judgement on a "previous" generation. All the feminists I have known are interested in changing systems of oppression and exploitation—not "blaming"—yet blame is all that many men choose to hear.

Selman's lament that his "professional institute has done all the right things," such as electing women presidents, would amuse most of its women members. If malestream planners

33. Birkeland, 1993, op. cit.

learned to listen, women's participation in these institutes might begin to shift paradigms. This is one of those key concepts of participatory planning that is not the exclusive domain of ecofeminism, yet has not been taken on board anyway. To think that tokens in boy's clubs is an answer is also to confuse gender (a cultural construct) with sex (biology) and reflects the dominant paradigm of participation discussed in my chapter. While I do indeed "caricature past practice," I was there, as a participatory planner in the 1960s. Bronwyn Hayward's contribution notes that the work of discursive and communicative planning theorists was not included in my (admittedly broad and simplistic) overview. While aligned with critical theory, these theories of participation, last time I looked, were still not dealing with the structures of power as distinguished from procedures within those structures, which was the primary point of my chapter.

Coercive psychiatry, human rights and public participation

Richard Gosden*

Introduction

Public participation in psychiatric issues has been expanding in recent years along with a growing belief within the medical profession that a large proportion of people are in need of psychiatric treatment, but few are receiving it. A recent survey published in *The Medical Journal of Australia*[1] found that 26.4% of 1009 ordinary rural adults in South Australia had mental illnesses. This result was similar to other research in Christchurch NZ, which found that 20.6% of the general population had mental illnesses, and two studies in the United States which found rates of 20% and 29%. The South Australian study also found that only 4.2% of the people with mental illnesses had seen a psychiatrist or psychologist in the previous 12 months. This finding prompted the authors to agree with US researchers that "most community residents are not treated for their psychiatric problems."[2]

The public participation that accompanies these medical perceptions has two branches. The first is a dominant movement that seeks to expand the reach of psychiatric services so that all

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1. John R. Clayer, Alexander C. McFarlane, Clara L. Bookless, Tracy Air, Graham Wright and Andrew S. Czechowicz, "Prevalence of psychiatric disorders in rural South Australia," *Medical Journal of Australia,* Vol. 163, 7 August 1995, pp. 124-128.

2. Ibid., p. 128.

the people who are thought to be in need of psychiatric attention can receive it. The advocacy of this expansion is led by a powerful coalition of psychiatric professionals combining with well-organised support groups for the relatives of mentally ill people.

But this campaign involves more than just lobbying for an expansion of services. A curious aspect to the problem of treating more people is that it is not simply a lack of services that prevents untreated people from receiving attention. More often it is the unwillingness of these people to be treated. The resistance of most people to volunteer for psychiatric treatment gives rise to an ongoing campaign by psychiatrists and relatives to amend mental health legislation in order to make it easier to impose involuntary treatment on them.

Not surprisingly, this ongoing campaign to expand psychiatric coercion is countered by a second stream of public participation. This second stream is much weaker and has been constantly losing ground in recent years. It is mostly comprised of former psychiatric patients who have received involuntary treatment. Members of this stream have recently begun to call themselves "psychiatric survivors," to emphasise the ordeal they claim to have endured. The psychiatric survivor movement is supported by a small number of dissident psychiatrists, civil libertarians and human rights advocates. Their campaign is mainly centred on making attempts to raise public consciousness about the perceived fraudulent nature of psychiatric diagnosis, the injustice of involuntary incarceration and the dangers of psychiatric treatments.

Psychiatric survivors have to deal with a number of major obstacles that impede their public participation. The most serious is a lack of public credibility that is directly linked to the mental illness labels that have been attached to them. A further obstacle is the successful strategy of their opponents to have all mental patients, both past and present, recognised in public forums as members of a mental health "consumer" movement.

Inclusion in the consumer movement causes very serious problems of recognition for psychiatric survivors because this collective identity suggests that all mental patients are willing beneficiaries of psychiatric treatments. The consumer strategy also provides the opportunity for the mental health establish-

ment to fill any positions that are created for patients' rights advocacy with people who are enthusiastic consumers, i.e. voluntary patients. Voluntary patients are not usually concerned with psychiatric coercion.

The result is that psychiatric survivors are marginalised in conventional forms of public participation involving venues like the mass media, public forums, public inquiries and political lobbying. Although psychiatric survivors are currently trying to adapt to this situation by using new avenues, like the internet, the public participation recounted in this chapter has largely taken place without their input.

The two case studies of public participation presented in this chapter involve an inquiry into the human rights of mentally ill people and a campaign of political lobbying to amend legislation to make involuntary treatment easier. These case studies have been chosen because they clearly demonstrate the ascendancy of the campaign by psychiatrists and relatives. They also show how high levels of credibility in public forums can compensate for flawed arguments.

Human rights and psychiatry

Human rights are the theoretical underpinning for both branches of public participation in psychiatric issues and so, in order to fully understand the positioning of the participants, it will be useful to introduce a brief background to the relationship between human rights and psychiatry.

Under the legislative frameworks that are typical of most modern democratic societies, psychiatric practices tread a fine line between benefiting and harming the exercise of human rights. This is largely because the cultural objectives of psychiatry and human rights are, to some extent, opposed to one another. While the basic principle of human rights is to set limits on the degree of social authority, and social isolation, which is allowed to be imposed on individuals, the speciality of psychiatry is to identify, label and modify deviant individuals so they can be properly fitted into the social fabric. These fundamental differences sometimes threaten to turn psychiatry and human rights into antitheses.

Psychiatry has little trouble in establishing its potential benefit to the exercise of human rights when "deviant" individuals acquiesce to a diagnosis of mental disease and seek treatment for it. A specific article of human rights law that psychiatry can enhance in this way is Article 12 of the International Covenant on Economic, Social and Cultural Rights (ICESCR). Article 12 concerns "the right of everyone to the enjoyment of the highest attainable standard of physical and mental health."[3] The human rights sentiments expressed in Article 12 are the basis for the "right to treatment" which is often promoted by members of the psychiatric profession as being the most important human right in regard to psychiatry.[4]

But the "right to treatment" can have a hollow ring to it when psychiatry is practised on people against their will. The psychiatric systems which classify symptoms and define specific mental illnesses, the methods of diagnosis, and the treatments for mental illnesses, are all subjects of intense controversy, both within medical science and outside in the general community. There are no laboratory tests to identify or confirm most mental illnesses. Psychiatric diagnoses are usually made after interviewing people and then subjectively comparing them to personality profiles sketched in diagnostic manuals. Many people whose thinking patterns are said to deviate from the norm deny they have a mental illness or, if they accept a diagnosis, prefer not to have it treated.

Specific human rights problems arise for psychiatry from the tendency of most modern industrial societies to have mental health laws which empower psychiatrists to make clinical judgements about the mental health of the people they encounter in their work and to impose treatment on them, without their consent, if the psychiatrist thinks it is necessary. In 1995, for instance, there were 7370 involuntary admissions to mental

3. United Nations, "International Covenant on Economic, Social and Cultural Rights," Article 12 (1), reproduced in Satish Chandra (ed.), *International Documents on Human Rights* (New Delhi: Mitral Publications, 1990), p. 16.

4. See, for example, John Grigor, "The right to treatment," in Human Rights and Equal Opportunity Commission, *Schizophrenia: Occasional Papers from the Human Rights Commissioner,* Number 1 (Sydney: Human Rights and Equal Opportunity Commission, December 1989), pp. 7-14.

hospitals in the state of New South Wales[5] (NSW) which amounted to about one third of the total admissions.

Involuntary mental patients often find themselves in a situation in which they are incarcerated for an indefinite period without being charged with a criminal offence, interrogated, coerced into changing their thoughts and beliefs, subjected to painful and uncomfortable treatments if they cannot or will not make the required mental changes, and denied freedom until their behaviour has been sufficiently modified. Although there are a number of human rights provisions that appear to address this type of situation—i.e. the rights to liberty, freedom from torture, and freedoms of thought and belief—public participation campaigns concerned with coercive psychiatry, strangely, always result in further confirmation of involuntary procedures.

UN Principles on Mental Illness

In 1977 the UN Commission on Human Rights appointed a "Sub-Commission to study, with a view to formulating guidelines, if possible, the question of the protection of those detained on the grounds of mental ill-health against treatment that might adversely affect the human personality and its physical and intellectual integrity."[6] The primary task given to the two Special Rapporteurs the Sub-Commission subsequently appointed was to "determine whether adequate grounds existed for detaining persons on the grounds of mental ill-health."[7]

The UN Principles for the Protection of Persons with Mental Illness and for the Improvement of Mental Health Care[8] did not

5. Mental Health Review Tribunal, *Annual Report 1994* (Sydney: NSW Government), p. 74.

6. Yo Kubota, "The institutional response," in C. G. Weeramantry (ed.), *Human Rights and Scientific and Technological Development* (Tokyo: United Nations University Press, 1990), p. 115.

7. Ibid.

8. United Nations, Commission on Human Rights, "Principles for the Protection of Persons with Mental Illness and for the Improvement of Mental Health Care," reproduced in Human Rights and Equal Opportunity Commission, *Human Rights and Mental Illness: Report of the National Inquiry into the Human Rights of People with Mental Illness* (Canberra: Australian Government Publishing Service, 1993), pp. 989-1005.

emerge until more than a decade later. Unfortunately, despite the brave start, the final document was repeatedly rewritten and massaged by numerous committees to such an extent that the original focus was lost. The primary tasks of attending to involuntary detention and the risks of treatment were eventually buried by cross-referencing and other priorities.

The final version of the "Principles" adopted by the United Nations General Assembly in 1991 is primarily designed to protect the rights of voluntary patients, not involuntary patients. Principle 1 begins with an assertion of the "right to treatment." This right thereafter becomes the basis for most of the other voluntary patients' concerns, like confidentiality and protection against discrimination, addressed by the document.

Where the "Principles" do address the problems of involuntary patients, it is done in a way that tends to undermine their rights rather than protect them. Principle 11, for instance, deals with "Consent to Treatment" and specifies that "No treatment shall be given to a patient without his or her informed consent, except as provided for in paragraphs 6, 7, 8, 13, and 15." Paragraph 6, however, denies the right of informed consent to involuntary patients: "… treatment may be given to a patient without a patient's informed consent if the following conditions are satisfied: (a) The patient is, at the relevant time, held as an involuntary patient; …"[9]

Involuntary admission is not only permitted under the "Principles" but the criteria which are specified for correct procedure are considerably less restrictive than those currently contained in the NSW Mental Health Act (MHA).[10] Whereas the NSW MHA requires that a person be dangerous to themselves or other people before involuntary commitment is permitted, under the "Principles" a person can be committed merely because "a qualified mental health practitioner" considers the person's condition is likely to deteriorate, or treatment will be prevented, without incarceration.[11]

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9. Ibid., Principle 6.

10. *NSW Mental Health Act 1990,* reprinted as in force at 17 October 1994 (Sydney: NSW Government Information Service, 1994), Section 9, p. 5.

11. United Nations, op. cit., Principle 16.1.

The Burdekin Inquiry

A prominent illustration of the failure of public participation to properly address the problems of coercive psychiatry is to be found in the 1991/92 Australia-wide Human Rights Commission Inquiry into Human Rights and Mental Illness (Burdekin Inquiry). The Inquiry's Report clearly demonstrates an apparent lack of significance given to the rights of involuntary patients when they conflict with the needs of their frustrated relatives. Under the heading of "Involuntary Detention," for instance, the Burdekin Report observed that,

> Involuntary detention—for any reason and under any circumstances—is an extremely serious matter involving curtailment of several fundamental rights the most important of which is the right to liberty. The Inquiry received extensive evidence on this subject, particularly from consumers.[12]

Even so, after only one more brief sentence on the subject the report moves on to a lengthy discussion in support of denying the very same "fundamental rights" the Inquiry had just recognised:

> *Difficulty in Gaining Involuntary Admission*—Families and other carers are faced with a dilemma when the person for whom they are responsible has lost touch with reality and has insufficient insight[13] into his or her condition to accept the need for treatment.[14]

This clear bias of the Inquiry towards investigating the rights of voluntary patients—and the relatives of patients—at the expense of involuntary patients, doesn't appear to have been built into the original design of the Inquiry. When the Terms of Reference are examined it is apparent that coercive psychiatry was originally intended as a focus. The first Term of Reference listed the classes of people the Inquiry had initially intended to

12. Human Rights and Equal Opportunity Commission, 1993, op. cit., p. 230.

13. "Insight" is a Catch-22 device used in psychiatric coercion. A person who rejects the label of mental illness is said to lack insight into their condition. Lack of insight means the condition is much worse than would otherwise be the case and it therefore requires more drastic treatment for a longer period. Critics of psychiatric coercion have likened the demand for "insight" to a torturer's demand for "confession."

14. Human Rights and Equal Opportunity Commission, 1993, op. cit., p. 230.

deal with: "To inquire into the human rights and fundamental freedoms afforded to persons who are or have been or *are alleged to be* affected by mental illness, having due regard for the rights of their families and members of the general community."[15] [emphasis added]

What is meant by *alleged to be affected* by mental illness is not defined but an earlier usage of "alleged mental illness" can be found in a published dialogue between US patient rights activist Leonard Roy Frank and American Civil Liberties Union attorney and mental patient advocate Bruce Ennis. Ennis explains in the interview that he uses "alleged mental illness" because "I personally have seen no evidence at all that there is such a thing as mental illness."[16]

Although the Terms of Reference made no attempt to explain what was meant by *alleged* it is unlikely that it would have been used to question the existence of all mental illnesses in the way that Ennis used the term. What is more likely is that in the planning stage of the Inquiry it was thought necessary to distinguish between certainty in the accuracy of diagnoses of mental illness when applied to some people and uncertainty when the diagnoses are applied to other people.

There are at least two ways the Inquiry might have originally intended to utilise this distinction. The first possibility may have been an intention to examine the problem of false positive diagnosis. The misreading of non-pathological thoughts, beliefs or behaviour as being symptoms of mental illness is a perennial problem for psychiatry and arises from the subjective nature of psychiatric diagnostic techniques. The second possibility may have been an intention to review patients diagnosed with certain varieties of mental illness—like the infamous "sluggish schizophrenia" used in the Soviet Union to control political dissidents[17]—which are not generally recognised by international standards but which some psychiatrists may allege to exist.

15. Ibid., p. 5.

16. Leonard Roy Frank, "An Interview with Bruce Ennis," in Sherry Hirsch, Joe Adams, Leonard Frank, Wade Hudson, and David Richman (eds.), *Madness Network News Reader* (San Francisco: Glide, 1974), p. 165.

17. David Cohen, *Soviet Psychiatry* (London: Paladin, 1989), p. 44.

Perhaps the Inquiry had originally planned to investigate both problems. There are well established concerns about Western psychiatric practice regarding both the problem of false positive diagnosis[18] and the proliferation of new varieties of mental disease.[19]

Regardless of what the Inquiry's original interpretation of *alleged mental illness* might have been, it certainly seems appropriate that an Inquiry into Human Rights and Mental Illness should give hearing to any person who might have suffered the discomfort and humiliation of a psychiatric diagnosis, and possibly incarceration and imposed treatment, on the basis of a mere allegation. But despite the nomination of this category in the Terms of Reference, as it transpired, the Inquiry completely ignored these people. They were not mentioned in the Inquiry's report at all outside of the Terms of Reference.

In fact the definitions that were eventually adopted by the Inquiry made it impossible to recognise people who *are alleged to be* mentally ill. The Inquiry chose to use the term "consumer"[20] to describe all of the people who are deemed to have a mental illness, thereby implying they are all willing participants in a mental health service industry. This does not necessarily pose a problem for the recognition of people who *are or have been* mentally ill but the description of "consumer" was totally inappropriate for those who *are alleged to be* mentally ill. Neither false positives nor people diagnosed with non-existent diseases could satisfactorily be described as consumers.

The inability of the Inquiry to recognise the *alleged* group is further apparent in a table published in the Inquiry's report which classifies the people who made submissions and were witnesses to the Inquiry[21] (see Table 1). If the category of "Consumers" is indeed inapplicable for those who *are alleged to be* mentally ill then the only other categories into which they

18. See, for example, David Pilgrim and Anne Rogers, *A Sociology of Mental Health and Illness* (Buckingham: Open University Press, 1993), p. 55.

19. See, for example, Stuart A. Kirk and Herb Kutchins, *The Selling of DSM: The Rhetoric of Science in Psychiatry* (New York: Aldine De Gruyter, 1992), pp. 1-16.

20. Human Rights and Equal Opportunity Commission, 1993, op. cit., p. 13.

21. Ibid., p. 10.

might fit are "Concerned citizens" or "Others." Although these two categories made 68 and 28 written submissions respectively, not a single person from either of these two groups was called as a witness.[22]

Table 1[23]

Description	**Witnesses**	**Submissions**
Psychiatrists	70	52
General Practitioners	1	3
Psychologists	7	12
Social, Youth, Welfare Workers	25	23
Nurses	14	20
Professional Associations		
— Psychiatrists	11	4
— Social/Welfare Workers	2	5
— Occupational Therapists	3	2
— Nurses	4	5
— Psychologists	5	2
Church Related Organisations	13	15
Consumers	44	206
Carers	26	136
Concerned Citizens		68
Federal, State or Local Government representatives	73	60
NGO representatives	159	185
Others		28
Total witnesses: 456		
Total submissions: 826 (excluding multiple submissions from individuals or organisations)		

It seems apparent therefore that somewhere between the time when the Terms of Reference were drafted and the time when the hearings of witnesses began, a mechanism was deliberately or inadvertently put into place which blocked the people who *are*

22. It is worth noting the favoured treatment that was apparently given to psychiatrists and professional psychiatric associations as indicated by the ratios of their written submissions to the number of their witnesses.

23. Ibid.

alleged to be mentally ill from influencing the outcome of the Inquiry.

Moves to extend involuntary psychiatric treatment in NSW

On 26 May 1995, a letter from Dr Inge Southcott was published in the *Sydney Morning Herald*.[24] Dr Southcott's letter told about her anguish as "the mother of a 20 year old schizophrenic man who now lives on the streets." The purpose of Dr Southcott's letter was to appeal for changes to be made to the NSW Mental Health Act (MHA) so that her son, who "is harmless and not suicidal," can be involuntarily incarcerated in a mental hospital and given treatment. Dr Southcott's proposal was to remove from the MHA the stipulation that a person must be thought likely to cause serious physical harm to themselves or other people before they can be committed involuntarily.[25]

Her letter was followed five days later by an article in the same newspaper written by Anne Deveson.[26] Deveson's article began with a reference to Dr Southcott's letter and then proceeded to review her own similar experience with a schizophrenic son who she says "killed himself from an overdose of alcohol and sedatives while living on the streets, psychotic, malnourished, vulnerable." Deveson's article went on to endorse Southcott's concern about the difficulties that the requirement of "dangerousness" causes to the relatives of mentally ill people.

Shortly afterwards two more letters appeared in the *Herald* written by doctors. They were both supportive of Dr Southcott's proposal to amend the MHA. The letters had both been written on the day Southcott's letter was published. One doctor argued that "the criteria for instituting compulsory treatment should be widened"[27] while the other, after affirming the difficulty of

24. Dr Inge Southcott, "Anguish over mental health Catch 22," letter, *Sydney Morning Herald,* 26 May 1995.

25. *NSW Mental Health Act 1990,* op. cit., Section 9(1).

26. Anne Deveson, "Towards a better treatment of serious mental illness," *Sydney Morning Herald,* 31 May 1995.

27. Dr Kathleen Bocce, "Mental health patients' families have few rights," letter, *Sydney Morning Herald,* 2 June 1995.

committing involuntary patients under the existing conditions, went on to demand more mental health resources.[28]

Five days later Dr Peter Macdonald, the Independent Member of Parliament for Manly, himself a medical practitioner, made a speech in the NSW Legislative Assembly outlining his intention "to lead a crusade"[29] on certain mental health issues over the next few years. He referred to Dr Southcott and indicated that amendments to the Mental Health Act to widen the criteria for involuntary treatment would be central to his plan.

Several months later, on 26 October 1995, Macdonald introduced into the NSW Parliament the Mental Health Amendment Bill 1995 which proposed to replace the requirement of dangerousness for involuntary hospitalisation with loosely-worded criteria that amounted to incompetence and the perception of a need for treatment.

In his two speeches to Parliament on this subject, Macdonald supported his arguments by quoting extensively from correspondence between himself and Dr Southcott. In this correspondence Dr Southcott said she had "last worked in psychiatry in Adelaide in the late 1970s."[30] She also gave an account of her son's symptoms:

> Our 20 year old son developed a psychosis about three years ago. He was a top student at his school, a promising musician, well-liked and respected by his peers. Our relationship with him was good, and we had hopes that he would be a well-adjusted adult, able to take his place in society. Today he is wandering the beaches and streets of Manly, to all intents and purposes a 'homeless youth.'
>
> His psychosis takes the form that he believes he has to convert all to Christianity because all are doomed to go to hell. He cannot explain why he believes this and he seems to think that the world is going to end soon. He gives away all his belongings and money to people he believes God is

28. Dr Robert Dixon, letter, *Sydney Morning Herald,* 2 June 1995.

29. Peter Macdonald, "Mental health support and counselling services," *Legislative Assembly Hansard,* 7 June 1995, pp. 46-47.

30. Inge Southcott, letter to Peter Macdonald, April 1994, quoted by Macdonald in "Mental Health Bill," *Legislative Assembly Hansard,* 26 October 1995, p. 1.

> directing him to save, e.g. he gave away $2000 at Christmas. This was his entire savings.
>
> For a while he was bringing home vagrants and they would spend the night in his bed while he wandered the streets looking for more people to save. We lost various possessions to these people, some of whom were also obviously suffering from psychosis themselves. He deprives himself of sleep as he believes he has to be 'working' i. e. evangelising.
>
> He has lost all his friends and his relationship with us is under great strain as he puts his 'work' before all other considerations. But he is not a danger to himself or to others so he cannot be taken to hospital under the present Mental Health Act.
>
> The doctors involved say he would probably benefit from medication for his psychosis and they want to put him on the clozapine programme but their hands are tied until such time as he deteriorates further and does something to actively harm himself or others. Meanwhile his family suffers, his relationships with all his mates are lost, he loses all his money, he smells, he neglects all that he formerly held dear when he was well.
>
> I think it is a disgrace that our society can let this happen, and I know it is not just my son to whom this is happening. It involves many other youths who are also wandering the streets in the grip of mental illness.[31]

It is clear that Inge Southcott wants her son to change back to the way he was three years earlier but from her own account there is every indication that he wants to remain the way he is. If we were to hear his side of the story it is quite possible he would argue that there is nothing wrong with his mind and he is only expressing his Christian beliefs. A detached observer might argue that it would be more rational for Dr Southcott to change the locks on her doors and lock him out rather than to attempt to change the MHA to have him locked up. But apparently her MP,

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31. Inge Southcott, letter to Peter Macdonald, April 1994, quoted by Macdonald in "Mental health support and counselling services," *Legislative Assembly Hansard,* 7 June 1995, pp. 46-47.

