

Dialogue, governance, and biotechnology: acknowledging the context of the conversation

Joanna Goven

School of Political Science and Communication, University of Canterbury, Christchurch,
New Zealand*

1 Introduction: deficit to dialogue?

Over the past decade we have seen an increasing emphasis on public engagement or dialogue in relation to controversial aspects of science and technology. This phenomenon is the product of a number of factors, of which I would highlight three:

- Unexpected, widespread, and sustained public opposition to some commercial applications of biotechnology (and fears that other emerging technologies would be similarly received);
- The intensification of pressure on governments to improve the “international competitiveness” of their economies, and the widespread embrace of the “knowledge economy” as the favoured vehicle for accomplishing this;
- The direct and indirect influence of some elements of social science research (namely the discrediting of the “deficit model”).

Public opposition to biotechnology threatens to undermine governments’ plans to build their knowledge-economy and competitiveness strategies around what they regard as economically promising biotechnology industries. Available to governments and others seeking to remedy the situation is a body of research in science studies and science communication criticising prevailing approaches to public controversies involving science and technology.¹ This work challenges the assumption that public opposition to some aspects of science or technology is due to public ignorance or misunderstanding of science, to be addressed by more and better communication of science to the public. Its critics termed this approach the “deficit model”: that is, an assumption that public opposition is caused by deficiencies in public understanding of science (and/or the nature of risk) and therefore that public opposition can be overcome through better science education and communication.

*E-mail: joanna.goven@canterbury.ac.nz

¹For a summary of this work, see [Wynne \(1995\)](#) and [Irwin & Michael \(2003\)](#), ch. 2.

For governments and others seeking to address public opposition to desired technological developments, the major point taken from the critique of the deficit model appears to be the need to move from “one-way” to “two-way” communication. This has led to a flurry of activity, including funded research programmes, in the area of dialogical approaches to public engagement on controversial or potentially controversial scientific-technological developments.

This is not to say that deficit-model assumptions have necessarily been superseded, however. There is considerable evidence instead that these assumptions remain operative alongside the drive for new techniques of engagement (Irwin & Michael, 2003; Wynne, 2001). One prominent permutation of the deficit model is the notion that public opposition derives not primarily from the public’s lack of scientific knowledge, but rather from the public’s lack of *trust* in scientists and/or government (Levidow & Marris, 2001). This redefinition of the relevant deficit has provided impetus and/or support for the shift to dialogical modes of engagement between the public and representatives of science or science policy.

Amidst the flurry of research programmes and policy initiatives developing or utilising new forms of engagement, however, there has been little explicit discussion of what the new dialogues are *for*. Instead, a strong tendency within recent work on public engagement has been to review, develop and/or evaluate ways of engaging. Rather than exploring the purpose of engagement, much of this work has instead asked “what can *this* method or mechanism *do*?” (e.g., Rowe & Frewer, 2000; Abelson et al., 2003; Rowe et al., 2004).

The papers that initiate this Special Issue could be argued to illustrate the tendency to emphasise the *how* over the *why*. (More on this below.) My point here is not that methods and mechanisms don’t matter; processes can and do shape outcomes. But the effectiveness of a process cannot be evaluated separately from its purpose and its context. When the participatory mechanism is the central focus, the underlying purpose may be left implicit, often in the form of an aggregate of diverse and at least potentially incompatible goals and outcomes.²

I argue here that that clarification of purpose should take precedence over evaluation of method, and that purpose depends upon the particular context in which the dialogue will occur. More specifically, I argue that:

- dialogue researchers and practitioners whose intention is to contribute to the democratisation of science and/or science policy need to be aware of the political-economic context in which the dialogue takes place;
- the shift to dialogue in relation to science should be seen as part of a broader move toward “stakeholder” participation, which itself is an aspect of the shift from “government” to “governance”; and
- understanding the implications of the discursive and practical rise of governance requires appreciating its embeddedness in the late twentieth century’s neoliberal turn.

²A good example of this is Smith & Montgomery (2001).

I do this by, first, outlining the aspects of neoliberalisation that constitute key elements of the context for public engagement on science and technology, particularly biotechnology, and situating governance in relation to this. I then point to incompatibilities between the nature of public concerns about biotechnology and the implicit purposes of dialogue. Finally I suggest some questions that the preceding analysis raises for a public engagement programme in the area of salmon genomics.

2 Dialogue, governance, and neoliberalisation: the importance of context

Current practices of science, technology, and regulation in, for example, Europe, North America, Australia, and New Zealand, are embedded in a political-economic context of neoliberalism. Here I utilise Tickell and Peck's (2003) conceptualisation of the neoliberal project—"the mobilisation of state power in the contradictory extension and reproduction of market(-like) rule"—as a process that has been characterised by both "roll-back" and "roll-out" phases and tendencies. The initial roll-back phase of neoliberalisation emphasised minimising the functions (and, in rhetoric at least, the size) of government, strengthening private-property rights, and expanding the role of private-property-based markets in determining the allocation of wealth and other societal decision-making. Financial markets were liberalised and, aided by private auditing bodies such as bond-rating agencies and the World Economic Forum (with its annual Competitiveness Index), were well-positioned to "discipline" national regulatory behaviour. National regulations were also made subject to scrutiny and challenge under various agreements of the WTO, as well as regional and bilateral free-trade agreements.

Both the regulation of science and its products and the practice of science itself have been shaped by waves of de-regulation (of industry), privatisation (of public-sector activities, including scientific research), and commodification (of knowledge, research tools, and organisms). Science and technology are now typically placed at the forefront of national and regional economic strategies whose (both normalised and disciplined) aim is to attain or maintain "international competitiveness" through active development of a "knowledge economy". Significant changes have occurred in the scientific research environment, including the increasingly commercial orientation of public research funding, the active encouragement of public-private research partnerships, and new opportunities for scientific researchers to double as company owners/executives. Recent research (e.g., [Bekelman et al., 2003](#); [Healy, 2004](#); [Kleinman, 2004](#); [Lexchin, 2005](#); [Wright, 1994](#)) provides evidence that scientific practice, particularly in the biosciences, is itself being reshaped by the growing importance of commercial actors and goals. Peer review