Peter Macdonald, supports her approach and he has actually used the example of Southcott's son as the primary justification for proposing his amendments to the MHA.

In human rights terms, Inge Southcott's role as an anxious mother campaigning for legislative changes is a matter of some concern. This is because she appears to be participating in a co-ordinated effort. She also told Peter Macdonald in her letter that she was a member of a support group called the Schizophrenia Fellowship and that this organisation planned "setting up a discussion group in May to look at further amendments to the Act especially the scheduling clauses."[32] The scheduling clauses provide the legal framework for involuntary incarceration.

It should be noted that Anne Deveson, the author of the *Herald* article which supported Dr Southcott, helped to establish the NSW Schizophrenia Fellowship and then became the vice-chairperson of a national organisation, Schizophrenia Australia Foundation.[33] Deveson has been engaged in high-profile activity on mental health issues in NSW since the 1980s. She chaired a government-appointed committee set up in 1988 to review the Mental Health Act 1983, the findings of which "were integral to the final draft"[34] of the amendments to the 1983 Act. She was also the initial chair of the Mental Health Act (1990) Implementation Monitoring Committee[35] which was set up by the NSW government to report on the efficacy of the new MHA.

Deveson stands out as one of the most influential figures directing recent NSW initiatives in mental health legislation. Her occupation is that of film-maker/writer and her expertise in the mental health area is largely based on her experience as the mother of a schizophrenic son. The story of her relationship with

32. Macdonald, 26 October 1995, op. cit., p. 1.

33. Anne Deveson, *Tell Me I'm Here* (Ringwood, Vic.: Penguin, 1991), facing-cover page.

34. The Mental Health Act Implementation Monitoring Committee, *Report to The Honourable R A Phillips MP, Minister for Health on the NSW Mental Act 1990,* "Preface," August 1992.

35. Ian W. Webster, Chairman of The Mental Health Act Implementation Monitoring Committee, letter to The Hon. Ron Phillips M. P., Minister for Health, attached to ibid.

this son is poignantly told in her book *Tell Me I'm Here*.[36] She portrays herself in this story as a frustrated, intermittent and sometimes reluctant carer. Her son died in 1986.

Deveson's subsequent zeal to reform public policy on mental health issues is outlined in the proceedings of a curious Symposium on Schizophrenia and Human Rights jointly sponsored by the Human Rights and Equal Opportunity Commission and the Schizophrenia Australia Foundation.[37] The symposium was held in Brisbane in February 1989. It was curious because at the time there were daily newspaper reports emanating from the Chelmsford Royal Commission exposing psychiatric malpractices. Yet most of the speakers at the Symposium chose to focus attention on a perception that "the right to treatment" should have precedence over "patients' rights."[38] This was despite the fact that the human rights principles summarised in the opening address by Brian Burdekin, the Federal Human Rights Commissioner, as being the principles most closely related to mental health issues, did not include a right to treatment, nor rights for relatives to arrange for involuntary treatment, but were all concerned with the rights of the individual to avoid coercion and discrimination.[39]

Deveson's contribution to the Symposium largely consisted of detailed advice on how members of support groups for relatives of schizophrenic people might be able to manipulate the mass media by winning over journalists to their point of view on mental health issues.

> Let's say the Schizophrenia Fellowship here in Queensland decided that its major emphasis next year was going to be legislation. Well you can plan over a year the numbers of stories that you plant, you seed, on that particular topic. It's no use just doing a one-off story. It's an ongoing campaign that you have to plan and stage … there is a need for something to be done about the image of psychia-

36. Deveson, 1991, op. cit.
37. Human Rights and Equal Opportunity Commission, 1989, op cit.
38. John Grigor, "The right to treatment', in ibid., pp. 7-14.
39. Brian Burdekin, "Human rights issues relating to schizophrenia," in ibid., p. 2.

> trists … we can lobby governments; so we can change political awareness … we need to start setting a national agenda, and State agendas.[40]

Given the linkages in the sequence of events leading up to the tabling of Macdonald's Amendment Bill it might be fair to assume that Macdonald's "crusade" is closely associated with Deveson's "ongoing campaign."

On November 29, 1995 Macdonald arranged a meeting at Parliament House with a number of representatives from organisations with an interest in mental health issues. The purpose of the meeting was for Macdonald to consult with stakeholders in order to gauge community support for his amendments. The Bill was still lying on the parliamentary table and Macdonald had to decide whether to bring the matter on for debate during the pre-Christmas session of parliament.

During the course of this meeting Macdonald acknowledged that he had drafted his amendments in consultation with the Schizophrenia Fellowship. A representative of the Schizophrenia Fellowship was at the meeting and presented an argument in support of the amendments by claiming that the removal of the requirement for dangerousness is necessary in order to save people from suicide. He argued that people who have suicidal relatives with mental illness are consistently failing when they attempt to have them committed to mental hospitals. The urgency of his presentation was calculated to induce a belief that the requirement for dangerousness is causing a virtual epidemic of suicide.[41]

On inspection, however, his argument is somewhat paradoxical. There is currently a provision in the MHA which deals with suicidal people and permits involuntary hospitalisation "for the person's own protection from serious physical harm."[42] But this is the very clause which Macdonald was proposing to amend. If it is true that people are having difficulty in committing their

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40. Anne Deveson, "The social stigma of schizophrenia as an obstacle to the exercise of human rights," in ibid., pp. 48-49.

41. Representative, Schizophrenia Fellowship of NSW, Parliament House meeting room, 29 November 1995, personal observation.

42. *NSW Mental Health Act 1990,* op. cit., Section 9(1)(a).

genuinely suicidal relatives to hospital then the source of the problem is unlikely to be found in the wording of the MHA. A far more likely cause is the inability of the relatives to convince doctors and hospital medical superintendents that suicide is actually intended.

But even this possibility is not supported by statistical evidence. Normally a person is involuntarily committed to a mental hospital under the direction of a special doctor's certificate. But in emergencies, when there is no doctor close at hand to make the order, there is provision in the MHA for relatives and friends to take mentally ill people directly to hospital and ask for them to be involuntarily admitted.[43] In the years 1993, 1994 and 1995 a total of 174 people were presented at NSW mental hospitals in this way by relatives and friends.[44] Of this number only one person failed to be admitted for not meeting the existing criteria of being both mentally ill and dangerous.[45] It therefore seems likely that the issue of suicide was inappropriately raised in support of Macdonald's Amendment Bill to give it more urgency. If so it turned out to be a wasted effort.

Macdonald decided not to risk putting his amendments to the vote in the busy pre-Christmas session of parliament in 1995. Instead his plan was to negotiate support for the proposal over the new year break and to bring it to a vote after he had cultivated a more certain climate for success when the NSW parliament sat again in April 1996. But in taking this course Macdonald missed his opportunity.

Under instructions from the Labor government, the NSW Department of Health set about drawing up its own plans for reform of the MHA. In May 1996 a public discussion paper,[46] including proposed amendments, was circulated and comments from stake-holders and the public were sought. The amendments are quite wide-ranging and include a number of proposals that

43. Ibid., Section 23(1), p. 10.

44. Mental Health Review Tribunal, *Annual Report 1993* (Sydney: NSW Government), p. 76; *Annual Report 1994,* p. 74; *Annual Report 1995,* p. 58.

45. Ibid.

46. NSW Department of Health, *Caring for Health: Proposals for Reform—Mental Health Act 1990,* May 1996.

would extend the reach of coercive psychiatry. Amongst these is a proposal to extend the maximum period of Community Treatment Orders (CTOs), which provide for involuntary treatment outside of an institution, from three to six months.

Although Macdonald's main focus on expanding the criteria for involuntary incarceration was canvassed in the discussion paper, and public support was clearly sought, no alterations to this part of the MHA was actually included in the first draft of the amendments. Even so, it won't be surprising if Macdonald manages to introduce his own amendment, removing the criteria of dangerousness, when the Bill comes up for debate in Parliament—perhaps sometime in 1997.

Conclusion

There is considerable scope for public participation in the issue of psychiatric coercion involving involuntary hospitalisation and treatment. However, the interests of the people who are actually the subjects of this coercion are rarely considered. The main reasons for this appears to be that these people are not well organised and their interests have to compete with those of their relatives. The individuals and organisations who represent these relatives seem to be consistently well organised and have high levels of credibility in public forums. In addition to this, civil liberties and human rights organisations, while often recognising the need for vigilance in regard to psychiatric coercion, repeatedly fail to follow through with initiatives to ensure that just conclusions are reached.

Commentary by Chris Bowker*

From the experiences I have had being a consumer representative for psychiatric services in the Illawarra region, I would argue that consumer consultation and participation are token. This is not to say that the consumer group which has been formed in

* Chris Bowker is the mother of three children. Currently she is doing a masters degree in social policy at the University of Wollongong.

line with the regulations of the National Mental Health Strategy is not of value.

The problem is that most of the group are under the control and supervision of mental health workers so it is difficult for them to be critical. It is not uncommon for staff to single out a group member and use their power and influence to co-opt them. This causes division within the group. It is also difficult to build membership from the wider community as people do not want to identify themselves because of stigma and fear.

The ideals of consumer consultation and participation contradict the norms in psychiatric practice. The common use of coercive practices and treatment methods has a profound impact on patients and clients.

This is not always obvious to the health professional. By the time the patient who is "treatment resistant" has been locked in seclusion, labelled, medicated with drugs which are disabling and have distressing side effects and have had their basic rights removed, their immobility is perceived as the treatment having its desired effect.

The patient is perceived as being compliant and stable, whereas what has actually happened is that patients are left feeling violated, devastated, helpless and hopeless. If the patient expresses any grievance, this is interpreted as a cue for further drug intervention. The patient or client is left with no choice but to conform to treatment and at best to try to act "normal" so that the doctor may reduce the medication.

The two initial goals that the consumer group set are still on the agenda due to unsatisfactory outcomes. The first was to communicate to health professionals the need to inform patients of the side effects of medication. When bodily changes start occurring such as trembling, blurred vision, agitation, anxiety, nausea, excessive saliva, muscle stiffness and difficulty in concentrating, it is important that patients know that it is the medication causing these effects.

The second goal was to establish a daily relaxation group on the wards to help the patients to deal with the distress that the side effects of medication cause.

From the consultations that have taken place, the majority of medical staff, including doctors, pharmacologists and nurses,

agree that patients are better off not being informed of the side effects of medication.

In regard to the establishment of a relaxation programme, the only action that was taken was the purchase of a tape recorder and a relaxation tape.

It is becoming obvious to me now that if participatory processes are going to work then fundamental changes in the system will have to be made. As Phil Ikker, a representative of Aboriginal and Torres Strait Island people, said at the 1996 National Consumer Conference in Sydney, "There is an urgent need to educate the mental health workers."

Commentary by Peter Macdonald*

I found the chapter quite bizarre and based on flawed assumptions and half truths. It was almost "Hansonesque"[47] in its efforts to lay blame at the feet of others, whether it be psychiatrists or the families of those with mental illness, and it assumes paranoid proportions in the context of the conspiracy theory.

It is this very ideology that has held up appropriate legislation over the years and indeed it flies in the face of some very fundamental agreements such as the "UN principles for the protection of people with mental illness and for the improvement of mental health care" which contain two sets of grounds for involuntary hospitalisation. The first is related to preventive detention which currently exists under NSW legislation related to serious physical harm and the second is what is called "the best

* Peter Macdonald is an Independent politician, the member for Manly in the New South Wales Legislative Assembly since 1991. Previously, he worked as a general practitioner in a busy suburban practice for more than 20 years. He is committed to assisting people with mental health problems and their families by raising awareness of the seriousness and extent of the illness and making representations to both levels of government for increased funding and resources for their care.

47. This is a reference to Australian right-wing populist politician Pauline Hanson—*ed.*

interest of the patient detention" which will soon be included in new legislation.

This resistance to admit one of the realities of psychiatric illness, which is that those with psychoses have lost touch with reality, explains Richard Gosden's difficulty in coming to terms with the real world. His views also reflect a stigmatising view that mental illness is different from physical illness. It is not. Treatment decisions should be based on the best interests of the patient just as one would treat someone in a diabetic coma or someone who is seriously ill from an accident or heart attack.

This belief that psychiatric or mental illness is different is merely based on the anti-psychiatrists' lobby that has become fashionable following support by the Church of Scientology and reiterated in the R. D. Laing philosophy that there is some goodness in mental illness.

It does appear that Richard Gosden has fallen into the trap of getting out of his depth in an issue which is more complex than he cares to admit. Of course, there are difficulties in labelling psychiatric illness which he uses as a basis for tacitly agreeing with Bruce Ennis that "I personally have seen no evidence at all that there is such a thing as mental illness." Such difficulties with diagnostic criteria merely highlight the challenges within the area of psychiatric care.

One other aspect that should be addressed is the discounting in his chapter of any value in the views of the family members who live with patients with mental illness. It almost suggests the outdated theory that it is not the mental patient who is unwell but the family that has the problem. Reference to my particular advocacy role in seeking improvements to the Mental Health Act appear in his mind to have little grounds because I took into account the concerns experienced by the families of those with mental illness. In my attempts to introduce legislation, I received no pressure from the psychiatric profession but certainly did receive many approaches from both carers and support groups associated with specific illnesses, such as the Schizophrenia Fellowship.

At no point in the chapter is there any real understanding of the torture and agony that people with mental illness do experience until such time as they are successfully treated. It is

unfortunate that psychosis is associated with a lack of insight and involuntary treatment needs to be commenced but such is the reality of the disease. The persistent denial of these truisms underpins his particular school of thought and fortunately it does not prevail generally. He dresses up this lack of understanding in a cloak of "rights issues" but fails to be convincing.

Commentary by Denise Russell*

Richard Gosden's chapter is a timely intervention in the debate about the powers of psychiatry and the difficulty in voicing any criticism. The two case studies bring this out particularly well. Gosden also correctly highlights the implicit defusing of any political critique in the new move to call those who have voluntarily or involuntarily used psychiatric services "consumers."

There are shifts in psychiatry as a profession which in other ways have the effect of stifling debate. I have in mind here the focus on biological accounts of psychiatric disorders. Psychiatry has always encountered problems with its scientific status and for some decades this century, especially in America, many thought that this status accrued from its links with psychoanalysis. In the last two decades there has been a sharp decline in the influence of psychoanalysis on psychiatry. In its place psychiatry has linked with genetics, neurophysiology and computer sciences to try to shore up its scientific status. These fields have a technical aura in public perception, which discourages any attempt to assess psychiatry's use of them. Yet none of these fields has provided information on biological markers of psychiatric disorders, never mind causes.[48] If the dominant model does not have a secure scientific underpinning, what are we doing as a culture if we allow the field to have so much power?

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48. For an extended argument on this claim see Denise Russell, *Women, Madness and Medicine* (Oxford: Polity Press, 1995).

Could it be argued that psychiatry justifies coercion by the results that it gets in treating psychiatric disorders? Not if Breggin is to be believed.[49] Breggin argues very convincingly that on balance psychiatric treatments create more harm than good (which is not to deny that some benefit is attained by some people).

Is the best way forward to prohibit all involuntary treatment for psychiatric disorders? I think that should be the long term aim. However it would be difficult to bring this about without more avenues of social support. These could take the form of helping people to curb disturbing behaviour to make them more acceptable to others as well as themselves or they may offer productive ways of understanding unusual experiences without pathologising them or a myriad of alternatives in between. Debate about the desirability of any of these directions is difficult to get off the ground when there are specific political impediments to public participation, as mentioned by Gosden, and when the public are persuaded that it must be a field for "experts," two very effective ways to silence. The only, rather bleak, hope is that when a sufficient number of people express concern about the damaging effects of psychiatric treatment on the body, mind and rights of individuals, change may come about.

Response by Richard Gosden

The New South Wales Mental Health Act has now been amended. On 9 April 1997 the Minister for Health introduced a Bill into Parliament which contained significant variations to the version which the Department of Health had earlier circulated for public discussion. The most important variation involved a loosening of the criteria for involuntary detention. These amendments have now been passed into law. The new provisions for involuntary detention no longer require that a person be thought likely to cause serious "physical" harm and now only stipulate that "serious harm" to the mentally ill person or others

49. Peter Breggin, *Toxic Psychiatry* (London: Fontana, 1993).

be a possibility. Serious harm is defined in an explanatory note as including a perceived risk to finances or reputation.

It remains to be seen whether these amendments will significantly extend the reach of coercive psychiatry, but it seems as if the civil liberties of some types of people, like whistleblowers for instance, might now be at greater risk. Whistleblowers often find they are referred for psychiatric or psychological assessment as a condition of continued employment. This tactic can sometimes be successfully used to undermine a whistleblower's credibility but under the old legal criteria it was unlikely to result in involuntary detention. However, if a medical assessment of delusions or disordered thoughts now only has to be combined with a perceived risk of damage to a third party's finances or reputation, then whistleblowing is likely to become a far more hazardous occupation.

The three commentators on the chapter were chosen for balance. Chris Bowker and Peter Macdonald represent the two divergent branches of public participation on psychiatric issues, while Denise Russell has the advantage of a scholarly overview of the subject. Chris Bowker's commentary is strongly suggestive of a long-term campaigner fighting to preserve the constantly eroding rights of an embattled minority. In reading her description of the patient role I regret she did not have the opportunity to contribute more to the chapter than she has. The inside story she has to tell, particularly in regard to the use of medication to silence complaints, is one that needs to be told in more detail.

I agree with Denise Russell's suggestion that involuntary treatment should be phased out. When one reads the interpretations of madness given by the few insightful psychiatrists, like John Weir Perry, who have actually listened to the accounts given by their patients of internal experiences, one begins to realise the level of ignorance involved in the practice of normal biomedical psychiatry. But how could it be otherwise? The educational preparation for psychiatrists doesn't involve an understanding of mythology or religious experience, nor the history of ideas. They aren't even given a coherent theory of mind to guide them. It is little wonder then that they have to resort to crude theories of brain pathology. If people who experience unusual mental activity want to volunteer for the equally crude

biomedical treatments that arise from these theories, so be it. But no one should be compelled to endure them.

But Peter Macdonald has a different point of view, and he does his best to punish me for disagreeing with him. In his first couple of sentences he applies a number of terms to express his disdain. "Hansonesque" is puzzling (a demonstration of loose associations, perhaps?), but "bizarre," "paranoid" and "conspiracy" are more understandable. These terms are routinely used by medical scientists as diagnostic references for schizophrenia. Although he appears to be using the terms here in an informal lay sense, readers should bear in mind that Macdonald is a medical practitioner as well as a politician. Medical practitioners have the professional authority to formalise their opinions about other people and present them as a diagnosis. It is the ease by which a doctor can translate this kind of personal dislike for a person into a diagnosis of mental illness, and then order their incarceration, that makes civil liberties safeguards so essential in this area.

Public participation or public relations?

Sharon Beder*

Formalised public consultation procedures were introduced in many countries during the 1960s and 1970s in response to protest actions and civil disobedience by environmentalists and local residents who were opposed to developments they considered to be undesirable. These processes, set up by governments, were supposed to enable members of the public to have a say in whether development projects should be approved and in the conditions of that approval. However, they were often instituted as a way of gaining acceptance for controversial government projects and policies. Dorothy Nelkin and Michael Pollak, who have studied technological controversies in various countries, have noted that whilst such processes "may increase direct public influence on the formulation of policy" and give policy makers advance notice of public concerns: "More often they are a means to manipulate public opinion, to win acceptance of

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decisions already made, and to facilitate the implementation of these decisions."[1]

The public consultation process used to site a hazardous waste incinerator in Australia provides a good example of a process that sought public acceptance rather than public participation in decision making. In many ways this case study is typical of the hundreds of attempts that have been made, with varying success, to site hazardous or unwanted facilities in towns and cities all over the western world—where the rhetoric of democracy precludes the imposition of such a facility on a community without consultation.

Such consultation usually has several common elements: the assumption that opposition is due to ignorance, the efforts to persuade the community that the facility is safe, the desire to win the trust of the community whilst discrediting opponents, and the need to provide the appearance of community participation without being genuinely responsible to community concerns. All these elements involve public relations (PR) skills and strategies which are applied with differing degrees of sophistication. However, because strategies are discussed and shared within the PR fraternity, the latest trends in consultation, often originating in the US, are manifest in siting disputes in many countries. This paper will canvass some of the assumptions and tactics often used by PR people, consultation experts and risk communicators in such situations and consider how they were applied in this case.

The Joint Taskforce on Intractable Waste was set up in 1989 by the Australian federal government and the New South Wales and Victorian state governments to prepare the way for the establishment of a high temperature incinerator in Australia to burn hazardous wastes. The consultation process undertaken by the Taskforce was not to find out what the community wanted done with hazardous wastes—that was decided even before the

1. Dorothy Nelkin and Michael Pollak, "The politics of participation and the nuclear debate in Sweden, the Netherlands, and Austria," *Public Policy*, Vol. 25, No. 3, 1977, p. 334.

Taskforce was appointed—but to win acceptance of a high temperature incinerator.

Several attempts had already been made to build an incinerator for hazardous wastes but none had been successful, usually because of the strength of local opposition to the facility. In its second report the Taskforce explained that its goal was to "achieve active public recognition that the proposal is in the public interest."[2] To do this it engaged the firm Community Projects Ltd to develop a community consultation strategy. Community Projects Ltd, an Adelaide-based firm, had successfully smoothed the way for other controversial projects in the past and it was hoped they could work their magic for the high temperature incinerator.

Incineration was viewed by government authorities, particularly the Waste Management Authority of NSW (the government body then responsible for managing and regulating waste in NSW), as the only safe means of disposing of hazardous organochlorine wastes which they referred to as "intractable wastes." These were mostly stored at a Sydney plant of chemical corporation ICI, although small quantities of discarded organochlorine pesticides and PCBs were stored outside of Sydney. The authorities had been under pressure to do something about these stores of wastes from sections of the community, the media and the environmental movement.[3]

Some environmentalists supported the establishment of an incinerator for this purpose, but others were opposed.

2. Joint Taskforce on Intractable Waste, "Phase 2 Report" (Commonwealth, NSW and Victorian Governments, 1989), p. 2/13.

3. House of Representatives Standing Committee on Environment and Conservation, "Hazardous Chemical Wastes—Storage, Transport and Disposal" (Canberra: Australian Government Publishing Service, 1982); Australian Environment Council, "Management and Disposal of Hazardous Wastes" (Canberra: Australian Government Publishing Service, 1983). On media pressure, see "Sydney: the toxic waste dump," *Sydney Morning Herald,* 16 March 1987; M. Knight, "New ideas needed to dispose of waste worry," *Australian,* 21 February 1985. On pressure from environmentalists, see P. Brotherton, "National chaos on intractable wastes," *ACF Newsletter*, November 1986, p. 13; P. Brotherton, correspondence to D. Gascoine (DASETT) and others, 30 August 1987.

Greenpeace Australia played the most prominent role in opposing the proposed incinerator; it had the resources to allocate a paid campaigner to the issue and had access to a wide information base through its international network of offices, campaigners and researchers. Greenpeace has a worldwide policy of opposition to incineration for two reasons. Firstly, the organisation believes incineration is unsafe because the emissions from the stack, leachate (liquids that leak out of buried waste) from the residues and other leakages during handling of the wastes can damage the environment and public health over the long term.

Secondly, Greenpeace argues that providing an "end-of-pipe" disposal solution will only encourage industry to continue generating these wastes: "In relation to hazardous waste management, industry and government have a clear choice. They can either follow the incineration path or the clean production path."[4] Greenpeace Australia argued that "intractable" wastes in Australia should be stored until they are no longer being generated and "safer" alternative technologies for treating the stockpile have been developed. It argued that with enough political commitment and funding this could be achieved within about five years.[5]

Supporters of the incinerator argued that there was no time to wait for such developments which they said could take ten or twenty years and even then might not be satisfactory substitutes for incineration. They promised that generation of intractable wastes would be prohibited by law within a few years. The incinerator would only have to operate for ten years to get rid of the stockpile and then it could be closed down and the problem solved once and for all. This, they argued, was far preferable to letting the wastes be stored for an indefinite period awaiting technological developments.[6]

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4. Greenpeace Australia, "Playing With Fire: A Report on the Hazardous Waste Incineration Crisis" (Sydney: Greenpeace Australia, 1991), p. 6.

5. R. Cartmel, Greenpeace Australia, personal communication, May 1991.

6. See for example Waste Management Authority of NSW, "Intractable Waste: What are the Facts?" Draft Fact Sheets 19 & 35, 1991.

Assuming community ignorance

The Taskforce assumed that most opposition "is based upon ignorance that can be overcome"[7] if the appropriate information is supplied. This is one of the most common motivations for public consultation. Nelkin and Pollak showed how European governments such as those of Sweden, Austria and the Netherlands attempted to increase public consultation as opposition to nuclear power grew in the belief that opposition arose from ignorance and a lack of understanding of energy options. These governments also thought that the opposition to nuclear power came from middle-class action groups and hoped that by broadening public interest in the nuclear issue, the fact that nuclear power was in the public interest would become evident, especially to the working-class majority.[8] They turned out to be wrong on both counts. Increased information and broadened debate did not increase support for nuclear power.

The Taskforce similarly set out to supply its version of information so that everyone would be reassured. Yet, like the nuclear proponents, the Taskforce was wrong to assume that opposition stemmed from ignorance. The most fervent opponents to the incinerator were among the best informed on the issue. The Taskforce report actually admitted that supporters or potential supporters "tend to be less well-informed on the issues involved than are the opponents."[9]

Despite such failures to gain approval for technological projects through consultation processes, the myth still persists that opposition to controversial technologies is based on ignorance and the failure of the community to recognise what is in their own best interests. Politicians and the PR people who advise them still believed that if you educate people and give them a say then they will come round to the "right" point of view. This is often still the case in the area of risk communication which is often aimed at communities involved in siting disputes.

7. Joint Taskforce on Intractable Waste, op. cit., p. 2/13.
8. Nelkin and Pollak, op. cit., pp. 333-357.
9. Joint Taskforce on Intractable Waste, op. cit., p. 2/19.

Risk communication is concerned with the problems arising from the communication of scientific and technical assessments of risk to various sections of the public. These problems have largely been construed as technical ones: how to transfer difficult material from "experts" to "people" with the maximum effectiveness and the minimum loss of accuracy and content. Many risk communicators think that members of the public and community groups perceive risks differently from those who construct risk assessments or commission them, and assume that expert risk assessments are accurate and correct. This being so, the self-imposed task of risk communicators is to disseminate various truths to an audience that is deficient in some fundamental and obstructive way, beyond "ignorance of the facts." They perceive those to whom risk assessments need to be communicated as lacking reason or being hampered by an assortment of psychological and political disabilities—bias, special interest, ideological commitment, and so forth. The notion that risk assessments themselves might be socially constructed and politically motivated is seldom contemplated.

The assumption that inaccurate perceptions are to be found amongst the public alone is widespread amongst scientists and engineers. For example, an article in the US magazine *Civil Engineering* informs readers that:

> While engineers may be satisfied with technical analyses of real, statistical and predicted risk, laypeople have intuitive fears that create perceived risk… Opposition based on perceived risk can be reduced through information and consultation that begins early on…[10]

A similar view is taken by government regulators. A US Environmental Protection Agency administrator expresses puzzlement over public fears over the wrong issues:

> It is an odd fact that communities that would not object to, or would even welcome, a manufacturer of chemicals locating nearby will offer strong resistance to a recycling plant or an incinerator if the fatal words 'hazardous waste'

10. D. Connor, "Breaking Throught the 'Nimby' Syndrome," *Civil Engineering,* December 1988, p. 69.

> are used. It is clear we cannot afford public ignorance in areas where waste disposal facilities are required…
>
> Not only must we raise, by direct action, the level of sophistication of the public's thinking about risk issues, but we must also do what we can to increase the number of people who can communicate effectively about risk.[11]

Much risk communication is therefore purposefully undertaken to correct the public's "false" view of risk and draw it more in line with the "correct" view of the risk experts. However an analysis of any controversy shows that neither side seeks to portray a true view of the risks but rather one that suits their agenda.

The Waste Management Authority described a hazardous waste incinerator as "an industrial facility which safely converts intractable wastes into harmless components."[12] Greenpeace Australia argued that "even the most modern incinerators pump out persistent and bioaccumulative toxins and spread them onto the land and into the air and water."[13] Greenpeace emphasised a "worst case" scenario and talked about what could go wrong with an incinerator, while the Waste Management Authority and the Taskforce emphasised a "best case" scenario and highlighted how well an incinerator could operate in ideal conditions. They argued that the facility would be built to the latest design and conform to the toughest standards worldwide. The Taskforce stated that:

> Excellent design and the best equipment must be complemented by the establishment of the necessary systems and procedures and the requirement for unfailing compliance with them.[14]

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11. L. Thomas, "Why we must talk about risk," in J. Clarence Davies et al. (eds.), *Risk Communication* (Washington, DC: The Conservation Foundation, 1987), p. 24.

12. Waste Management Authority of New South Wales, "Australia's Intractable Waste Strategy and the High Temperature Incinerator: An Introduction and Explanation" (Sydney: Waste Management Authority, 1990), p. 5.

13. Greenpeace Australia, op. cit., p. 5.

14. Joint Taskforce on Intractable Waste, "Final Phase 3 Report" (Commonwealth, NSW and Victorian Governments, 1990), p. A4/8.

It characterised the emissions as a normal and familiar (and therefore predictable) part of the technological system which could be controlled to the point where they were insignificant. Part of the politics of persuading people that risks are small is to compare the risks of a proposed facility with risks of familiar technologies that the public uses without fear. The Authority pointed out that all combustion processes, including home heaters and car engines, created "minute traces" of these products which are generally accepted (and are, of course, familiar).[15] A member of the Taskforce argued along these lines that, if one were to oppose the incinerator on the grounds of the potential danger of its by-products:

> consistency would appear to require us to oppose all of these other incineration processes, which are very much more polluting as well. Even public transport would probably have to be restricted to rickshaws, pedicabs and yachts.[16]

The Taskforce also argued as follows:

> High temperature treatment, modern, advanced flue gas scrubbing and neutralization reduce these quantities to the point where many of them are virtually unmeasurable when they leave the stack.[17]

This view that every part of a technological system and everyone associated with it can be expected to unfailingly follow carefully defined rules in which uncertainties are peripheral has traditionally been fostered as part of the process of legitimation of technologies.[18] It carries two assumptions: (1) a facility such as an incinerator will routinely achieve the performance that it was designed to achieve; (2) there will rarely be any significant deviation from routine operation, which is a way of saying that accidents will seldom occur.

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15. Waste Management Authority of New South Wales, op. cit., p. 6.

16. P. Brotherton, "HTI issue clouded by mis-information," *Conservation News,* February 1991, p. 14.

17. Joint Taskforce on Intractable Waste, "Preliminary Report Part 1" (Commonwealth, NSW and Victorian Governments, 1988), pp. 7/20-21.

18. Brian Wynne, "Unruly technology: practical rules, impractical discourses and public understanding," *Social Studies of Science,* Vol. 18, 1988, pp. 147-167.

In contrast Greenpeace emphasised the things that can go awry with incinerators. Greenpeace sought to uncover uncertainties and throw into question the naive view of technological systems and replace it with one that portrayed complex technological systems as unpredictable and uncontrollable. To the rule-governed behaviour invoked by the Waste Management Authority, Greenpeace counterposed a version of Murphy's law—"Watch out because everything that can go wrong, is likely to go wrong."

Greenpeace stressed departures from the ideal. They pointed out that "no anti-pollution control devices achieve full particulate removal."[19] They argued:

> In real-world operation even the most modern and well-maintained incinerators deviate from ideal performance. These deviations—called combustion upsets—vary in severity and duration, ranging from explosions and flameouts to minor perturbations in small portions of an incinerator for brief periods of time.[20]

They argued that such deviations have a significant impact on the environment and claim that incinerator equipment and pollution control devices grow less reliable with advancing age.[21]

Greenpeace also emphasised fugitive emissions "during routine storage, handling, and transport" and accidental spills during transfer and transport. For them such incidents are the norm rather than the exception. They pointed to the failures and controversies surrounding the worst performing hazardous waste incinerators in other countries as examples of what could happen.

Dealing with various publics

Government authorities and their experts often attribute failure to win broad public acceptance for "risky" facilities to the role

19. P. Johnston, R. Stringer and R. Swindlehurst, "Hazardous Waste Incineration: A Basic Overview (adapted for use in Australia by Robert Cartmel)" (Sydney: Greenpeace Australia, 1990), p. 1.

20. Greenpeace Australia, op. cit., p. 12.

21. Ibid., pp. 7-8.

of environmental activists and groups such as Greenpeace, who are perceived to be responsible for spreading panic and a false view of the risks involved and thereby obstructing community acceptance for facilities. Recently public relations firms have been turning their attention to ways of dealing with these activists. Often these firms employ a "divide and conquer" strategy which exploits differences in the community between moderates and radicals.[22] Environmentalists and activists are categorised in order to devise a strategy to deal with them. Phil Lesly, a PR expert, divides activists into five personality classifications:

- advocates who argue for what they believe in;
- dissidents who, because of their character, are against many things;
- activists who want to get something done or changed;
- zealots who are overridingly singleminded; and
- fanatics who are "zealots with their stabilizers removed."[23]

He suggests that reasonable people can be dealt with using reason but zealots and fanatics have to be dealt with by withering away their power base and support.[24]

Similarly Ronald Duchin, from the PR firm Mongoven, Biscoe and Duchin, categorises activists as either radicals, opportunists, idealists or realists:

> [T]he activists we are concerned about here are the ones who want to change the way your industry does business—either for good or bad reasons: environmentalists, churches, Public Interest Research Groups, campus organizations, civic groups, teachers unions, and 'Naderites.'[25]

Duchin describes radicals as those who want to change the system and have underlying socio-economic/political motives. They are anti-corporation and are the hardest to deal with because they won't compromise. Opportunists, according to

22. Joel Bleifuss, "Covering the Earth with 'Green PR,'" *PR Watch,* Vol. 2, No. 1, 1995, p. 2.

23. Philip Lesly, "Coping with Opposition Groups," *Public Relations Review,* Vol. 18, No. 4, 1992, p. 328.

24. Ibid., p. 329.

25. Quoted in Peter Montague, "PR firms for hire to undermine democracy," *Rachel's Hazardous Waste News,* No. 361, 1993.

Duchin, are activists who oppose corporations because they want power, attention and employment. The key to dealing with them is to offer them the appearance of a victory.[26]

Idealists are altruistic, highly credible, with a sense of justice. "They must be educated…Once the idealist is made fully aware of the long-term consequences or the wide ranging ramifications of his/her position in terms of other issues of justice and society, she/he can be made into a realist."[27] Realists are pragmatic and willing to compromise and work within the system. Duchin recommends concentrating any public relations activities on realists and seeking to cooperate with them. Generally a solution forged with the realists will become the accepted solution, he says.

Duchin's formula is therefore to isolate the radicals, turn the idealists into realists, co-opt the realists to support industry solutions and the opportunists will go along with the final agreement. The radicals, he says, need the support of the idealists and realists to have credibility. Without them they are marginalised and "seen to be shallow and self-serving."[28]

Public relations firms often classify local residents, as they do activists, into various publics so that they can concentrate on those likely to be persuaded of the benefits of the proposed project and marginalising those who are likely to oppose it. Desmond Connor, a Canadian PR consultant, advises against holding a public meeting early on before the various publics can be approached separately. He says:

> The proponent typically calls a public meeting in order to explain the project to them, confident that their opposition will then disappear. In fact, the public meeting usually crystallizes a more informed, organized and articulate opposition and generates widespread negative publicity for the proponent and the project.[29]

26. Ibid.
27. Ibid.
28. Ibid.
29. Desmond M. Connor, "Preventing and Resolving Public Controversy" (Victoria, BC: Connor Development Services, 1994).

Instead he advises companies to identify "the latent and secondary beneficiaries of the project (the five volt positive people, compared with the 220 volt negative opponents)." These are people who "stand to benefit in small and indirect ways" from the project. These people should be kept informed and involved in a "joint problem solving process. As people work together, informed peer group pressure usually results in workable compromise solutions—not ideal from anyone's point of view, but acceptable to all or nearly all."[30]

The Taskforce on Intractable Waste attempted, with the help of Community Projects Ltd, to get broad acceptance for the high temperature incinerator in principle before a location for it was chosen. This was supposed to ensure a detached, "rational" debate could take place before the emotions of concerned local residents clouded the issue and before the community living near the proposed incinerator site could muster support from the broader community.

To do this they set out to gain the support of the "realists" in the environmental movement. Although there was some dissent within the Australian Conservation Foundation, ACF gave its support and the three-person Taskforce included an ACF representative. However several other environmental groups opposed the incinerator including Greenpeace and Friends of the Earth. A proposal to support the incinerator was also narrowly defeated at a NSW Nature Conservation Council annual general meeting. Other groups which had no policy were supplied information by the Taskforce and asked to lend their support.

Remaining opponents were categorised and dismissed as either ignorant, having vested interests, or, in the case of those stubborn yet well informed environmentalists who could not be co-opted, the Taskforce sought to discredit and marginalise them by saying that they "show clear signs of wishing to assume the role of champions."[31] According to the Taskforce:

> Champions are those who see some benefits for themselves in adopting one position or another in a potential conflict.

30. Ibid.
31. Joint Taskforce on Intractable Waste, 1989, op. cit., p. 2/20.

> They are sometimes more concerned with the opportunity to enhance their reputation than with the details of the case.[32]

The Taskforce did not intend to consult further with that part of the environmental movement opposed to the incinerator because it recognised they were unlikely to change their position.[33] It had spoken to opposition groups in order to distinguish "opposition likely to thwart a desired outcome ('effect') from that which is likely to be ineffective even if it is discomforting ('noise')."[34] The reason for needing to do this was that the Taskforce wanted to manage and control the debate or, as it put it, "limit destructive conflict." It stated:

> Unstructured public involvement is likely to be chaotic and potentially destructive to a proposal. In the absence of a structure for public involvement, individuals and groups will create their own mechanisms…
>
> By providing a framework for public involvement, the form and direction of this involvement can be managed in the public interest. Under these circumstances public involvement in the development of a proposal is more likely to be productive and creative, and the scope for destructive conflict is significantly reduced…[35]

Of course the terms "productive" and "creative" and "destructive" are all defined in terms of achieving the goal of establishing a high temperature incinerator. Such an approach is used worldwide. In an issue of *Civil Engineering* it was observed that many engineers now see public education as an essential part of their work. A consultant to local government explained:

> We successfully educated our public because *we* controlled the agenda; we set the tone of discussion… In addition, we realized if we didn't educate the public someone else would. An uninformed public will always organise themselves. Finally we used our potential adversaries to

32. Ibid., p. 2/15.
33. Ibid., p. 2/19.
34. Ibid., p. 2/17.
35. Ibid., p. 2/13.

> our advantage. Our early efforts allowed us to co-opt potential opponents in time to enlist their help.[36]

By undertaking the consultation process before the selection of a site, the Taskforce was seeking to control the communication process, setting the terms of the debate and denying access to it to the people most affected. When the Taskforce invited submissions from local residents in country areas, its carefully worded messages cleverly left out the word incinerator. For example in a letter to various media outlets the Taskforce asked them to broadcast a message inviting submissions. It stated "An Independent taskforce, set up to advise the Commonwealth, New South Wales and Victorian Governments on the Minimisation and Management of Intractable Waste, is seeking public comment on its latest findings and recommendations..."[37] When community groups in Corowa (the first site chosen by the Taskforce for the incinerator) received letters similarly worded inviting them to a public meeting, few bothered to attend, not realising it had anything to do with a hazardous waste incinerator being put in their neighbourhood. Corowa residents claimed that invitations were sent to business groups, community service groups and councillors but not to local environmental groups in town.

When the site was announced in October 1990, claims by Corowa residents that they had not been consulted were denied by the Taskforce which pointed to these invitations and media announcements. However the damage was done. The people of Corowa and of the other shortlisted sites felt that they had been excluded from the consultation process and that this facility was being imposed on them involuntarily. There was a massive angry reaction to the announcement which ended up in a backdown by the governments involved.

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36. Audrey Penn Rogers, "Public education: part of the design," *Civil Engineering,* Vol. 59, No. 2, 1989, p. 77.

37. Letter published in Joint Taskforce on Intractable Waste, 1990, op. cit., p. A3/6. See also p. A3/9.

Cultivating trust

There is a growing literature on risk communication, much of which is aimed at advising corporations on how to deal with the fears that their operations engender in the community. Many risk communicators concentrate on developing ways to reassure the public. Joe Epley, past president of the Public Relations Society of America, writes of the need for public relations because "public opinion, fueled by hysteria, a desire to live in a risk-free environment, and unfounded perceptions of the industrial world, is making it difficult for many manufacturers to operate on either a local or global basis."[38]

Stuart Price, a communications consultant who has worked for Westinghouse Electric Corporation, advises in an article on "Learning to Remove Fear from Radioactive Waste" that "bringing concerned citizens into the decision-making process, rather than just launching one-way information packets in their direction, is a technique that can build good will and resolve many fears."[39] He recommends the use of advisory boards with local residents, environmentalists and workers on them, with regulators and waste generators present to provide expert advice and explain the "reality" behind the newspaper headlines.[40]

Some risk communicators acknowledge that many of the factors influencing a person's perception of risk are quite rational, for example whether the risk is imposed or voluntary. They nonetheless seek to change perceptions rather than reduce risks. For example, Peter Sandman's well used formula, Risk = Hazard + Outrage, is used by companies and government agencies trying to get community acceptance for hazardous facilities to work out ways to reduce outrage rather than to reduce the hazard. This is done by concentrating on communicating the concern, honesty and trustworthiness of the organisation proposing the additional risks.

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38. Joe S. Epley, "Public relations in the global village: an American perspective," *Public Relations Review*, Vol. 18, No. 2, 1992, p. 111.

39. Stuart V. Price, "Learning to remove fear from radioactive waste," *Public Relations Quarterly,* Vol. 39, No. 3, 1994, p. 33.

40. Ibid.

In an article addressed to the chemical industry, James Lindheim, director of Public Affairs World-wide at PR giant Burson-Marsteller, explained how the relationship between a chemical company and a fearful community can be compared to a psychiatrist's relationship with an irrational patient:

> There is, for instance, a very interesting technique that psychiatrists use to deal with irrational and distressed patients. They call it the therapeutic alliance. When an anxious patient first arrives, the psychiatrist will be a very sympathetic listener. The whole time that his mind is telling him that he has a raving lunatic on his hands, his mouth will be telling the patient that his problems are indeed quite impressive, and that he the psychiatrist is amazed at how well the patient is coping, given the enormity of the situation…
>
> Once that bond of trust is established, true therapy can begin and factual information can be transmitted.[41]

Lindheim advises the chemical industry to do the same: to build a therapeutic alliance with the public, which has an irrational and emotion-based reaction to chemical risks. He says that scientists and engineers should avoid the temptation to try to explain to the public how safe pesticides and other chemicals are. "Obviously, people don't understand. If they did, they wouldn't worry and they certainly wouldn't be hostile."[42] Since the public is so concerned with protecting the environment, the chemical industry "must use its communications resources to demonstrate its commitment to solving environmental problems, and making environmental improvements."

> The industry must convince people that it cares, not by giving them facts about the true risks and benefits of chemical products but by creating a therapeutic alliance. It must accept the legitimacy of their concern, although some may see these concerns as misguided and irrational… The

41. James Lindheim, "Restoring the image of the chemical industry," *Chemistry and Industry,* Vol. 15, No. 7, August 1989, p. 493.

42. Ibid., p. 492.

> industry must be like the psychiatrist: rationally figuring out how it can help the public put things in perspective…[43]

What is essential for good public relations, according to Lindheim, is trust. But trust "is built on emotion, not on facts," so increasing public understanding will not be helpful.[44] Similarly, Bill Brody, professor of public relations at Memphis State University, argues that "people are likely to respond to ideas, objects, persons, and events as much by what they think and feel about them as by what they know about them."[45]

There is, however, some evidence that messages of reassurance inadvertently communicate insincerity and dishonesty. The contradictions and incongruities that arise from the need to reassure rather than openly inform are easily picked up by those who are likely to be most affected and are amplified by opponents. Often unspoken messages work against spoken reassurances. For example, the decision to site the incinerator in rural NSW, hundreds of kilometres from the main source of the waste in Sydney conveyed a powerful message to rural people that the incinerator was too dangerous to be sited near so many people in Sydney. This was the message that spoke loudest to them. The Taskforce tried to explain the decision as follows:

> The Taskforce is convinced that there is no technical reasons why the incinerator cannot be sited in the same way as any other industrial plant of a similar type. This has been done successfully overseas. However, it is likely that the public in general would prefer the distance separating the facility from residential areas to be greater than would be acceptable for more familiar industrial plants of a similar type. This is likely to rule out its location in a congested, fully-developed industrial area.[46]

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43. Ibid., p. 493.

44. Ibid., p. 494.

45. E. W. Brody, "The domain of public relations," *Public Relations Review,* Vol. 18, No. 4, 1992, p. 352.

46. Joint Taskforce on Intractable Waste, "Disposal Options For Intractable Waste, Information Brochure" (Commonwealth, NSW and Victorian Governments, 1990).

Other siting criteria also communicated hazard to the community. The Taskforce said that within a buffer zone of about one kilometre radius, "there should be no supply offtake of urban or town water, supply, for irrigation, or for intensive agricultural purposes."[47] It has also stated that for a combination of technical and perception considerations it is essential the site "be away from environmentally sensitive areas such as wetlands, national parks and significant streams and lakes."[48]

The people of Corowa, seven hundred kilometres from Sydney, were particularly incensed when their area was chosen by the Taskforce as the preferred site for an incinerator since the location was less than two kilometres from the Murray River, one of Australia's major waterways supplying drinking and irrigation water to three states. "Is the Murray not a significant water-way?" they asked government officials at an angry public meeting. The failure of those officials to give what locals considered to be an adequate answer to this and other questions communicated more to the audience than all the purposeful, reassuring statements they made all evening.[49]

When the governments finally backed down on Corowa as a site in November 1990, stating that it was unsuitable due to its proximity to the Murray River and a large number of wells,[50] this too communicated more to the people living near other nominated incinerator sites about the dangers of an incinerator than any environmentalist's media statement could have done. The contradiction between official statements of reassurance and other less conscious statements of risk did nothing to reinforce trust in the government.

The public consultation process undertaken by the Taskforce and the Waste Management Authority failed to win public acceptance of the incinerator. The Taskforce/Waste Management Authority communication process was flawed because (i) the

47. Joint Taskforce on Intractable Waste, 1990, "Final Phase 3 Report," op. cit., p. A4/3.

48. Ibid., p. A4/4.

49. Public meeting, Corowa, 2 October 1990.

50. "Corowa now ruled out for incinerator," *Sydney Morning Herald,* 27 November 1990, p. 3.

portrayal of ideal technology working within perfect social systems was not credible; (ii) the effort at reassurance came across as salesmanship; (iii) inadvertent communications conveyed opposite messages to those which were intended; (iv) the failure to consult destroyed faith that the authorities were acting in the community's best interests.

Conclusion

Government and industry experts often assume opposition to their projects are based on ignorance that can be overcome with a good communication process that gives the community the "correct" information and the opportunity to express their views. They seek to reassure the public by promoting an idealised image of technology, a technology that is predictable and controllable and independent of social institutions and structures. The world that they want to create is one of order where everything is under control, where the authorities can be trusted to do the right thing. Krimsky and Plough point out that:

> A scientist speaking to a community about the health effects of a hazardous waste site is part of a political ritual that aims to evoke confidence and respect. The technical information in the message is secondary to the real goal of the communicator: 'Have faith; we are in charge.'[51]

The environmentalist argument which promotes a view of technological systems which are unpredictable and uncontrollable undermines that goal and so comes under bitter attack. Polarisation inevitably follows from the original formulation put forward by the promoters of the technology. It is reinforced by the media which are unable to discern which technological portrayal is "correct" and prefer to report the story of the conflict, in a way everyone can easily understand: a conflict between a responsible government doing its best to deal with hazardous wastes versus

51. S. Krimsky and A. Plough, *Environmental Hazards: Communicating Risks as a Social Process* (Massachusetts: Auburn House Publishing Company, 1988), p. 6.

anti-industry environmentalists and local residents expressing the NIMBY syndrome (Not In My Back Yard).[52]

Where risk communicators have recognised that trust people have in social institutions is a crucial part of gaining acceptance for hazardous facilities or environmentally dubious developments, PR people have played a major role in advising government authorities and corporations on how to cultivate the trust of local residents. This effort to gain their trust is inevitably manipulative and cynically conducted and often that lack of sincerity is inadvertently communicated to the community, although sometimes it needs to be exposed by opponents.

Michael Pollack has observed that "relatively open, adversarial systems" combined with "public and intervenor-group lobbying" tends to be more effective at enabling the public to influence government decisions than the establishment of consultative procedures.[53] Mechanisms for public participation and consultative procedures that are controlled by policy makers seldom achieve this opening up. Those in power are able to control the structure of the decision-making agenda, lay down the boundary conditions for participation, define the scope of discussion, determine which types of argument will be considered, and generally determine the limits of legitimacy.[54] Moreover, where participation is introduced as an attempt to obtain approval for decisions or to aid policy makers rather than redistribute power, the impact of participation is carefully limited.

In this case, and many others, such attempts to control and confine public discussion can be overcome by local residents creating their own mechanisms for discussion, attracting media attention through actions, protests and stunts, organising their own meetings and rallies and newsletters, and generally bypassing or taking over the formal procedures that PR

52. See for example E. Mealey, "Dilemma over toxic dump site," *Sun-Herald,* 29 January 1989; P. Bailey, "Greens split over toxic waste burner," *Sydney Morning Herald,* 26 September 1990; editorial, *Sydney Morning Herald,* 18 March 1991.

53. Michael Pollack, "Public Participation," in H. Otway and M. Peltu (eds.), *Regulating Industrial Risks* (London: Butterworths, 1985), p. 82.

54. Ibid., pp. 80-81; David Dickson, *The New Politics of Science* (New York: Pantheon Books, 1984), p. 220.

consultants have carefully contrived. The aim of those wanting to win acceptance for a facility is to narrow the scope of debate, so the aim of those opposing it is to widen the debate, to interest as many outsiders as possible and ultimately to attract so much attention that decision-makers cannot ignore them.

It worked for the residents of Corowa and other selected towns and in the end the governments involved decided not to build a high temperature incinerator in Australia, but rather to seek and develop specific solutions that would be appropriate for each type of waste stream rather than have a catch-all disposal unit that no one wanted. In the meantime, production of intractable organochlorine wastes has supposedly ceased.

Commentary by Gavan McDonell*

In recent years the transformation and production of nature through technological processes has been accelerating. The "selling" of technological change and innovation as progress, and its environmental impacts, are well strummed themes in academic discourse. Sharon Beder's pertinent example, the famous, even notorious, Federal/State initiative on the prophetically named "intractable wastes," comes from the late 80s/early 90s; but she could have found plenty of current cases of expert/lay disputes, strategic public relations campaigns and media manipulation on behalf of public policy programs. And the issues raised by the response she outlines in the last two paragraphs might well have been the main theme of the article, rather than its coda.

The article underscores the widespread expectation among many public groups and elected political representatives that

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legislation, such as Environmental Protection Agency Act, encouraging public involvement could have been effectively implemented in good faith, without the technocratic condescension and political doubletalk, and long processes of social learning, which she recounts.[55] The new legislation purporting to encourage participation opened deep problems of operational logic for the system of liberal capitalism and its institutional expression in the West in representative democracy and bureaucracy. What emerged was, in large measure, the "impresario state," as Ulrich Beck has described it, which writes scripts and stages shows, and the lumbering venality and hypocrisy of this has increasingly stimulated criticism and new political thinking.

In the last few years much theoretical discussion has swung from conflict analyses deriving from what might be broadly called the descriptive methodologies, such as those of the sociology of scientific knowledge. Fruitful though these have sometimes been, they do not carry the conceptual supplies for a mission to devise an adaptive political theory. What is at stake is the basic issue for Western political philosophy of rethinking the constituting and action-coordinating arrangements of modern democratic societies in the new conditions brought about by the need to write nature in. The contrast in question here is that between the logics of (existing) forms of representative democracy and of (hoped for) participatory ones, or, more generally, between liberal individualism and republican communitarianism.

Since the early 90s this issue has fed some of the liveliest debates in political thought, especially within, on the one hand, poststructuralist, ecocentric and ecofeminist critiques of modernity,[56] and, on the other, within the neo-conservative

55. For a discussion of this in relation to the same initiative, and which pursues some of the issues noted below, see Gavan McDonell, "Scientific and everyday knowledge: trust and the politics of environmental initiatives," *Social Studies of Science,* Vol. 27, No. 6, December 1997, pp. 819-863.

56. For example, Robyn Eckersley, *Environmentalism and Political Theory: Toward an Ecocentric Approach* (London: UCL Press, 1992); John Dryzek, "Ecology and discursive democracy: beyond liberal capitalism and the administrative state," *Capitalism, Nature, Socialism,* Vol. 3, No. 2, pp. 18-42;

reaction embracing economic liberalism (rationalism) and managerialism.[57] The liberal institutions of representative democratic government did not provide systematically for the mobilising of values other than through periodic elections or economic lobbying.[58] Some writers advocating more participatory forms of democratic process attempt to go beyond the reformist rubrics of "sustainable development" and "ecological modernisation." They criticise the anthropocentric and androcentric assumptions of Western traditions of the relations between nature and culture, and attempt to redefine the legitimating and decision-making arrangements of democracies. The hope is that new formulations will offer ways beyond decisionistic political science, now frequently invoked in policy debates, or descriptive treatments of risk and epistemological controversies, such as those common in the sociology of scientific knowledge literature, to discussions of political theory and action which bridge society, economy, polity and nature.

Commentary by Ben Selinger*

In the ongoing battles between the technocrats and the environmental activists, I believe that we are dealing with what is essentially an ethnic conflict. Ethnic conflicts typically have long histories which are taught, interpreted and promulgated in stark mutual contradiction and isolation. The myths on both sides, developed from the past, help motivate the combatants in the present. Sharon Beder explores some of the tactics and

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Verena Andermatt Conley, *Ecopolitics: The Environment in Poststructuralist Thought* (London: Routledge, 1997).

57. For example, Luc Ferry, *Le Nouvel Ordre Écologique: L'arbre, L'animal, L'homme*, translated as *The New Ecological Order* (Chicago: University of Chicago Press, 1995).

58. One of the earliest to point this out was Volker Ronge, "Risks and the waning of compromise in politics," in H. Kunreuther and E. Leys (eds.), *The Risk Analysis Controversy: An Institutional Perspective* (Berlin/New York: Springer-Verlag, 1982), pp. 115-125.

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changing approaches of the Technocrats (her opposition), with pertinent quotes from within their ranks. Well done, but so what? When she has solved the problems of Northern Ireland, Bosnia, the Middle East and Central Africa, the lessons, applied to hazardous waste and the incinerator, will then be most helpful.

III
Technology policy

Policy formation and public participation in the management of technological change

Rhonda Roberts*

Policy formation by government and business on the management of technological change has to be a key topic in any discussion of public participation. Despite continued criticism of the lack of accountability in the development and use of new technologies, democratic access to policy formation in both government and business sectors has grown very slowly and, in some vital ways, only superficially.

One reason for this relative stasis has been the popular acceptance, particularly since the 1980s, of the overriding importance of national competitive advantage in global markets.[1] This emphasis on the threat of international competition and possible lowering of national standards of living has tended to marginalise questions about the place of the democratic process in the direction of technological change. Whilst some superficial concessions have been made to public concerns, for the most part policy formation is informed and in fact defined by the relatively new academic discipline known as innovation management. Its specific function is to "arm" government and private sectors in their international economic battles for market share.

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1. For more details see R. Roberts, "Managing innovation: the pursuit of competitive advantage and the design of innovation intense environments," *Research Policy*, Vol. 27, No. 2, 1998, pp. 161-177.

The very positively named innovation management discourse, which is informed by a number of disciplines including economics and geography, services the competitive aims of government and business. In doing so this group of theorists and advisers has come to limit the way in which the management of technological change can be articulated and the kind of policy instruments produced. Core assumptions made by these theorists—about what should be considered as "innovation" or appropriate technological change and how it can be gained—have limited modelling of the process and hence what policy instruments are produced and how they are used. In the quest for competitive advantage, the issue of public participation has been marginalised. This chapter examines assumptions inherent in innovation management theory, discusses alternative views of the process of technological change, and compares policy instruments produced using differing views on the "appropriate" nature of innovation.

Growth of interest in innovation management

Interest in innovation management has grown for a number of reasons. The general restructuring of business since the 1970s away from resource-intensive and into knowledge-intensive industries has made it an integral part of corporate activity. In particular there has been an increasing emphasis placed upon the role of innovation management in the formation of corporate competitive strategies.[2] Government as well has become interested in innovation management. In the 1980s, the economic expansion of countries such as Japan and Germany and the perceived decline of the US set in motion a search for new policy directions. The ability to manage technological change has became closely identified with national strength,[3] spurring

2. This rise has been noted by many including J. Utterback, "Innovation and corporate strategy," *International Journal of Technology Management,* Vol. 1, Nos. 1/2, 1986, pp. 119-132; R. Rothwell, "Developments towards the fifth generation model of innovation," *Technology Analysis and Strategic Management,* Vol. 1, No. 4, 1992, p. 75.

3. Of course the management of technological change has long been identified as a source of national strength. Recent phenomena such as the use of R&D indicators by the OECD have formalised and quantified the connection.

research into the elements which have appeared to compose "the competitive advantage of nations."[4] The drive for competitive advantage by both government and business sectors has fostered the formation of a modern discourse on innovation management. In turn contemporary innovation management theory has been dominated by the imperative to produce policy recommendations for business and government.

Underlying assumptions in innovation management

The importance of the relationship between patterns of technological change and economic activity has only recently gained acceptance in policy circles. In the immediate post-war period, the funding of science and technology, and more specifically defence, health and education programs, was rationalised in a variety of ways. The major shift has been that technological change is now increasingly seen as one of the main drivers of economic change and hence an essential part of policy studies. This new emphasis came about for a number of reasons, one of which was the "rediscovery" in the 1970s of work done more than three decades ago by Joseph Schumpeter. Schumpeter directly related changes in science and technology to business cycles making the management of technological change a central economic concern.[5] His work was enthusiastically taken up by policy experts seeking new ways of managing the economy and has become the foundation of a new economics-based science and technology policy discourse.

Schumpeter was concerned with explaining long term patterns in economic activity. He argued that past, large scale, economic boom and bust cycles had been brought about by a series of technological revolutions. While he emphasised the importance of the innovation process, he also stated that change in science and technology was only interesting when it was able to transform the outside world through the mediation of the marketplace. In

4. Michael Porter's work, in particular his book *The Competitive Advantage of Nations* (New York: Macmillan, 1990), has been considered by many as a major summary of factors leading to national industrial strength.

5. J. A. Schumpeter, *Business Cycles: A Theoretical, Historical and Statistical Analysis of the Capitalist Process* (New York: McGraw-Hill, 1939).

other words if new products or processes were not successful in the market then their effects were not spread and hence did not create change. This emphasis on commercially "successful" products and the acceptance of the marketplace as a selection mechanism have became central to modern innovation management discourse.

As part of his research program Schumpeter began developing models of the innovation/commercialisation process. Whilst the two main examples he produced have since been heavily criticised, they opened the way for later developments in the field. Since the 1970s, modelling the process of innovation has become the core activity of innovation management theorists who seek to produce better policy instruments from their insight into the mechanism of technological change. By the 1980s, "the firm" had become generally perceived as the fundamental actor in the process of innovation and was placed at the centre of government policy instruments. Major reasons for this focus were the perceived success of Japanese industry policy in fostering their firms as "national champions" and a declining interest in funding basic science research and development (R&D). However eventually extensive criticism was made of the limitations inherent in focusing purely on the firm. It was proposed in the discourse that success came from many levels of activity including close government-business relations and general cultural factors.

The current fashion is to focus upon the national innovation system which has been defined as "[w]ithin any country, the range of institutions which contribute to innovation and the linkages among them…"[6] The concept of the national innovation system has become widely accepted as a conceptual basis for government policy formation and began appearing in government policy documents in the late 1980s. Discussion of national systems of innovation arose as a result of the international studies started in the 1970s, particularly of Europe, US and Japan. These studies led to a desire to include new factors such

6. P. Hall, *Innovation, Economics and Evolution: Theoretical Perspectives on Changing Technology in Economic Systems* (New York: Harvester Wheatsheaf, 1994), p. 18.

as culture, novel institutions and labour-management relations in modelling the innovation process. At present national system theory focuses on: national R&D structures including R&D performance in both the private and public sectors; management and labour milieus; the optimum role of government; national infrastructure; financial frameworks and the internal and external markets; and the effect of "culture" on successful commercial activity.

Major issues arise from contemporary innovation management theory and the concept of national innovation systems in policy formation:

(a) the general acceptance of the concept of the nation-state and "its" welfare as the most important policy focus;

(b) the nurturing of the firm as a "national champion";

(c) the acceptance of international competition as the legitimate driver of technological change.

The present focus of contemporary innovation management theory acts to move discussion away from public participation and accountability in the name of a new kind of international economic warfare, where the business sector has become the armed forces fighting for market share.

Who is "participating" and who is not?

In 1980 the "developed" countries controlled 93% of the total global R&D expenditure of US$200 billion.[7] Of this percentage the overwhelming majority of R&D was funded and performed by business with government coming in a distant second.[8] Despite the lead in funding and performance by business, internationally governments are increasingly directing their own efforts to enhance the capabilities of the private sector. This government support is in fact growing at a time when large corporations have been increasing their mobility of operations. In other words transnational corporations are in the enviable position of being

7. J. Annerstedt, "The global R&D system: where is the third world?," in J. Annerstedt and A. Jamison (eds.), *From Research Policy to Social Intelligence* (Basingstoke: Macmillan, 1988), pp. 129-141, at p. 134.

8. Department of Industry, Technology and Commerce, *Australian Science and Innovation Resources Brief 1992: Measures of Science and Innovation 3* (Canberra: Australian Government Publishing Service, 1992), p. 9.

able to locate their activities in the most favourable settings, and national governments are competing to maintain or attract their interest. Despite this situation there has been a growth in government policy which portrays firms as a kind of national "soldier" or champion in global economic competition.[9] This attitude has been bolstered by innovation management theorists who exhort the government to maintain business loyalty and GNP, by upgrading their support of commercial activity both financially and in their management of the national innovation system.

Nelson, a major theorist in the field, calls the association between national and firm interests "technonationalism," which he states combines "a strong belief that the technological capabilities of a nation's firms are a key source of their competitive prowess, with a belief that these capabilities are in a sense national and can be built by national action." He argues that this association of interests is a positive development.[10] Contemporary innovation management policy has hence systematised the alliance between government and business interests in the management of technological change.

In the concept of the national innovation system the whole nation becomes a medium for the cultivation of the innovative firm, making the needs of the private sector paramount. This formulation leads to a blurring of the distinction between public and private good and rationalises elite management of technological change. Robert Reich and Fred Jevons have noted the problems inherent in such an alliance on the grounds that while industry and transnational corporations in particular may well profit from government assistance, there is no way to ensure a return benefit to the general population.[11] The commercial orientation of contemporary innovation management theory has naturalised the promotion of the needs of the firm and made "market forces" or key innovative figures such as the entrepre-

9. See R. Reich, *The Work of Nations: Preparing Ourselves for Twentieth Century Capitalism* (New York: Simon and Schuster, 1991).

10. R. R. Nelson, *National Innovation Systems* (Oxford: Oxford University Press, 1993), p. 3.

11. Reich, op. cit.; F. Jevons, "Who wins from innovation?" *Technology Analysis and Strategic Management,* Vol. 4, No. 4, 1992, pp. 399-412.

neur or intrepreneur[12] the rightful determinants of technological change.

Though general attention to the innovation process has increased, in fact debate has narrowed. The aim of the exercise is without question competitive advantage. The participants in the process of policy formation are those experts who can best model the process by which this advantage can be gained. This connection between innovation and competitive advantage saturates the mainstream discourse. Michael Porter categorically declares that: "Technological change is not important for its own sake, but is important if it affects competitive advantage and industry structure." Such policy advisers have now become the equivalent of the state's strategists in the global economic race.

Reopening the discussion

Radically different views on the management of technological change have been put forward over the years, though with very little effect on official policy formation so far. Boris Hessen began publishing on innovation a little before Schumpeter. Though his work was known, he was rejected by the dominant discourse as not contributing useful policy insights. Like Schumpeter, Hessen had been influenced by Marx's emphasis on the use of innovation management for the purpose of gaining advantage. In contrast though, Hessen adopted a more strictly Marxist approach and directly related changes in technology to the social relations of production. For Hessen, the owners of the means of production directly controlled technological change through their choice of which technologies could be developed and made available in the market place and used this ability to reinforce their power.[13]

Hessen's emphasis on issues of socio-economic power was renewed in the 1970s when strong criticism was made of the status quo by Ernest Schumacher. Schumacher argued that modern commentaries on technological change had been

12. Intrepreneur is the term generally used to refer to those staff members who operate as entrepreneurs within the structure of a large firm, in the service of that firm.

13. B. Hessen, "The social and economic roots of Newton's *Principia*," in N. Bukharin et al., *Science at the Cross Roads* (London: Cass, 1973). Originally published in 1931.

dominated by an inadequate model of economics which enforced competition and served the needs of a few first world industrialists.[14] Schumacher was similar to Hessen in arguing that the innovation process had been coopted by elite groups to maintain their position of power and further their profit-making activities.

Whilst many mainstream innovation theorists have attributed the problems of "less developed" countries to their inability to achieve technological and industrial "lift off" and hence enter the "race,"[15] Schumacher in fact saw the importation of Western technology and models of competition as the one of the main causes of these "problems." He argued that the importation of Western technology:

- was inappropriate to the needs of the local users as usually they were capital-intensive as opposed to labour-intensive;
- was highly mechanised requiring imports of parts and labour;
- required cheap centralised energy sources and other forms of high technology infrastructure;
- did not facilitate skills transfer and hence the ability to produce grassroots change;
- incurred enormous debt;
- led to production merely for export;
- left environmental damage; and
- engendered massive social dislocation.

Unlike Hessen, Schumacher described an alternative model which he argued addressed issues of power and equity. He called for a new kind of innovation model, one which produced "appropriate technology." Schumacher defined as "appropriate" technology which had been developed to suit the needs of local users, allowed just and sustainable wealth creation, and was environmentally friendly. The process which would produce appropriate innovations was usually portrayed as having at

14. E. F. Schumacher, *Small is Beautiful: A Study of Economics as if People Mattered* (London: Blond and Briggs, 1973).

15. This draws on Rostow's classic stages of "development" as described in W. W. Rostow, *The Stages of Economic Growth: A Non-Communist Manifesto* (Cambridge: Cambridge University Press, 1964).

least two stages: initial planning and then creation of an endogenous R&D system.

Stage One planning required:

- balancing social justice and environmental concerns with wealth creation issues;
- discussion of the productive use of local resources; and
- consideration of the benefits to be gained in the global market whilst promoting independent development.

Stage Two is the creation of an endogenous and "appropriate" R&D system through one or more of the following actions: changing indigenous technologies, adapting imported technologies, and/or creating new ones. The central action in Stage Two is the establishment of clear communication lines between users, researchers and government policy makers.

Schumacher's work has been heavily criticised and rightfully so. For example the following points have been raised.

- The concept of "appropriate" technology is far too simplistic and tends to imply that some technologies were "naturally" more suitable to less developed countries (LDCs) than others. It can be argued that all technologies are socially shaped and hence contain within them political, social and cultural imperatives. It has been generally argued that he was trying to make a complex problem too simple.
- The narrow focus on "low" technology may disadvantage LDCs. For example some commentators have argued that IT may in fact be an "appropriate" technology if properly developed for local needs.
- It is very difficult and requires major investment to produce any kind of R&D system let alone one which can produce unique technologies.
- The radical change in the economic profile of the newly industrialised countries in the 1980s has raised major questions about the picture Schumacher was giving of technology transfer programs.

Another group radically questioning who may or may not participate in the direction of technological change is theorists working on the social shaping of technology. According to Robin Williams and David Edge in their overview of the field, social shaping theorists have by "rendering the social processes of

innovation problematic … opened up policy issues that have been obscured by technological determinism, and by related simplistic models."[16] Wajcman and Appleton, feminist authors working on the social shaping of technology, have raised questions, thus far not mentioned, about gender and participation in the "innovation" process.

Judy Wajcman states that gender is a central factor operating implicitly in the innovation process.[17] She argues that technology is constructed as a masculine preserve shrouded in a complex and strong masculine culture. While men have the ownership of this area, women can just "borrow" it rather than participate in its design and use. She argues that even when technology is within the traditional women's sphere of the home, women use it but men design and repair it. This estrangement occurs because of childhood exposure to technology, feminine/masculine role models, education and training, and segregation of the job market. This position on technological disempowerment leads Wajcman to argue that technology is shaped by men for their needs and with their priorities. She argues that women historically have not had access to the important social spaces in which design is determined. Hence men design for themselves and from their own perspectives. To support her position, Wajcman discusses the historical development of contraceptives which she argues have been designed by men for women to use. Specifically she sites the development of the pill and the IUD which despite the high risks are still two of the major methods used. Men, she argues, are designing with their own purposes and interests in mind. One of the few male contraceptives produced—the condom—was devised, Wajcman argues, not for birth control but for protection against disease.

Helen Appleton takes a different approach to Wajcman in two main ways.[18] She examines the situation in non-Western

16. R. Williams and D. Edge, "The social shaping of technology," *Research Policy,* Vol. 25, 1996, pp. 865-899, at p. 867.

17. Judy Wajcman "Technology a/genders," in L. Green and R. Guinery (eds.), *Framing Technology: Society, Choice and Change* (Sydney: Allen and Unwin, 1994), pp. 3-14.

18. H. Appleton "Gender, technology and innovation," *Appropriate Technology,* Vol. 20, No. 2, September 1993, pp. 6-8.

nations and does not set up women as outside of an existing technical culture but instead claims that both women and men use and design technologies and hence have different technical cultures. Appleton claims that both women's and men's relations to technology are shaped by the specifics of their circumstances but that they are affected differently by the same circumstance. For example in an LDC, national politics and economic measures affect each sex differently. National agricultural policies often act to move women out of that industry and allow men to dominate as officially designated "farmers." At the same time, the ability to design and learn to use new technology is limited by the amount of free time available for that purpose. Appleton claims that as women are labourers as well as being the traditional family carers, they have less time to learn about or design technology. Despite the degree of difficulty, Appleton argue that women still innovate but since they are operating in different areas to men, the innovations are not viewed as such. For example, innovations in home care technologies may be dismissed as trivial just as the labour itself is often "invisible."

Issues of public participation only arise when disenfranchised groups assert their right to participate in the process and subject the process of innovation to critical analysis. Without such questioning, the management of technological change remains a distant and mystifying phenomenon. To highlight the importance of reopening discussion of the innovation management process and the place of public participation and accountability, one of the most recent and high profile technology policy instruments—the innovation-intense environment—will be examined.

The shaping of policy instruments: innovation-intense environments

Innovation-intense environments (IIEs) are just one of a variety of relatively new strategies used to manage the process of innovation. IIEs are defined here as special environments which purportedly accelerate the rate of innovation and proliferation of new high technology products and industries. These developments can appear in a variety of forms ranging from small science and technology parks through to large scale science cities. Studies performed in the early 1990s list well over 500 such

developments worldwide with the majority built since the early 1980s. IIEs are increasingly commanding vast amounts of resources. For example, a medium size IIE known as the Australian Technology Park was projected as costing A$400 million in 1994. The reasons for the growth in importance of IIE developments are quite complex but they are generally touted as a strategic weapon in the global race for competitive advantage. Whether IIEs actually perform this function or serve other more complex purposes is subject to debate.[19]

The development of an IIE design discourse has generally been portrayed as resulting from international interest in replicating the success of Silicon Valley in the 1970s and 1980s. Silicon Valley has come to be perceived as a role model for regional industrial development with numerous works published which purport to describe the critical mass of elements which made the area produce commercially successful innovation at a faster than normal rate.[20]

In designing IIEs, fundamental decisions are made about the nature of the innovation process and how it is best directed. Some of these decisions may well be implicit but still strongly influence the form and functioning of the IIE as a policy instrument. Below I will describe two very distinct "economic" approaches to IIE design.[21] These approaches are not meant to represent any specific theorist or existing school of thought, but merely broadly illustrate the way in which fundamental assumptions made about the nature of innovation can influence the design of policy instruments. Obviously many different factors, including funding sources, the political situation, and the cultural and economic context, to name but a few, influence IIE

19. Whether the present forms of IIEs (also known as high-technology incubators) can be judged as working in any absolute sense is another question. See R. Roberts ""Translating' the MFP: national innovation 'problems,' high technology incubators and Australia-Japan relations," *Prometheus,* Vol. 14, No. 2, December 1996, pp. 207-232.

20. A prime example is R. Miller and M. Cote, "Growing the next Silicon Valley," in T. Forester (ed.), *Computers in the Human Context: Information Technology, Productivity and People* (Oxford: Blackwell, 1989), pp. 470-480.

21 See Roberts, 1998, op. cit.

form.[22] But just for the sake of widening discussion, consider how different positions on what constitutes appropriate innovative activity may lead to different IIE designs.

A "green" economist following some form of sustainable development theory may define innovation as those changes which directly contribute to the "preservation of the environment" and the enacting of certain "principles of social justice." A "neoclassical" economist in comparison may be primarily concerned with increasing national GDP and the "trickle-down effect" and hence define innovation as commercially successful inventions. Both economists have inherent within their respective positions different ways of judging "success" and "failure." A successful innovation for the green economist would presumably contribute in some definable way to the preservation of the environment and/or greater social equity. The neoclassical economist may place a higher priority on financial profit or market advantage. Both ways of judging outcomes are legitimate within the internal framework of each position. However neither side's notion of success could be easily translated to the other's scale as different changes are being "measured," by different means.

IIE form reflects to a certain extent judgements made about desired outcomes and affects the IIE design process in several ways, including selection of areas for development, inclusion of necessary "elements," development of hardware and the control of information. In IIE design certain areas, industries or "problems" are chosen for investigation and development. For the neoclassical economist, the potential for commercial success would have to be a high priority in determining which R&D projects are handled and presumably such decisions would be based potential market performance. For the green economist, also depending upon their source and size of funding, the "market" may be less important than perceived environmental and social outcomes. Hence for the green economist, development of special solar power units may be a success, but the same item may be a failure in terms of cost for the other economist.

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22 The form and functioning of IIEs cannot be adequately understood without reference to the social context in which they are designed. See Roberts, 1996, op. cit.

The selection and organisation of the constituent elements deemed necessary in the incubation process are influenced by the desired result. For the neoclassical economist, key figures involved would presumably include financial managers with a knowledge of "the market." For the green economist, another set of expert advisers would presumably be compiled. In terms of the actual hardware design of the IIE, different priorities would determine form. One IIE would presumably conform to conventional cost and efficiency criteria whilst the other may place more emphasis on considerations such as public participation in formulation of research goals, workers' needs, impact on local environment and gender power relations.

The final effect and one of the most important influences on IIE design is the position on control of information.[23] If the goal is to obtain maximum market return for investment, then under most circumstances the neoclassical economist would seek to tightly control information flows and maintain defensive intellectual property rights. By contrast, for the achievement of the goals of the green economist, sharing and diffusion of information may be considered of fundamental importance for the goals of the IIE.

Conclusion

Different views on who should participate in the direction of technological change and to what ends result in the formation of very different kinds of innovation policy and policy instruments. As shown above, participants' views on the appropriate goals of the innovation process directly affect the design and functioning of policy instruments such as IIEs. These views are of course informed by the wider social context. If "competitive advantage" is the central aim in innovating then "commercial" considerations will dominate the management of innovation and the direction of technological change.

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23. Edward Blakely, an international IIE design consultant, emphasises the importance of this aspect, stating that the "real race is over the control of information not the use." E. J. Blakely, "The new technology city: infrastructure for the future community," in J. Brotchie et al., *Cities of the 21st Century: New Technologies and Spatial Systems* (London: Longman-Cheshire, 1991) p. 230.

Participation in food industry technologies in the age of sustainability

Andy Monk*

Food in industrial societies has become more anonymous and its production more distant from the average consumer than perhaps ever in human history. Homogeneous, mass produced fruits and vegetables may carry a home brand label in supermarkets, while we can buy canned pineapples and corn under similar home brand labelling which are sourced from a number of countries around the world. While there are recognisable brand names and familiar foods available, the knowledge of who has produced them, how they were produced and what exactly are the contents of the food package are all questions most cannot answer. The distance from point of production to that of consumption further exacerbates this lack of knowledge.

The tomato exemplifies such developments. Being one of the most popular fresh food commodities at a global level, it finds its way into a wide range of fresh and processed foods from hamburgers and pizzas to pasta sauces and soups. Whether we desire it or not, most of us each day of our lives consume tomatoes in one form or another. This food item has undergone radical change from its original nature of being a soft-skinned cherry-size fruit to one of being hard skinned, long lasting, and able to withstand a large degree of physical trauma. These changes stem from food industry pressures for the fruit to fit in

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with the requirements of intensive mechanical harvesting, handling, packaging and long distance transport. Aspects of taste and nutrition have often been overlooked by the food industry as companies vie for market share which mostly relies upon supplying large quantities of produce as cheaply as possible. Even with what is called today a consumer-led revolution in the food industry, where the consumer is the focus of setting food trends, the technical requirements of foods to have good shelf lives, to handle well and to be economically competitive, all outweigh less tangible quality aspects, such as nutrition and taste, of many of the foods we consume.

There are conflicting accounts of the level of democratic participation in the present food industry and in its related science and technology base in Australia. On the one hand we are seeing this distancing of food production processes from an increasing number of citizens. The rise in complexity and sophistication of food products and their increasingly non-local production are contributing to this distancing. Consumers, while they seem to have such a vast range of food choices, actually often are excluded from the processes of food technology choice. On the other hand, there are moves which are re-emphasising local links with food production and food production technology design. This is seen at a consumer group level with the boycotting of certain practices and technologies or the setting up of alternative production and labelling schemes such as with organic or gourmet products. The consumer is then allowed an active choice in participating or not participating in the consumption of such foods and therefore indirectly supporting or rejecting certain food technologies. Such participatory moves can also be seen at a primary producer level in the steering and design of agricultural research by farming groups. Participation is also present via the active involvement of entire communities in land and water management connected with agricultural production and sustainability issues.

What do these developments mean for the future of democratic participation in food industry technologies? This chapter will explore some of the variations in community participation or lack thereof, in the steering, design and control of food industry technologies in Australia. This discussion will be set amidst the

climate of searching for technical developments which are deemed to be ecologically sustainable. I argue that community participation in such processes is highly desirable in the search for sustainable technology use. While this does not solve all the problems inherent in determining and assessing sustainability in the longer run, the process of public participation in technology choice seems to be one of the most effective means of voicing and enacting environmental concerns.

A changing food system

Agricultural science as an institutional practice has its roots in the mid nineteenth century when leading Western governments including Australia began funding research institutes and extension services. So called "scientific agriculture" became a huge success, firstly with the use of newly developed synthetic fertilisers, and then later with hybrid crop strains and modern pesticides. Combined with expanding irrigation projects, subsidies for land development, and then the boom of the "green revolution" technologies in less developed countries, modern style agriculture and its scientific support base have seemed both omnipotent and universal in application.

These developments and successes encouraged a model of agricultural science which was predicated upon the dispersion of knowledge and technologies from centrally located laboratories and field sites. These "centres of calculation" were very much seen as the harbingers of truth and appropriate technology, which were responsible for converting backward, peasant or regional practices into modern scientific agriculture.[1] Reliant upon the early successes of seemingly universally applicable techniques and technologies, such a centralised model was successful for many decades in boosting yields and raising farm productivity in many agricultural regions of the world.

The last few decades have witnessed challenges to this approach, resulting in both intellectual and policy shifts which place more emphasis on the regional social and physical environments into which technologies or ideas are dispersed.

1. B. Latour, *Science in Action* (Milton Keynes: Open University Press, 1987), p. 232.

Certain green revolution failure stories raised awareness of the need to see technologies as integrated packages reliant upon a range of infrastructural supports for their success.[2] Such infrastructural supports included credit facilities, extension services for the transfer of agricultural knowledge, well managed irrigation, efficient transport systems and access to agricultural inputs. The lack of any one of these and a range of other optimal factors could greatly affect the outcomes of the techniques and technologies in question. The "systems" approach to agricultural extension and development has brought research and extension back to a local level in order to accommodate regional differences. The local nature of agricultural practice has been gaining acknowledgment since this time, and is changing the ways in which research, development and extension are carried out both in industrialising and in developed countries.

Reconciling food production and sustainability

Meanwhile, environmental impacts of modern agriculture are similarly affecting research policies, particularly in the developed world. Downstream environmental and social impacts of modern agricultural technologies have been scrutinised by a growing number of critics and government institutions. The long term sustainability of traditionally defined farm productivity has also come under fire, as soil resources, soil fertility and irrigation potential are compromised. In Australia, there have been numerous reports and investigations over the past decade, outlining appropriate scientific and technical change that is required at the farm level.[3] Foremost amongst these has been the Ecologically Sustainable Development (ESD) report on

2. See T. Bayliss-Smith and S. Wanmali (eds.), *Understanding Green Revolutions: Agrarian Change and Development in South Asia.* (Cambridge: Cambridge University Press, 1984). This has particularly been the case for sub Saharan Africa, where irrigation was often lacking. The new high yielding varieties of the green revolution are reliant upon optimal applications of synthetic fertiliser and pesticides to attain the higher yields they were bred for. Where these are lacking, yields have suffered.

3. B. Roberts, *The Quest for Sustainable Land Use* (Sydney: UNSW Press, 1995); J. Pretty, *Regenerating Agriculture: Policies and Practice for Self Reliance* (Washington, DC: Joseph Henry Press, 1995).

agriculture commissioned by the federal government in the early 1990s.[4] As yield increases are slowing, and as environmental damage has been made unambiguously evident through such media sensationalised phenomena as land salinisation and acidity and river algal blooms in some agricultural regions, research trajectories have changed course. Agricultural ideas and technologies that were in the past perceived as self evident and true, regardless of the context, are now being seen as reliant upon optimal social, technical and physical contexts. The environment, the biological life of the soil, and bio-diversity on farms are now being seen as vital elements for highly productive farms.

Instituting the changes suggested by international and national ESD reports have been reliant upon co-operation between individuals and regional groups. Participation by a wide range of important stakeholders has also been recognised as essential for the long term sustainability of shared pool resources.[5] Such participation builds trust within communities, and allows individuals to justify individual action which may otherwise be economically or technically irrational. For instance the sharing and utilisation of water resources is imbued with "ecological" issues which require collaborative effort to maintain the system's integrity. Maintaining participation in such schemes has proved difficult in many situations, however, and many environmental schemes are beset with problems of policing. The pollution of waterways is still an area quite difficult to regulate. There seem to be certain important elements to shared resource groupings which help prevent a "tragedy of the commons"—where publicly shared resources are otherwise used up by individual self interest.[6] Among the most important is widespread participation in such schemes which builds group identity, a shared understanding of the problems, and a sharing of the implications

4. Ecologically Sustainable Development Working Group on Agriculture, *Final Report—Agriculture* (Canberra: Australian Government Publishing Service, 1991).

5. E. Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action* (Cambridge: Cambridge University Press, 1990).

6. G. Hardin, "The tragedy of the commons," *Science,* Vol. 162, 1968, pp. 1243-1248.

of the success of the scheme.[7] There are a number of examples in the Australian agricultural industry which represent such successes.

Organising for participatory change

Participation in processes of change in Australian agriculture has involved both intragroup and intergroup co-operation between farmers, researchers, bureaucrats, private companies and consumer groups. The most dramatic case of intergroup co-operation has been between the National Farmers Federation (NFF) and the Australian Conservation Foundation (ACF), organisations representing two traditionally opposed social groups. This example symbolises the growing acknowledgment of the connection between environmental quality and productivity for the farm sector. Out of this alliance has evolved the National Landcare Project (NLP), which has encouraged regional rural groups to work together on environmental and production problems directly related to rural activity. These initiatives have helped raise awareness, allowed for ownership of environmental problems, and have so far resulted in a moderate degree of physical and technical change to the farming landscape such as tree planting, salinity control and pasture improvement. Such activities have encouraged a focus on developing local solutions to land degradation.[8]

This local orientation has involved working directly with farmer groups for the supply of agronomic information, for setting research and technology agendas, and for giving feedback on research results. Combined with an increase in farm-based trials, where research is carried out within existing commercial farming operations, this has the potential to radically alter the ways in which future agricultural science is practised.[9] Such

7. Ostrom, op. cit.

8. A. Campbell, *Landcare—Communities Shaping the Land and the Future* (Sydney: Allen and Unwin, 1994).

9. R. Wilkinson and A. Carr, "Convergence of scientific and farmer knowledge," Australasian Association for the History, Philosophy and Social Studies of Science, conference paper, Melbourne University, 1996; Pretty, op. cit.; L. Cosgrove, D. Evans and D. Yencken, *Restoring the Land: Environmental Values, Knowledge and Action* (Melbourne: Melbourne University Press, 1994).

practice is reliant upon farmer participation, which enables a more regionally specific transfer of knowledge and technology to filter into, or develop within, a given region. The trialing of pastures, new crop strains and cultivation practices are increasingly being carried out within the light of this local focus.

Changing R&D: the dilemmas of moving toward sustainability

Due to public research and development (R&D) fund cutbacks through the 1990s, the culture of research has been changing. Regional farmer participation in agricultural R&D has become a popular, effective and economic means of diffusing new agricultural techniques. Indeed some of these developments are being supported by the private sector.[10] Concurrently, economic, technical and legal advances are making it more commercially viable for private firms to invest in agricultural research such as biotechnology.[11] Such research, however, tends to be short-term focused, and, for obvious commercial reasons, tends to rank environmental concerns lower on the list of priorities. Environmental issues are often transformed by both trends, in ways which primarily serve the interests of individual producers and the raising of productivity. Biotechnology, for instance, while being touted as a "clean" solution to agrochemical use, poses a range of problems in its own right. The potential for raising yields and the ability to commodify and market this new agricultural input commodity are the main driving interests behind the technology's inception. The present Australian culture of agricultural R&D is therefore being driven by two sometimes counterposing forces. Both research directions involve participation, but often to differing ends. The "environment" tends to be important if and when such interests coincide with production interests.

10. The Mallee-based Birchip group of farmers is exemplary in this regard.

11. S. Wright, *Molecular Politics: Developing American and British Regulatory Policy for Genetic Engineering 1972-1982* (Chicago: University of Chicago Press, 1994); R. Hindmarsh, D. Burch and D. Hulsman, "Biotechnology in Australia: issues of control, collaboration and sustainability," *Prometheus,* Vol. 9, No. 2, 1991, pp. 221-248.

The challenge in the age of sustainability has been to systematise participation in agricultural R&D in such ways as to cater both to interests of farmer groups as well as to immediate and downstream environmental, economic and social concerns. Some Landcare groups and regional farmer research groups have been moving towards the above objectives. The achievement of these social, environmental and technical objectives through participation, however, is beset with factional interests as has been seen above. Broad scale participation, while certainly present in agricultural science and agricultural practice, tends to be interest group specific and narrowly focused. For example, so called "conservation farming" which restricts soil losses to farms through minimum tillage activities and stubble retention, relies upon increased herbicide use. The achievement of one environmental objective can often compromise other objectives. Achieving a broad, more "ecological" objective, which integrates and satisfies both social and physical environmental objectives with farm production, is a great challenge to future agricultural sustainability in Australia.

The notion of participation in environmentally related issues is fraught with methodological difficulties. Participation is usually perceived as involving the input of various interest groups which voice their own agendas before consensual or majority agreement is reached. In terms of environmental issues, interests are often voiced which may coincide with environmentally appropriate action, but also may not as with some aspects of conservation farming. Environmental issues that are given voice also tend to be those that are easily observable and are seen through prisms of commercial interests. The biotechnology and agriculture debate has very much been constructed in this way. When discussing participation, we therefore need to remain aware that this participation is partial and defined within the parameters of interest of those involved in such projects. Even given wide scale rural participation in sustainability projects and rural improvement projects, this is no guarantee that through such practices the environment will be better served. Simply relying upon public participation will not naturally solve problems of agricultural sustainability. Without an overriding cultural ethic which is specifically reliant upon the ecological integrity of a region,

individual and interest group participation in environmental matters can potentially compromise the long term sustainability of a given region. The encouragement of public participation may well be a vehicle for the establishment of such an ethic.

Participation in the food industry

These dilemmas of public participation in food production technology are also related directly to the evolutionary changes in the global food system of the twentieth century. The second half of the 1900s has been the era of the consumer, in terms of food price drops and in terms of sheer volume and variety of food stuffs available in the industrialised world. Technological and demographic changes have also led to far less active social involvement in the production of food. Most developed nation agricultural work forces are now less than 5% of total employment. There has also been a radical drop in people preparing their own food in the home. The tomato farming and processing industry, for example, has seen drastic drops in labour requirements for production while simultaneously experiencing huge boosts in total production output. This has led to a cheap, readily available, relatively homogeneous food commodity for consumers across the developed world.

Food is increasingly sold as ready to eat for the time-conscious consumer.[12] Whereas in the past, consumers of food products may have had an awareness of where their food came from, perhaps even who produced it, today anonymity is the rule, with food often-times travelling across continents and oceans before being consumed. It is not so much the social and physical distance of food production as the homogenisation of mass production practice which stifles an ability to differentiate food products and therefore practices. The lack of access to knowledge of what a given food product represents discourages citizen-led initiatives to either actively encourage or to protest against and boycott technical or social practices involved in its production. The remote nature of food production also has the effect of being less of a direct concern to most consumers. It can be argued that

12. B. Senauer and J. Kinsey, *Food Trends and the Changing Consumer* (Minnesota: Eagan Press, 1991).

consumers are participating, however crudely, in market and technological changes by expressing their buying power. Such participation, however, is often based on a lack of information and knowledge of what a given product represents and the sorts of technologies implicated in its production.

Technical and legal developments in biotechnology are one classic example of these problems. Some consumer movements have promoted laws to ban or at least label all products containing biotechnologically modified food products, but such moves have so far failed.[13] These attempts may be unsuccessful due to a range of complicating technical and commercial factors. Food industry claims that the costs of separation of modified and conventional commodities would be prohibitively high is a major rhetorical ploy which is stalling food regulatory bodies from enacting legislation which would deal with this issue. While some countries have bans on such products, the rhetorical pressure of open trade is weakening the ability of countries to exclude a production practice whose end product is undiscernibly different from its conventional counterpart. The tomato and the soy bean are two of the most ubiquitous food commodities of the modern food industry that find their way into a vast range of processed foods. The effective inability to discern biotechnologically altered from normal strains of these foods once released into the food processing industry works against those attempting to boycott such items. The question must be asked, who is freely participating in these technology use decisions and how are they being made?

Global trade developments have a built-in presumption that consumers will vote with their money for the support of a given product. This poses all sorts of problems in terms of regulation and management of future technology risks, establishing sustainable economies, and public participation in the direction and design of technology.[14] However unacceptable these developments may be, this does leave the consumer as the main

13. Consumers' Federation of Australia, *The Right to Safe Food* (Canberra: CFA, 15 March 1991).

14. C. Plant and J. Plant, *Green Consumerism: Hope or Hoax?* (Philadelphia: New Society Publishers, 1991).

public participant with any significant degree of power, even if that power is generally unorganised and libertarian—i.e. being able to choose which can of beans or which type of egg to buy. We can now buy "Farm fresh eggs," "Free range," "Vegetarian fed," and "Organic" among other labels in at least a selection of supermarkets in urban areas of Australia. Ideally, so market analysts tell us, the consumer market is the perfect embodiment of choice and participation in society. However, the dozen or so tomato sauce brands available on supermarket shelves are usually identical in nature. Arguments against the claims of rational choice and individual consumer control of markets aside, when information is lacking on the product itself, an informed and participatory act cannot be committed. Participation is clearly declining at this end of the food system, as food commodities become more anonymous and layered with multiple invisible technical transformations. For instance, what types of chickens are used and why? How are they "farmed"? What are they fed? What other drugs, antibiotics and supplements are they given? What other unseen technologies are used in the production process? How are they killed and what is their experience of it? In terms of participatory democracy, this point is crucial. An ability to be involved in decisions at this end point of production practice (i.e. consumption) is arguably one of few points of control and participation left open to the citizen/consumer in a period of intensifying international trade and repealing of national government regulation. Trade developments are placing pressure on regional economies and citizens to conform to standards of practice beyond their own design, further compromising participation in such practices.

Assessing technologies and apportioning risk

The modern food system presents an increasing array of complicated technical decisions regarding safety of food sources, production practices and technology choice. Comprehensive assessment of risk ideally involves not only data and numerical analysis, but also subjective assessments of the need and utility value of particular technologies. Public participation in such processes has been argued to be the most effective means of technology choice which integrates so called subjective factors

into technology assessment.[15] There are numerous obstacles in the way of such practices, however. While there have been moves toward community consultation on technology use for food irradiation and biotechnology, such consultation is often more aligned with public relations activities, rather than genuine open debate which might affect technology use. External cultural pressures toward global integration and open market systems place pressure on such community processes to conform to world standards rather than to implement regionally appropriate standards and rules.[16]

The assessment of risk and appropriateness of these sorts of technologies is mythically presumed to be ascertained by rational means and processes. Usually this is believed to be best served via expert committees and individuals. Risk assessment, however, is always already riddled with non-rational interests. Commercial, cultural and career interests are among a host of factors which skew the assessment of any particular technology. Organising risk assessment which incorporates as wide a range of public participation as possible is one crude way of minimising the dominance of any one interest group, and particularly of metering dominant commercial interests. Given that there is neither a no-risk scenario nor a completely rational risk assessment scenario for any technology choice, such a participatory aim would seem appropriate.

Who should participate in such processes of technology assessment is less clear. Certain environmental issues may not be covered by the interests of participating members, and in fact some interests would be directly opposed to some measures. For instance, those with vested interests in biotechnology research and development are hardly to be expected to voice concerns against the technology. Similarly the safety of pesticide and herbicide use in the food industry will be supported by those with interests in their use. The attainment of environmentally or socially responsible practices and technologies might specifically require the lack of participation, and the effective exclusion, of

15. S. Beder, *The Nature of Sustainable Development* (Newham, Australia: Scribe, 1993).

16. Wright, op. cit.

some voices. Ironically however, it is presently the general public (and therefore the majority in terms of numbers) which is being silenced by commercial food industry (and therefore minority) interests. A more participatory model of technology choice would involve people on the basis of representative numbers rather than money and power. This would naturally see some commercial food industry interests being transformed and redirected to fit more appropriately with general public interests.

While the nature of some agricultural research is moving toward a more participatory model, general citizen participation in food production technologies is arguably dropping, and an ability to control and direct technological development is being extremely compromised. Environmental concerns are also being placed in jeopardy by global commercial developments which work against organised social participation in technology choice. Exacerbating this is the ways in which most environmental concerns are voiced. When couched within the interests of major stakeholders, this may not necessarily coincide with optimal environmentally appropriate action. This poses problems for participation which might otherwise lead to greater emphasis on sustainability and more conservative risk management.

Overcoming the participation paradox

The Organic Agriculture Movement (OAM) in Australia began formally in the mid 1980s. Organic agricultural production is based on the development and maintenance of soil bio-diversity and fertility that is not reliant upon synthetic inputs such as soluble nitrate fertilisers. Such practices can decrease farm runoff of fertilisers which cause nitrification of waterways and can reverse acidity and depletion of soils. To maintain farm yields, preventative practices, rather than pesticides and fungicides, are used. The OAM also places restrictions on overstocking practices which might otherwise compromise the long term sustainability of the farming system. Through encouraging more ecologically sound management practices, the OAM is actively responding to environmental concerns voiced by certain sectors of both the urban and rural population, and in this way is incorporating more "participation" of ecological interests into food production practice. The higher cost of most organic commodities is often a

reflection of the ecological protection which is a part of organic production practices.

The OAM fosters consumer, industry and farmer participation in a broad range of activities involved in crafting science and technology. The regulation and control of organic production technologies is highly participatory and open in its design and regulation of policy. Conferences and workshops allow open discussion and debate over technology choice, research priorities, and the lobbying of government on matters concerning the industry. At a pragmatic market end, organic products exhibit a labelling and quality assurance certification system which allows consumers the ability to recognise and choose such products where appropriate. Organic production specifically excludes the use of genetic engineering, as well as irradiation processes and synthetic pesticides. Particularly for genetic engineering and irradiation, the organic certification system is the only present means of guarantee that consumers in Australia have that they are not supporting and participating in the use of such technologies. Such a system therefore gives consumers information to make an informed technology choice, albeit in a restricted, consumer sense.

The OAM also supports participatory models of agricultural science. While nationally and internationally oriented, the OAM is very regional in its support and promotion of participatory R&D. The "movement" sprang out of grassroots interest in curtailing certain detrimental effects of industrial agriculture. This community support base has been responsible for maintaining strong ties between farmers, united in a common cause. There exist regional organic groups in numerous regions of Australia. Such social networks allow for transfer of information, ideas and techniques, as well as often the sharing of resources. Much of this informal sharing has traditionally been non-commercial in nature. As the industry matures and enters more formal economic circles, some of this sharing is becoming more corporatised and privately controlled. The steering of R&D and the availability of research findings, however, remains aimed at open public access to information. Indeed, organic industry producers usually have a vested interest in expanding organic production and encouraging conventional producers into organic

practice since this is leading to a greater public awareness of organics and is further legitimising the industry.

Such openness to participation is ultimately limited too, since the existence of any social or commercial grouping requires restriction and protection. In terms of protecting organic interests, the OAM faces its own problems and dilemmas. Being directly opposed to synthetic chemical usage in production practices results in open conflict with most agrochemical companies. While there are some inroads and links that have been made with such industries (in terms of organically certified inputs such as fertilisers), interests between these groups are rarely shared. Reactions to government interests are also mixed. While the OAM has traditionally been antagonistic towards government involvement, such relationships are gradually changing. As they change, and as research is oriented towards biological pest control methods and lower inputs for production, organic interests may directly benefit. However, the conventional paradigm of research still works against much organic practice.[17]

Mediating and negotiating such relationships are ongoing trials for the industry which still requires a degree of distance and caution when dealing with the conventional sector in order to maintain its own exacting production standards. The mooting of biotechnology products as "clean and green" agricultural commodities by the agribusiness sector is one of many examples where "conventional" positions and interests differ from those of the OAM. The OAM maintains a technical and social world separation from conventional production which sometimes, ironically, acts to restrict wider public access to organic products. For instance the nature and requirements of organic foods simply make such commodities more costly to handle and sell. Organic meat and milk require separate transport and processing schedules which adds to their production costs. Also fresh foods like the organic tomato are generally softer and more difficult to store for long periods which increases cost and hassle for the retailer. Most organic tomato varieties are chosen by the farmer

17. E. Wynen, "Research implications of a paradigm shift in agriculture," Centre for Resource and Environmental Studies, Australian National University, Canberra, 1996.

to fit in with more labour intensive practices which allow softer, more traditional varieties to exist compared with more mechanically handled conventional varieties. As a consequence, many organic foods are unable to be integrated into modern supermarket management systems as easily as most conventional foods. This has the repercussions of preventing wider consumer support for organic commodities under the present food industry and retailing regime, which in turn impacts on the degree of popularity of organics among primary producers.

Drawing a line around participants

Negotiation over the legitimacy of specific production standards, such as a particular technique or technology, is an ongoing process within the OAM. However, the movement also regulates practitioners so as to maintain organic standards. This level of coercion and regulation defines who is able and who is not able to participate in such an industry. The setting of these standards is based both on social negotiation, but also on certain overriding ecological ethics which are relatively non-negotiable. Such ethics define the parameters and the players to be involved in the process of participation.

The OAM practices of knowledge sharing conflict with trends in conventional agricultural R&D towards funding by and orientation towards private, opportunistic interests. These conventional developments underlie a fundamental change in the practice of science which has distinct and exclusive implications for participation, during a time when farmer groups seem to otherwise be participating more actively in R&D. Any participation in science and technology is always crafted to rule out certain influences and interests, even participation which purports to be open and democratic. This is no less the case with the organic movement, or with general policy changes and regulations which require more environmentally aligned production practices. The attempt to integrate environmental concerns into production processes and into technology design will inherently run into the problem of defining who is to participate and who is not. Certain interests are bound to be curtailed or diverted by environmental guideline and regulation requirements. The challenge of a participatory democracy is to mediate such dilemmas through public consulta-

tion to obtain a resolution on any given issue. But ultimately, such agreement on a given issue is resolved by a mixture of commercial and social interest rather than being resolved by rational discussion and decision making alone. Some groups are bound to have their own "rational" interests overridden by environmental imperatives outlined by more vocal groups.[18]

Food, the citizen and technology choice

In numerous areas of the present food industry, participation in the process of crafting and regulating science and technology is being compromised. Less information or fewer technology choices are being made available behind a facade of multiple consumer choice. Likewise, trends in the funding and control of intellectual property are also leading towards less open, less participatory control of science and technology. Counter trends from Landcare and the organic industry examples are revealing how crucial is the involvement of a range of social groups for environmental matters to be catered for at the rural end of food production.

At a producer level, agricultural science and technology remain inherently a local and region-specific enterprise which relies heavily on the individual producer to innovate and experiment. Regional community participation in the management of catchment areas, salinity reduction programs and reafforestation is also changing techniques and technologies at an individual farm and regional level. This aspect of participation is proving itself invaluable in changing science and technology in ways which encourage greater participation in change, empower people in the processes of change, and encourage more effective, community-based stewardship of the environment. Participation in matters related to changing towards more ecologically attuned science and technology is revealing how essential is the social link in such practices. Environmentally astute production practices rely upon cohesive community support and trust, which can only fully develop in situations where the entire community

18. The optimal approach should be a recurrent realisation that technological decisions are able to be repealed and technological trajectories modified to suit social interests and needs. Given this, we should always be extra cautious in policy decisions, or lack of decisions, which encourage the use of technologies which might have irrevocable or ongoing impact.

is at liberty to participate in technology choice. While participation remains limited, communities have little control over local resources and practices. Encouraging participation will not solve all environmental problems. For example the stocking of the arid pasture lands of Australia is an area of hot dispute between pastoralists and environmentalists. But, by placing regional communities more in control of their own region, they have the ability to create an awareness of their own environment, and to then participate in actions for change which directly affect that environment.

Organic and ecologically attuned agricultural practices, whatever their present production limitations, present workable models of participatory action in technology choice and control. The establishment of more ecologically attuned technical practice in agriculture and regional management is reliant upon such participatory action. That such movements as the OAM aim at being open and participatory at most levels of practice is not coincidental but indicates a characteristic of ideal open democratic societies that technologies be based upon encouraging social access and control of science rather than restricting it, an ethic on which the OAM was founded. As with any process of participation, however, such action is based also upon exclusion of interests and the restriction of certain practices which might jeopardise the above aims. The move toward more sustainable practice in agriculture is reliant upon negotiation of these interests, rather than absolute openness to participation. Whatever the case, public participation is helping to fracture the myth of science and technology as inherently apolitical and asocial practices. Notions of participation need to be seen in a similar light, rather than being believed to be rational processes if and when they are entirely "open."

Commentary by Richard Hindmarsh*

For Andy Monk, community participation underpins open democratic society, and its choice of science and technology for sustainability. Yet, such participation should involve a negotiation of social interests for decision-making processes. To argue his case, Monk explores current technological trends in the intensive food industry. Here, corporate actors restrictively dominate innovation and decision-making processes. The result is agricultural practice that is most often not ecologically sustainable.

In complete alignment with Monk's account is Brian Wynne's explanation that flawed technological outcomes are a result of the "social insulation" of the innovation stage of technology to "professional cadres who operate with solely technical, 'tool' conceptions of technology, and whose understandings of the social complexities of … implementation is limited in the extreme."[19] Research is thus conducted in a social "vacuum" and, in the absence of an entrenched cultural ecological ethic, in an ecological vacuum as well. To include broad environmental and social justice factors in innovation processes would contradict the technologies of industrial corporations, the profitability of which is significantly based upon the non-accounting of such factors. In response, thousands of non-government groups worldwide have emerged in the public interest to form social resistance movements.

To resolve flawed technological choice and ensuing social conflict, technology choice should thus be embedded into the larger questions of eco-social viability. Monk's assertion that this should involve a negotiation of social interests is one important step in this direction.

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19. B. Wynne, "Redefining the issues of risk and public acceptance," *Futures,* February 1983, pp. 13-32, at p. 18.

It is supported further where technology developers seek to dismiss social concern rather than confront it.[20] As Monk recognises, to win over the increasingly environmentally-aware consumer, industry readily co-opts the term "sustainability" and packages its products as "clean and green." Others refer to such PR as "greenwash," defined as "the phenomenon of socially and environmentally destructive corporations attempting to preserve and expand their markets by posing as friends of the environment," or as "environmental whitewash."[21]

The proactive process of socially-insulated innovation, as well as employing greenwash, therefore further questions in what capacity, if indeed any, that industrial technology interests should be included in participatory democratic decision-making processes.

To seal his case that sustainable agriculture can only result from the right decision-making mix of social interests, Monk explores the alternative but marginal enterprise of organic agriculture—one however predicted to grow from its current market of 1% to 5-10% in Europe and North America by the year 2000.[22] Here, open participatory processes of debate exist over research, technology choice and agricultural practice. Instead of commercial interests dominating, eco-social community networks dominate the decision-making process. All participants from the farm to the supermarket are thus informed, and ecologically sound management practices that encourage human and environmental health are adopted.

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20. For example, in the case of genetic engineering, see R. Hindmarsh, "Bio-policy translation in the public terrain," in G. L. Lawrence et al. (eds.), *Social Change in Rural Australia* (Rockhampton: Central Queensland University, 1996), Ch. 23.

21. Multinational Monitor On-Line, "Greenwash Awards," 1996.

22. "Organic focus: expanding supply and demand," *International Agricultural Development,* Vol. 16, No. 6, 1996, p. 23.

Commentary by Gyorgy Scrinis*

Consumers do participate more or less directly in food industry technology decisions through their consumption practices. However, this participation occurs at the level of the general *form,* rather than the particular content, of consumption practices. It is a question of what kind of food consumers we are—rather than the particular products chosen within a distinct mode of consumption—where consumers significantly influence broader economic and technological structures. Of importance here is the level of commodification of food consumption practices, as well as where and how foods are purchased.

While the dominant structural and technological trends in food production identified by Andy Monk have been driven in part by large producers and agribusiness interests, they have also been fuelled by the active choices of consumers for certain types of foods and ways of purchasing food. For example:

- The demand for processed, packaged and prepared foods gives greater control and power to the food processing industry—at the expense of farmer and public control—since food processors become the dominant consumers of primary produce.
- The demand for cheap primary produce has favoured large-scale producers and short-term production maximisation practices. The shift in spending from raw to processed foods has also contributed to this process.
- The demand for out-of-season produce requires long-distance transportation and long-term storage of food, and favours the breeding of industrial crop varieties.
- Shopping at supermarkets further distances consumers from any more direct contact with both primary produce and from producers.

In general, these consumer trends have further distanced consumers from a more direct involvement in, or awareness of, social and environmental issues associated with the production of food. These consumer practices have also led to the growing

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size and power of large agribusiness interests, and this necessarily comes at the expense of the power of farmers and the broader public.

By contrast, there are types of consumers and types of consumption practices which undermine these dominant trends in the food industry, and which favour alternative systems of production. These alternative consumption practices include: purchasing in-season, locally produced and organically grown produce where possible; purchasing primary produce or minimally processed foods and preparing one's own meals; shopping at small retail outlets or purchasing directly from small producers; and growing some of one's own foods. These practices remove several stages in the handling, processing and transportation typical of industrial foods, and put consumers in a position to be more aware of, and concerned about, the environmental, health and social structural issues of food production and distribution. These practices can also translate into direct support for alternative systems of food production and distribution.

This is not to advocate the liberal notions of consumer sovereignty or the all-powerful consumer. On the contrary, I am arguing that the greater the level of commodification of food consumption practices and the greater the distance between primary producers and consumers, then the less direct power consumers have in food technology decisions. Reversing the current trends in food consumption practices is arguably a precondition for any more direct public participation in particular food technology decisions.

Gaining a share of the final frontier

Alan Marshall*

Introduction

Touted as the final frontier, space expansion has been expressed as the next large scale exploration and settlement project for modern humanity. From such expansion it is supposed that vast resources will be opened up for the general benefit of humankind. If this is so, then it is appropriate to enquire about the participatory mechanisms involved in such a grand project. With respect to this, two particular questions are raised: (1) What sort of participation exists in the formulation of solar system resource exploitation policy? (2) What sort of participation in the distribution of solar system resources can be expected? After examining the avenues for such participation it is concluded that—despite the universalist visions of space developers—advanced space development will only be enacted by a few elite space-capable nations for the near exclusive material benefit of aerospace and mining companies from those nations.

Avenues for participation in the final frontier

When contemplating participation in space exploration and development we might like to consider how to answer this question: "How did Neil Armstrong and Buzz Aldrin land on the moon?" We could answer this question by dealing with the

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specific technical details of the Apollo-Saturn V launch vehicle that they rode upon and the Newtonian physics that plotted their trajectory. Alternatively we could answer it by acknowledging the social conditions that enabled Armstrong and Aldrin to be the first humans on the lunar surface. Both were men, both were United States citizens, both were white, both were university-educated aeronautical engineers and both had served as test-pilots for military aircraft. When these two men landed on the moon, however, it was stated over and over again that they were merely representatives of humanity. "We come in peace for all mankind" was the declaration on the plaque that they unveiled upon the moon. Somehow we had all gone with them, whether we were black factory workers from Minneapolis, illiterate peasants from Mongolia or unemployed high-school drop-outs from Melbourne. Despite the fact that the moon landing enterprise had an in-built socio-structural bias for placing humans of Armstrong and Aldrin's ilk upon the moon, it was claimed that everybody on the Earth participated in this great human feat.

This is how the space programme is sold: all participate in space exploration because its pursuit can be seen by all. Such participation is quite shallow of course. It is nothing but the one-way dispersal of the results of already determined plans. Most members of the human race have no way of being a part of the space effort.

Let's look at another example, this time in the future. Emanating from the National Aeronautics and Space Administration (NASA)'s department of Advanced Concept Studies is a description by John Mankins about humanity's future in space.[1] After an elucidation of the resource and energy potential laying in wait within the solar system and after an elaboration about the possible technological spin-offs from future spaceflight, Mankins devotes a section of his article to "Global Participation". He says:

> Perhaps as exciting from a public standpoint as all of the other technical innovations described above is the concept that in the future, the adventure and the thrill of discovery

1. J. C. Mankins, "Space technology in the coming century: where next?" *Ad Astra,* Vol. 8, No. 3, 1996, pp. 48-51. The accompanying quote comes from p. 51.

> will be shared directly among millions of individuals across the globe. Combined advances in extremely high speed communications, high quality data compression and processing, virtual reality systems will enable global participation.

Again participation here is only one-way. NASA does the exploring, you sit around watching the results trickle through on your TV or computer—if you've got one. As inspiring as these discoveries may be, they are hardly the result of any significant participatory scheme.

There are a number of ways that space development may claim to be participatory in more than just the shallow, one-way sense. Space development is enacted by policies made by elected officials. Through the democracy of the ballot box you may make some choice about varying space policy plans. Apart from the fact that it is nigh on impossible to find in any particular nation a political party with any commitment to enunciating its space policy, there is contained within this avenue a myriad of issues that may deflate its claims to deep participation. Do elected officials necessarily enact what they promise? Having found a political party that makes a policy statement on space issues that might significantly differ from competing parties, it is often the exception to the rule to see it fully implement its policies once elected. Similarly, can governments really claim a mandate for the implementation of all their policies on the basis of election wins? Governments ubiquitously claim the right to implement a huge variety of unrelated policies that were never subjected to specific democratic choice. Thus, if citizens mainly base their votes on reasons to do with tax policy it hardly warrants the government to pursue a particular space policy. Thus governments may implement space policies with which very few agree.

Another way space development might claim to be participatory is related to the ideals of meritocracy. If you want direct input into space development plans then you must educate and train yourself so as to be a capable player in the aerospace field. Whether you want to design rockets, formulate space law or conduct space experiments, it is just a matter of studying hard and working well. Again this avenue is hardly a deep way for encouraging any great degree of participation. Even if all the

members of the world's community were able to go to college to study engineering, law or science, it is hardly practicable that they all get jobs in the space business. For this to be a real claim to participation there would have to be equal access to education for all humanity and then there would have to be some way for non-space people to interact directly with space people when policy decisions are made.

A third avenue for participation—and the one which is most visible when examining the space programme—is that of advocacy and activism. There are quite a few organisations dedicated to the task of campaigning for more state effort to be spent on national space programmes.[2] However, one thing that may be noted here is that despite their continual efforts to galvanise the public towards pro-space plans in an effort to influence government policy, space advocacy groups consistently come up against a barrier of public indifference. It seems that not enough members of the general public actually care sufficiently strongly about space to actually want to participate in making decisions about it.[3] This lack of participatory feeling within the public might be interpreted as a predictable consequence of the powerlessness that citizens feel with regard to any aspect of national policy making. Or it may actually be regarded as a form of participation in itself, a negative participation whose existence might be linked to tacit disapproval of the space programme.

A fourth avenue for participation in space exploration is through amateur astronautics. Amateur astronautics groups are sometimes allied to the advocacy avenue for participation.[4] The people within amateur astronautics, however, do not wish to just

2. For example, the National Space Society and the Planetary Society in the US, the British Interplanetary Society in the UK and the National Space Society of Australia.

3. Many proponents for advanced space development would probably cite the considerable interest in space exploration declared by members of the public during polls conducted by various space advocacy groups. Asked if they were interested in space they may have said yes but when asked to rank how important the space programme is compared to other issues the polls may have suggested something significantly different.

4. For example the Pacific Rocket Society in the US, AspireSpace in the UK and ASRI (Australian Space Research Institute) in Australia.

sit around waiting for their respective governments to implement space development they are interested in doing it for themselves. Some amateur astronautics groups are gradually building up to orbital rocket potential and are proposing solar system colonisation schemes already. Of course, one may wonder if these plans will ever come about. Even with the help of a few eccentric millionaires it seems unlikely that the resources will be near what a nation state can muster. Much of the time, though, it seems as though capital accumulation is only a minor programme for space advocates and amateur rocketeers. What they (as well as many professional space-workers) really like dealing in is ideology: the ideology of frontierism.

Frontiersmen never die, they just drift off into space. So may read the bumpersticker of space expansionists since for them space development is classed as the final frontier. It is the next and ultimate step in an expansionist saga that has seen Europeans sail to the shores of the New World and then drift relentlessly and purposefully westward across continental North America. According to many space frontierists, just as the western frontier opened up new land, new resources, new ideas, new freedoms and new and better technologies during the first centuries of European presence in America, so the coming centuries of space expansion will do the same.[5]

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5. For explorations into the ideas and plans of space frontierists see: W. von Braun, *Space Frontier* (New York: Holt, Rinehart and Winston, 1967, rev. ed.); T. A. Heppenheimer, *Colonies in Space* (Harrisburg, PA: Stackpole Press, 1977); G. H. Stine, *Handbook for Space Colonists* (New York: Holt, Rinehart and Winston, 1985); National Commission on Space, *Pioneering the Space Frontier* (New York: Bantam Books, 1986); J. E. Oberg and A. R. Oberg, *Pioneering Space: Living on the Next Frontier* (New York: McGraw-Hill, 1986); M. A. Michaud, *Reaching for the High Frontier* (New York: Praeger Publishers, 1987); R. Zubrin, "The need for a space frontier," *Ad Astra,* Vol. 8, No. 3, 1996, pp. 6-9; L. H. LaRouche, "Why we must colonize Mars," *21st Century Science and Technology,* Vol. 9, No. 4, 1996, pp.16-29. As an example of the frontierist zeal of these—and many other—writers, see how Robert Zubrin, in one short paragraph, neatly ties space frontierism in with social freedom, universal human happiness, the discovery of America, European expansionism, United States history and the rationalism and humanitarian progress that underlies western humanism: "Free societies are the exception in human history, they have only existed in the four centuries of frontier expansion of the West. That history is now over, the frontier that was opened by the voyage of Christopher Columbus is now closed. If the era of

It is debatable whether these people are basing their ideology upon sound premises. It can be argued, for instance, that *at best* intellectual, humanitarian and technological progress was quite independent of expansion across the Atlantic and across the West and that *at worst* such expansion only gave rise to and reflected the oppressiveness of European ideas and technology. An entrenched ethnocentrism is contained within the frontierist attitude to space expansion. There are two great modern stories of westward expansion. One is of glorious and civilised Euro-American discovery and settlement and the other is of imperialist victimisation of colonised peoples. It is questionable whether either of these two stories is adequate when dealing with the many local and enormously heterogeneous histories of North American people, but the point is that space frontierists only ever adopt one of these two great stories: that of grand and glorious European expansion. In the many writings of space frontierists there is hardly a sentence acknowledging the plight of colonised peoples in the face of such expansion, except when it comes to rebutting the legitimacy of the alternative story. Space frontierists feel safe in reinvigorating the ideas of frontierism because there are no indigenes on the other planets. Thus imperialism can forevermore be excised from the final frontier because there will be no victims in its pursuit. In this last point, however, they may be grossly mistaken.

Global participation in the final frontier

If space resource use is encouraged to proceed, space advocates generally feel that there is at least an indirect avenue for global participation since the benefits would soon trickle down to all of humanity including the poor and needy of the world, thus effecting an increase of consumption in these socio-economic spheres. It is evident, however, that the exact nature of development in the solar system will not be dictated by the humanitarian visions of space frontierists but by the ideologically inspired subtleties of international law. The main forum for the

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western humanist society is not to be seen by future historians as some kind of transitory golden age, a brief shining moment in an otherwise endless chronicle of human misery, then a new frontier must be opened." (R. Zubrin, "The promise of Mars," *Ad Astra,* Vol. 8, No. 3, 1996, p. 38).

expression of law in space is the 1967 Outer Space Treaty, since this is the treaty signed by all space-capable nations so as to become the most officially sanctioned legal document governing space activities that there is. The Outer Space Treaty has been in the past seen as a monumental piece of international law drafted by the superpowers of the 1960s in order to enable free and peaceful access to the bodies of the solar system without fear of land-grabbing annexation but this is not all that the Outer Space Treaty represents. Though it prohibits the appropriation of areas upon extraterrestrial bodies it remains ambiguous with regards to materials contained within such areas. To quote the treaty itself, Article II states:

> Outer space, including the moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation.[6]

This might seem to indicate clearly that no one is allowed to claim any particular bit of the extraterrestrial solar system for themselves. However, many space lawyers and prospective space industrialists that hail from space-capable nations[7] interpret the Outer Space Treaty to mean that while areas of the solar system bodies are prohibited from being claimed, any material removed from such a body becomes the rightful property of the remover. Under such an interpretation an industrial space colony cannot own the surface upon which it settles and opens operations but as soon as it removes any material from that surface the material becomes the property of the colonial operators.

If one believes that the free market will then adequately disseminate these extraterrestrial materials throughout the world via the normal pricing systems then there seems no

6. Treaty on Principles Covering the Activities of States in the Exploration and Use of Outer Space, Including the Moon and other Celestial Bodies, United Nations Treaty Series, Vol. 610.

7. Included in a list of those nations most capable of exploiting solar system resources in the near future would be the US, Russia, Japan and the collective nations of Western Europe. It is mostly in these nations that plans to actualise resource exploitation programmes are prepared. Included in a list of prospective space industrialists would be the following companies (all of whom have either initiated or sponsored studies about the industrialisation of solar system bodies): Aerospatiale, Bechtel Power Corp, Boeing/McDonnel-Douglas, DLR, Energia, General Dynamics, Lockheed-Martin, Rockwell and Shimizu.

problem with this interpretation of the Outer Space Treaty. However, since the operators can only get into the position of running an industrial colony on another world through massive state support and investment of public funds it seems incredible to class such extraterrestrial endeavours as operating according to free market principles.

When discussing participation in solar system resource use the issue is not whether you believe in the efficiency of the free market versus the egalitarianism of a planned economy. The point here is that although we all know—and admit—that getting into space is a public affair, the Outer Space Treaty allows for private appropriation once humans are there. The first or "public" phase is cast as a glorious human pursuit that transcends inter-human and international quarrels. The second or "private" phase is cast as the incurable and ineffable operation of the free market. This "private" phase uses the smokescreen known as the free market and the ambiguity of the Outer Space Treaty to plan for what may as well be labelled space imperialism, whereby commonly owned resources are appropriated by technocratic imperialists.[8] After helping space developers to get to the solar system bodies and construct industries there, it seems that they will be legally entitled to kick the public in the teeth and claim the resources for themselves.

International regulation of the final frontier

It can be claimed that space resource development does not have to occur this way and that provisions can be made so that space industrialisation proceeds to benefit all the people of a nation and all the people of the globe. The US space writer William Hartmann expresses such a hope when he comments that space resource extracting companies might voluntarily pay for commercial rights to exploit extraterrestrial bodies.[9]

8. The idea that solar system development will reflect many of the features associated with previously theorised models of imperialism is explored in: A. Marshall, "Development and imperialism in space," *Space Policy,* Vol. 11, No. 1, 1995, pp. 41-52.

9. W. K. Hartmann, "The resource base in our solar system," *Interstellar Migration and the Human Experience,* in B. R. Finney and E. M. Jones (eds.) (Berkeley: University of California Press, 1985).

Hartmann goes on to suggest that solar system prospecting and mining rights might be sold to an international body. The finances gained could then be put into a World-Bank-type global fund which would be dedicated to projects that would encourage Third World development. I do not share Hartmann's confidence in the World Bank to promote appropriate resource projects in the Third World. Nor do I share his confidence in voluntary payments by either space companies or nations to approximate any amount which is due to Third World nations. But more importantly, while the Outer Space Treaty calls for space exploration activities to benefit all of humankind, the Treaty does not stipulate exactly how this is to be effected. This is no accidental quirk of legal history. The Outer Space Treaty does not ignore defining the nature of space benefit distribution by mistake, something that can be rectified through international resource policy adjustment. Programmes aimed at correcting this very issue have been instigated by Third World countries through the medium of the United Nations but they have failed. Of particular relevance here is the attitude of space-capable nations to the attempted introduction of a new space treaty and also their attitude towards Third World calls for the augmentation of the Outer Space Treaty.

In order to combat the holes and vagaries contained within the Outer Space Treaty, a number of non-space-capable nations drafted another treaty under the auspices of the United Nations. This new treaty, the 1979 Moon Treaty, utilised the concept of commonality of ownership of space bodies to build upon the provisions vaguely hinted at in the Outer Space Treaty. The Moon Treaty labels all extraterrestrial bodies the "Common Heritage of Mankind," thus indicating that no one would be allowed to extract resources without the consent of the global community.

Throughout its lifetime the Moon Treaty has been continually criticised as deleterious to space development by those who seek to develop space.[10] As far as prospective industrialists are

10. For instance see: D. J. O'Donnell and P. R. Harris, "Is it time to amend or replace the Moon Treaty?" *Air and Space Lawyer,* Vol. 9, No. 1, 1994, pp. 121-143; E. R. Finch and Al More, *Astrobusiness: A Guide to Commerce and Law of Outer Space* (New York: Praeger Publishers, 1984).

concerned, any regime that implies that resource use must somehow be regulated to ensure its worldwide sharing is a regime that discourages space expansion. How is development going to occur, say the space developers, if they have to share their profits? Within the space policy circles of space-capable nations and within the space departments of those companies with an interest in developing the space frontier, solar system expansion is held to be eminently compatible with the forces of the free market and virtually impossible under any regime with a tendency towards distributive justice. With such an attitude prevailing amongst the space-capable nations, the Moon Treaty has remained devoid of support—and signatures—except for the small group of mostly Third World nations that originally drafted the Treaty.

Augmenting the Outer Space Treaty for participation

Given the lack of success in convincing First World nations to sign up to the Moon Treaty, the Third World nations tried another tactic: to augment the provisions of the original Outer Space Treaty. The most relevant part of the Outer Space Treaty of concern to Third World nations is Article I which states:

> The exploration and use of outer space, including the moon and other celestial bodies, shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development.[11]

The main issue of significance here for Third World nations has been the meaning of space benefit distribution. In order that the sentiments of Article I be respected, Third World nation representatives in the 1980s and 1990s campaigned for a substantive written agreement to be formulated so that it became clear to the nations of the world exactly how benefits from space use should be dispersed.[12]

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11. Treaty on Principles Covering the Activities of States in the Exploration and Use of Outer Space, Including the Moon and other Celestial Bodies. United Nations Treaty Series, Vol. 610.

12. See M. Benko and K. U. Schrogl (eds.), *International Space Law in the Making* (Gif-sur-Yvette: Editions Fronteires, 1993); and N. Jasentuliyana, "Ensuring equal access to the benefits of space technologies for all countries," *Space Policy,* Vol. 10, No. 1, 1994, pp. 7-18. Those nations that have campaigned

Fearing that they may be made to enter into a binding agreement that obligated them to distribute space benefits in a way that they did not like, the space-capable nations rejected any proposal to augment the Outer Space Treaty with another regime aimed at bolstering the meaning of Article I. In this vein, space-capable nations have decided that they themselves should be free to dictate how space benefit distribution should be undertaken. To do otherwise, these nations suggest, is to impose upon the sovereignty of a state to formulate and implement its own international cooperation and aid policies. Through such claims of sovereignty about running their own foreign affairs these nations have effectively asserted sovereignty over any resources that they may chance upon in outer space in the future since they may decide for themselves the best ways to distribute these resources. They may implement aid plans that fairly distribute the resources gained from other planets by dispersing them equally to the signatories of the Treaty or they may implement token benefit distribution plans that merely disseminate inspiring photographs of the conquered worlds of the solar system throughout the globe. Understandably, the non-space-capable nations are worried that space benefit distribution will follow more closely the lines of the latter rather than the former example, thus leaving them devoid of any substantial gain. While Third World nations have in the recent past been demanding that some real substance be attached to the sentiments of Article I, the nations of the world that are actually in the position to use space resources would like to see the provisions of the Outer Space Treaty remain as skeletal and ambiguous as possible since it allows them to interpret space benefit distribution in as self-interested and miserly way as they desire.

The instigation of an authoritative and uniform regime that dictates exactly the manner that benefits from space use should be distributed might be considered somewhat extreme since not only would it attract little or no support from space-capable nations but it may also lock non-space-capable nations into

for augmentation of the Outer Space Treaty include Argentina, Brazil, Chile, Colombia, Mexico, Nigeria, Pakistan, the Philippines, Uruguay and Venezuela.

inappropriate aid plans. The position taken by space-capable nations, namely that they should be free to choose how, and to whom, they distribute space benefits, is just as extreme, however, since it pays no heed to a Treaty whose ideals they confidently professed and willingly signed when the space age was young.[13] What is needed is an intermediate approach that stipulates the very real obligations that space-capable nations have to space benefit distribution—given that the solar system belongs to all—while allowing individual nations to negotiate their own plans of distribution. In short, there should be a formulation of guiding principles that lay down the focus and depth of space distribution for every nation, whether they will be primarily donors of space resources or recipients.

In procuring this advice it seems reasonable to be optimistic with regards to the successful negotiation of the *focus* of space benefit distribution since this refers to the particular areas of help that space-capable nations are able to deliver and to the particular problems that non-space-capable nations are facing. However, it seems equally reasonable to be sceptical when it comes to the issue of the *depth* of distribution as this refers to a quantitative view of space benefit dispersal.[14] It seems unlikely, given their performance in both space and non-space related matters, that space-capable nations will ever agree to a scheme that places any emphasis on the amount of help that they should commit themselves to, unless it is piddlingly small.

Conclusion

It is apparent that if you are interested in space development in the solar system you can participate in it in only indirect ways. Either (a) you get yourself into a position that enables you to

13. This exposes one particular parallel between Euro-American frontierism of the past and space frontierism of the future that space expansionists have yet to elucidate: that of the betrayal of Treaty agreements with other peoples by the colonising state.

14. This scepticism seems credible given the recent UN Declaration (51/122) on "International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All States, Taking into Particular Account the Needs of Developing Countries," which seems more interested in advertising space applications as a tool for development in developing countries than a concerted effort to lay out space-benefit distribution plans.

formulate space policy, (b) you make do with being happy about receiving the audio-visual and scientific results from projects that others plan, (c) you campaign for those others to do what you want, or (d) you follow some misguided effort to do it by yourself. These realities expose a cavernous deficiency in the way that participation in national space policy is formulated.

This lack of participation in formulating space policy may be paralleled with equally deficient participation with regards to the global distribution of future space benefits. This realm, of international participation, can be regarded as perhaps the most important avenue of participation, not because it necessarily guarantees citizen participation in formulating space policy but because it has the potential (conferred upon it by international law) to decide how the final frontier and its accompanying material benefits may be shared. Though any one nation has myriads of barriers that stand in the way of citizen participation in the formulation of space policy, it could be argued that even if these were resolved in your favour you would soon come up against barriers against participation at the international level. There is within the international realm a variety of conflicting views with regards to space development scenarios. Watching these proposed scenarios clash exposes the significantly anti-participatory schemes at work in particular governments. Though couched in terms of peace and inclusiveness, the legal regimes emerging from the machinations of international politics firmly veer the future of space in an imperialistic direction, where the commonly owned resources of the solar system become entrenched in the hands of a technological elite.

At work to glorify such extraterrestrial technocracy is a continuing ideological attachment to frontierism. Space frontierists speak of the rational and renaissance character of space development much as those humanists of old heralded the worldwide expansion of Europeans as the civilised dispersal of an enlightened culture and nothing but. In so doing they become not only the ideologues of a misjudged past and the silencers of alternative histories, but also the progenitors of future imperialism.

Acknowledgments I would like to express my gratitude to the members of the Science and Technology Policy Research Group of

Wollongong University, Andy Salmon and Brian Martin for valuable discussion over some of the points contained within this article.

Commentary by Robert Zubrin*

Alan Marshall is wrong. Anyone can participate in pioneering space. In the United States today, roughly 500,000 people work in the space program. Very few of them inherited their jobs. I can speak to this personally. In 1983 I was a 31-year-old school teacher living in modest circumstances and teaching science in one of the rougher neighbourhoods of Brooklyn. I decided I wanted to participate in scientific research, so I applied to graduate school and spent five years getting advanced engineering degrees that qualified me to do preliminary design of interplanetary missions at Martin Marietta. More recently, I set up my own company, Pioneer Astronautics, which invents technologies needed by the space program. Anyone with some good ideas and the guts to hang out his own shingle can do that. The field is wide open, with a million unsolved challenges waiting for solutions from new bright minds. You don't need to be of a technical bent either: I know of many people who have had a significant impact on space policy by putting together a cogent argument for a new initiative and then starting a campaign, writing articles, making phone calls, etc. It all just takes some work.

Space is an open frontier to those willing to chance their fortune on the success of their efforts, and this in fact is Marshall's real complaint. He wants plans that "fairly distribute the resources gained from the other planets by dispersing them equally to the signatories of the treaty," because "the solar system belongs to all." Excuse me; the bounty of the seas belongs to all, yet the fish that are caught belong to those who catch

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them. If it were required to give away the catch, who would make the effort? What then for the world's teeming masses that depend upon fish for an important part of their diet? Similarly, the resources of space will only be of benefit to all mankind so long as anyone is free to give it a go and reap the rewards of their labours. What are needed are not laws that weaken private property rights in space but those that strengthen them.

In denying the value of an open frontier to the development of western civilisation, Marshall writes, "It can be argued…that at best intellectual, humanitarian and technological progress was quite independent of expansion across the Atlantic and across the West…" Anything can be argued, but this amounts to ignoring the central facts of the past 500 years of history. An open frontier can, and did, mobilise progress in western civilisation by presenting it with a new set of challenges demanding new solutions, both social and technical, in new environments where such innovations were relatively unconstrained by old institutions or customs. The space frontier offers an even greater set of beneficial challenges today. Of course, to benefit from such challenges, you have to be willing to take them on. Get to work, mate.

Response by Alan Marshall

Firstly I must congratulate Robert Zubrin; he is a living embodiment of the American Dream. With a lot of hard work he has climbed his way up the social strata from Brooklyn school teacher to Colorado rocket scientist. Joining the ranks of innumerable other American Dreamers he declares that anybody can do it, if they just work hard enough. Some people have the good grace to consider themselves lucky to have "made it" but, within the ideology of the American Dream, luck has got nothing to do with it. Hard work is what is required. Never mind the millions of people in the US who have worked as hard as they possibly could all their lives yet have still to make it past minimum wage levels and a decent standard of living; obviously they have simply not worked hard enough. This is the problem with the American Dream. Not everybody can live it. Those who do so, however, then dogmatically espouse its virtues to

overstate the equality and fairness of the system. Stories of the good life are continually spun out without putting into place the social framework so that all may participate in it. The American Dream is sold without a money-back guarantee.

Moreover, the fact that Zubrin had to leave his teaching post and partake in the climb towards space professionalism in order to have his say in space endeavours only lends support to the argument that not every one can effectively participate in space. What of those who for one reason or another are unable to leave their jobs and yet still harbour dreams of participation in space development?

As we have already seen, Zubrin is not content to espouse just one American ideology; he is also an avid defender of the mythology of the West. Like many others who champion the US as the technological and moral epitome of all humanity, he is loathe to abandon this ideology of frontierism and admit to the varying human disasters that have arisen from it, for it would cast the bleakest of ethical lights upon his preferred history and his preferred future. Other histories, and other futures, are castigated as peripheral to Zubrin's "central facts" of the last half-millennium of civilisation. Columbus discovering America is a "central fact" (and thus is important and so must be retold over and over again!). Death and destruction of native peoples and native lands are merely peripheral (and thus are unimportant—and not worth talking about!).

Much of this criticism, of course, could be deflected from Zubrin if he was able to convincingly argue that a deep spiritual basis for participation existed in his own current planetary space exploration plans. That such spirit of participation is lacking is evidenced by Zubrin's own passages. He starts off by declaring that anyone can participate in space only to outline the supposed importance of space jobs in just one particular nation, his own: the US. Similarly he goes on to state that "anyone with good ideas and the guts to hang out his own shingle can do it." Female shingle-owners do not rate a mention.

Moving from spiritual to structural bases, it seems incredible for Zubrin to bring in the fisheries sector to support private property rights in space. Firstly, the planetary bodies of the solar system have never, as far as I am aware, been used as fishing

areas. Secondly, the many legal schemes governing marine resource use are so widely varying that any generalisation (like, for instance, the "sea's bounty belongs to all but the catch belongs to the catchers") can not hope to be accurate and, even if it were, this would hardly dictate that space resource use must operate according to such schemes. Thirdly, if Zubrin is really worried about the fish-dependent "teeming masses" he should realise that they are for the most part fed by traditional local fishing and not the large-scale corporate factory fishing whose operations he would like to see emulated in space. Similarly, the success of fishing as a sustainable lifestyle is based on small-scale communitarian ethics, not on the large-scale commercialism which has so effectively pushed the oceans and seas towards ecological disaster and pulled traditional fishing communities into social disaster. If such large-scale commercial operations do eventuate upon planetary bodies, they will produce comparable ecological disasters and facilitate comparable social injustices.

Notwithstanding Zubrin's fixation with things fishy, the challenges outlined above and in the article are great enough to keep me occupied for some time.

Conclusion

Brian Martin

The authors in this book deal with a broad range of technologies, from toys to rockets, and cover diverse issues concerning participation. While each author deals with a specific case study, there are some themes that can be traced through several chapters. In this concluding chapter, I discuss four such themes:

- types or levels of participation;
- the questions of whether participation is genuine or not and whether it is a good thing;
- the contrasting processes of technologies shaping participation and of participation shaping technologies;
- methods for restricting and fostering participation.

Addressing the way the authors deal with these themes does not provide any definitive answers, but it does offer a useful window into ways to address key questions involving technology and participation.

Types of participation

Several of the authors give examples of different types, levels or arenas of participation involving technology. For example:

- Participation with toys, says Varney, can be by playing with or around toys, interpreting the world through values associated with toys, designing toys and, in a narrow market-oriented sense, purchasing toys.
- Participation with food, says Monk, can be by producing food, purchasing food, campaigning for or against certain types of food and affecting sustainability of food systems.
- Participation with space exploration, says Marshall, can be by watching it on the media, electing governments that support space travel, being a space explorer oneself and advocating space travel.

One usual classification of levels of participation assumes that the key question is how much participation occurs, from manipulation at one end to citizen control at the other.[1]

Ladder of citizen participation

8 citizen control	⎫
7 delegated power	⎬ **degrees of citizen power**
6 partnership	⎭
5 placation	⎫
4 consultation	⎬ **degrees of tokenism**
3 informing	⎭
2 therapy	⎫
1 manipulation	⎭ **non-participation**

This sort of classification is especially helpful when looking at something like town planning in which a substantial group of citizens is affected by some decision, such as choice of transport infrastructure, which has far-reaching implications. It assumes that government is centrally involved in decision making, for example manipulating, consulting or delegating power to citizens. Only at step 8, citizen control, is government not in the picture. Thus this classification might be called the ladder of government-mediated participation.

A toy or a tomato, unlike a transport system, is something that can be bought and used by an individual. This often involves some sort of choice, which can be interpreted as a form of participation, though many important choices are made before consumers become involved. Participation in relation to consumer products might be thought of in terms of a set of stages, such as the following.

1. Sherry R. Arnstein, "A ladder of citizen participation," *AIP Journal*, July 1969, pp. 216-224.

Stages of market participation

G investment

F design

E production

D marketing

C sale

B purchase

A use

In a fully differentiated market, different people are involved in each stage: toy corporations invest, designers design, factory workers produce, marketing specialists advertise, retail outlets sell, parents buy and children play. Analogously to the ladder of citizen participation, the bottom stages of market participation—purchase and use—are very limited compared to the top stages of investment and design. In a unified market, in contrast to a differentiated one, all or several stages are combined, such as when people make their own toys or grow their own food.

Government-mediated and market-mediated participation are two ways of conceptualising types of participation, but there are other dimensions as well. Edmond and Mercer deal with the specific issue of whether juries—a notable mode of citizen participation—should be used when complex technical issues are at stake. The jury can be considered to be one stage or step in a sequence of law-mediated participation, ranging from formulating law, passing it, administering it and so on, down to the low-participation end of the spectrum, such as being a recipient of law as a defendant. Marshall notes that in space exploration, one type of participation is advocacy; Gosden notes a similar role in the mental health field, namely advocacy by families for psychiatric intervention to deal with certain family members. This advocacy might be considered to be analogous to the marketing function in the market-mediated stages of participation, but the market is not all that good a model for understanding either space exploration or psychiatry. The implication of

these examples is that no single ladder or staircase is likely to be adequate for classifying types or levels of participation in a range of different fields. Each field deserves close attention to determine the types of participation and how they may best be classified.

"Real" participation

There are various rationales for participation.[2] Edmond and Mercer note that the "dominant rationale for the continued operation of the 'modern' jury is as a check to political and judicial tyranny." Gosden shows how varying interpretations of human rights, codified in international law, are used to justify different types of participation. Marshall also refers to international law in assessing participation in space exploration. Roberts notes that competitive advantage is the rationale for high-technology incubators and that the goal of innovation is used to specify who participates. Birkeland gives a more general picture by describing four ideal-type participatory planning models, namely technocratic, liberal, radical and ecofeminist. Each one has its own rationale for participation, respectively drawn from utilitarianism, liberalism, critical theory and feminism.

Even when formal rationales are not spelled out, it is apparent that all the authors believe that participation is important, especially for groups that have less power. The assumption seems to be that people should have some say in decisions that affect their lives. The question is not whether to have participation, but who, how and in what circumstances.

Participation on its own is not enough. Varney notes that participation is inadequate to meet democratic goals if it is "not tied to broader struggles for social justice and for equality of resources and opportunities." For example, participation does not necessarily equalise power.[3] Solomon argues that participa-

2. Carl Mitcham, "Justifying public participation in technical decision making," *IEEE Technology and Society Magazine*, Vol. 16, No. 1, Spring 1997, pp. 40-46.

3. Mauk Mulder, "Power equalization through participation?" *Administrative Science Quarterly*, Vol. 16, No. 1, March 1971, pp. 31-38.

tion is only truly democratic when there are equal opportunities for participation or representation (representational justice), requiring equitable distribution of social, economic and political resources (distributive justice) as well as the recognition of cultural differences (recognition justice). Therefore, it is vital to analyse the nature and circumstances of participation.

Several of the authors make a point of distinguishing between "real" or genuine participation—what the author considers to be worthy of the term "participation"—and sham or pseudo participation. This is most forcefully argued by Beder, who explores how public relations exercises can be used to give the appearance of citizen participation without the reality. Birkeland draws a contrast between citizen-level participation and the institutional framework in which this participation occurs. The framework—for example, existing infrastructure, government planning bodies and powerful corporate interests—may make the choices at the level of the citizen trivial. The bigger question is the choice of institutional framework.

Both Varney and Monk point out that consuming goods in a market—purchasing toys or food—is an extremely limited form of participation, though a more active stance is possible such as through boycotts. Varney contrasts purchasing toys with participation in play, which she considers much more significant. Monk contrasts purchasing food with producing it and with involvement in processes to ensure sustainability of food systems.

To contrast real participation with pseudo participation is obviously to make a value judgement, namely that the real is better than the pseudo and that participation is a good thing. Such value judgements are present throughout discussions of participation. The ladder of participation, for example, both describes and implicitly passes judgement. Few people would consider "manipulation" to be a neutral term, and a common presumption would be that it is better to be higher on a "ladder of participation." Indeed, the word "participation" itself is laden with many connotations and presumptions.

Therefore, it is refreshing that Monk argues that some sorts of participation are not desirable. Major stakeholders, such as agribusiness corporations, already have a major impact on food systems, and increased participation by them may be harmful to

the environment. More generally, Monk argues that even with "wide scale rural participation in sustainability projects and rural improvement projects, there is no guarantee that through such practices the environment will be better served." He says that to serve the environment, participation must be within an "overriding cultural ethic," otherwise participation may harm sustainability. Similarly, Gosden sees advocacy of mental health services by families of mental patients as potentially harmful of the human rights of some patients, and Marshall sees advocacy of space exploration as potentially contributing to imperialistic exploitation of outer space.

Thus the questions of who participates and whether participation is a good thing are closely related. Participation may be at the expense of disadvantaged people or environments. Beder obviously sees the "participation" of public relations firms as harmful to genuine citizen participation and the environment. Varney makes an analogy between fascism and the market: "Constituents under fascism were swept into a show of solidarity with the regime which had constructed a short, simplistic, superficially exhilarating agenda while trammelling any mechanisms for a more meaningful participation." These examples suggest the need for a way of classifying participation not just in terms of amount but also in terms of consequences.

The mutual shaping of participation and technology

Technologies can influence the quantity and quality of public participation in decision making, as shown in Carson's case study of the telephone in local government and Solomon's case study of the lap-top computer. Conversely, public participation, or the lack of it, can affect decisions about technology, as in Beder's example of the hazardous waste incinerator. These two sorts of influences are commonly called "shaping" in many writings about technology.

Many studies of technology and society have focused on the social impacts of technology, such as the impact of new weapons on military strategy, the impact of the automobile on travel patterns and the impact of television on people's beliefs. This approach is sometimes—but not necessarily—connected to an assumption that technological development is largely autono-

mous of society.[4] In other words, it is thought that technologies are invented and applied on the basis of inherent possibilities, such as the laws of physics and properties of materials, and the constraints of cost and feasibility. If technology is autonomous, then it is obviously important to see what impacts it will have.

In the last couple of decades, technology scholars have increasingly looked in the opposite direction, namely at the impact of society on technology, a process that is commonly called the "social shaping of technology."[5] The social shaping approach can broadly be said to include studies in the constructivist vein, which use one theoretical framework or another to examine social processes that mould technologies into what they are. Indeed, so fashionable has the social shaping approach become that impact-of-technology studies are often seen as passé and theoretically inadequate, because they do not problematise technology.[6] A resolution may be possible in the form of the idea of "co-shaping." The picture is that technology and society mutually influence each other. Theoretically, this is a more inclusive model than either impact-of-technology studies or social-shaping-of-technology studies. Nevertheless, for convenience it can still be quite useful to focus on one shaping process, setting the other to one side for the time being.

In relation to the issue of technology and participation, the debate about social shaping concentrates on one aspect of society: citizen participation. The three chapters in the first part deal with the influence of technologies on participation. Varney looks at how toys influence children's learning of participation skills, Carson looks at the role of the telephone in participation at the local government level, and Solomon looks at the impact of computers on activities of international non-governmental

4. Langdon Winner, *Autonomous Technology: Technics-Out-of-Control as a Theme in Political Thought* (Cambridge, MA: MIT Press, 1977).

5. Donald MacKenzie and Judy Wajcman (eds.), *The Social Shaping of Technology: How the Refrigerator Got its Hum* (Milton Keynes: Open University Press, 1985).

6. For a critique of the fashionable constructivist agenda, see Langdon Winner, "Upon opening the black box and finding it empty: social constructivism and the philosophy of technology," *Science, Technology, & Human Values*, Vol. 18, No. 3, Summer 1993, pp. 362-378.

organisations. From these studies, it is apparent that technologies can affect participation in a wide variety of ways, not just in the most obvious ones such as mass media influences on elections. Participation can also be affected in other ways.

- Architecture and town planning influence the ease of holding informal community meetings and of organising demonstrations.
- Transport systems affect which people are able to join collective activities.
- The ease and cost of printing and photocopying influence the ability to join social debates through leafleting and organising.
- The scale and complexity of systems for supplying energy, water, and food affect whether and how people can participate in decisions about these systems.
- The type, availability and cost of consumer goods such as furniture, ovens and stereos affect people's interest and willingness to step outside the home and join community activities.
- The physical arrangement of chairs and tables in a room—for example whether they are freely movable or fixed to the floor as in a theatre—affects who participates in meetings held there.

These are but a few examples of the numerous ways in which technologies can shape participation. Obviously there is scope for much more investigation. One important question for such studies is which technologies, or which designs of a particular type of technology, are useful for various degrees and types of participation.

Ivan Illich has used the term "convivial technology" to refer to technologies that enhance people's control over their own lives while minimising opportunities for domination by those with power, money or expertise.[7] (Rather than the expression "convivial technology," a more descriptive term is "participatory technology.") For example, Illich argues that vehicles that can travel more than about fifteen miles per hour reduce social equity by reducing mobility for those without access to high-speed

7. Ivan Illich, *Tools for Conviviality* (London: Calder & Boyars, 1973). See also Godfrey Boyle, Peter Harper and the editors of *Undercurrents* (eds.), *Radical Technology* (London: Wildwood House, 1976). There is a close link between the concept of convivial technology and the more widely known "appropriate technology."

transport.[8] One need not endorse Illich's particular conclusions to accept the importance of technologies in shaping opportunities for participation. Varney, Carson and Solomon each are concerned with this process.

The remainder of the chapters in the book deal more with the other side of the picture, namely how public participation—or the lack of it—shapes technology. These seven chapters demonstrate the diversity of ways in which this can occur.

- Juries make decisions—or are prevented from making decisions—about new technologies.
- Community members participate—or are discouraged from participating—in project planning assessment.
- Families of people with mental illnesses, but less so people with mental illnesses themselves, influence laws for involuntary admission to psychiatric facilities and the consequent use of technologies (especially drugs) on patients.
- Citizen activists and corporate public relations departments each seek to sway decisions about toxic waste incinerators.
- Governments, often with little input from citizens, make decisions on innovation policy.
- Agribusiness corporations and organic farmers each seek to influence agricultural research agendas.
- Advocates of space exploration seek to open up a new technological frontier.

One thing that is apparent from these studies is that there is no natural or normal way for participation in decisions about technology to occur. Participation is something that develops as a result of social struggle. Vested interests commonly seek to get their own way by restricting participation by their opponents, using various rationales to justify this. Participation is fundamentally an issue of power.

Participation influences what technologies are adopted and how they are used, but once technologies are introduced they subsequently shape behaviour and beliefs, including opportunities for participation. For example, communities are involved, to one degree or another, in decisions about buildings and roads.

8. Ivan D. Illich, *Energy and Equity* (London: Calder & Boyars, 1974).

Once buildings and roads are constructed, they facilitate or constrain people's ability and interest in participating. Citizens have some say in whether a toxic waste incinerator is built. If one is actually built, then opportunities for citizen participation in toxic waste policy are more limited than if no such investment had been made. Such examples give an idea of processes of "co-shaping" in which societies and technologies influence each other.

The mutual interaction of participation and technology can be considered to be a facet of the wider issue of structure versus agency, which can also be cast as institutions versus individuals. Which should be considered primary: structures such as social class, gender and technological infrastructure or the ability of individuals to make their own choices? Both are involved, so the question really is about the best starting point to analyse society. Do we begin by looking at, for example, social class as a patterned set of relations that shapes behaviours and beliefs, and then look at the way that individuals adapt to or challenge these relations? Or do we begin with the individual as an autonomous entity and then look at how the choices of individuals lead to patterns of behaviour and the creation of institutions?

In assessing studies of toys, Varney criticises the usual approach of looking primarily at the agency of the child, namely at children's ability to adapt toys for their own purposes. Instead, she focuses attention on the toy industry and its marketing use of stereotypes in promoting certain types of toys, which then influence children's play. Varney would acknowledge the agency of the child but believes that it is important to become aware of the role of social structures—in this case corporations and the market—in creating the constraints within which agency operates. Similarly, Birkeland acknowledges activities used by planners to foster participation but says that such strategies "are slow to change the broader institutional framework of decision making, which can subvert the positive results gained through participation." Like Varney, Birkeland thinks it is important to look at structures—"the broader institutional framework"—and not assume that agency is enough to conquer obstacles to participation.

These case studies show that the choice of how to study the issue of participation is a value-laden one. Both authors argue

that a focus on agency can divert attention from more important processes. It is possible to imagine other cases in which a focus on structures may divert attention from important opportunities at the level of the individual. The main point is that both need to be addressed.

Restricting and fostering participation

Nearly every author deals with methods or processes that restrict public participation. Carson provides the visual image of the "wall of constraints," which includes structural, intrapsychic, interpersonal and cognitive constraints as well as absence of skills or knowledge (see front cover). Classifying the methods of restricting participation given by all the authors results in a considerable list.

Technological restrictions. The nature of technology can "build in" restrictions on participation. For example, when food is produced industrially at remote locations, most people can only make choices as consumers. The overstructuring of toys is essentially a way of embodying certain choices for children in the physical form of the toys. Technological restrictions are often unnoticed because technologies are just "the way things are." Food, telecommunications, energy and transport are among the technological systems that can restrict participation.

Exclusion. Some people are excluded from participation in one way or another. Lack of access to technology is one way, as in the case of nongovernmental organisations without computers and email. Most of the population lacks realistic opportunities for space travel simply because resources are not available to send more than a tiny minority into space. Some exclusions are based in law, as in the case of patents that restrict access to certain technologies in the food industry. Other exclusions are socially crafted, such as the failure of the Inquiry into Human Rights and Mental Illness to invite people alleged to be mentally ill. Government innovation policy is typically formulated by politicians and government bureaucrats with input from corporate elites, effectively excluding other groups. Exclusion is perhaps the most obvious way to restrict participation, and so is easy to point out. Hence there is usually a need to justify exclusions, which leads to the next method for restricting participation.

Attacks on competence. There are various arguments that can be used to justify restricting participation. When science or technology is involved, a very common argument is to say that people lack competence to make decisions. This is because science and technology are commonly seen as areas requiring expertise. There is often an unwarranted slide from the need for operators of certain technologies to be highly skilled to the conclusion that special knowledge or skills are needed to make judgements about policy. Brain surgeons and pilots do indeed need expertise, but that does not mean that specialised expertise is needed to make judgements about health policy or transport priorities.

This issue of competence is central to Edmond and Mercer's chapter. Their title, "The politics of jury competence," refers to the arguments about competence used to defend or oppose juries in complex technical cases. If the rhetoric of "jury incompetence" is effective, then juries can be barred from certain types of cases and public participation thus restricted. Birkeland, in her assessment of traditional planning and participation models, notes that they divide the population into two separate groups, experts and lay citizens. This provides the basis for arguments to exclude non-experts from decisions allegedly requiring expertise.

Divide and rule strategy. Another way of restricting participation is to analyse citizen opponents of a development and develop ways of winning over some of them while isolating the others. The strategy of public relations firms, as described by Beder, is essentially a process of divide and rule. This can be considered a way of restricting participation, although in essence it is a means of neutralising it.

Cultural barriers. Groups outside the dominant culture often suffer from a lack of recognition of their cultural differences, so that they have difficulty communicating in a way that can be heard by dominant groups. (In addition, disadvantaged groups may be restricted by social, economic, political and psychological barriers.) Solomon in particular takes up this issue, noting that computer systems embody dominant western cultural values of instrumental rationality that can suppress forms of communication that might better bridge cross-cultural divides.

Psychological barriers. Carson refers to "intrapsychic" barriers to participation. People may believe that they don't need or deserve to be involved, or that they lack the skills or knowledge to do so. Psychological inhibitions are a potent barrier to participation, for who can say that people are wrong when they say they don't want to be involved? Yet it should not be assumed that psychology is autonomous of social and technological factors. Varney argues that overstructuring of toys and storylines, combined with the privatisation of play which reduces collective interaction, socialises children in a way that reduces their capacity and receptiveness to participation in later life. This example shows that the technologies with which one interacts can affect one's psychological predisposition to participate. There should be nothing surprising in this. All sorts of technologies can affect the way people perceive the world. The suburban house reflects and reinforces the nuclear family, which shapes people's understanding of human relationships. The mass media of television, radio and newspapers, and their associated production processes and news values, provide the framework through which most people understand international affairs. Interactions with technologies, including such everyday items as light switches, cereal packets, shoes and cars, affect people's beliefs about what they can and can't do in the world. In these and many other ways, technologies shape psychology, which in turn affects people's willingness to participate.

Listing all the methods for restricting participation can be a bit depressing, but fortunately it also provides a convenient way to think of methods for fostering participation, namely by challenging, eliminating or sidestepping the restrictions. Here are some possibilities.

- Varney: Encourage children to play in groups with open-ended toys, thereby giving them skills and attitudes conducive to participation in later life.
- Carson: Use the processes of relationship building, questioning and listening, with the help of appropriate technology such as the telephone.
- Solomon: Create spaces for communication that allow for a diversity of perspectives and modes of communicating, acknowledging differences and conflicts; work towards redistribution of

resources and opportunities to disadvantaged groups, including access to computers and email where appropriate.

• Edmond and Mercer: Defend juries from ill-informed attacks and give them support to deal with complex technical issues.

• Birkeland: Use the ecofeminist paradigm to develop initiatives and projects that involve the community in project planning.

• Gosden: Involve people alleged to be mentally ill in decision making about psychiatric services.

• Beder: Promote activism in which local residents are involved in "creating their own mechanisms for discussion, attracting media attention through actions, protests and stunts, organising their own meetings and rallies and newsletters, and generally bypassing or taking over the formal procedures that PR consultants have carefully contrived."

• Roberts: Help disenfranchised groups to "assert their right to participate in the process and subject the process of innovation to critical analysis."

• Monk: Promote the organic agriculture movement, in which participation is a central facet of food production.

Marshall: Promote involvement by all peoples in deciding how to share the benefits of space exploration.

These examples show that there are many ways of fostering participation. If I had to give general recommendations based on these ideas, I would emphasise three imperatives. First, resist restrictions on participation, for example by countering arguments attacking the competence of juries. Second, go ahead and participate, for example by community activism or organic farming. Third, use appropriate technology, such as the telephone and open-ended toys.

Final comments

There is an enormous amount of writing about participation and democracy. Some of the authors have referred to bodies of theory: Carson to deliberative democracy, Solomon to communicative democracy, and Birkeland to technocratic, liberal, radical and ecofeminist planning models. Overall, though, this book is not centrally about theory but rather about raising important issues through contemporary case studies. Theory often becomes

meaningful only when brought to bear in practical situations. It is used here with the aim of gaining practical insight into problems and possibilities of participation. Many of the authors have been actively involved in the issues they have studied, whether as commentators, interviewers or participants. Ultimately, both participation and technology are things that we do and use, rather than just think and write about.

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Technology and Public Participation

Today's complex society is increasingly intermeshed with technology, from factories to consumer products and from genetically engineered products to telecommunications. This raises all sorts of questions for a democratic society. Should members of the public be involved in decisions about development and use of technologies? If so, how? Are technologies enhancing or diminishing public participation? What is happening and what should be happening? What forms of participation have been tried? What could be tried? These issues need continual attention.

Technology and Public Participation provides a set of case studies and perspectives on the general theme of technology and participation. They cover a variety of topics, including project planning, space exploration, the competence of juries to deal with complex scientific issues and the role of the telephone in local government. They also cover a variety of perspectives and themes, from the issue of policy for innovation to concerns about psychiatry, human rights and development. They span decision-making arenas both internal to civil society and external to it in local and national governments, and beyond to global governing bodies such as the World Bank and international agreements such as the Outer Space Treaty. They extend across the spectrum from children to farmers, juries and policy makers through to international non-governmental organisations and beyond to space explorers.

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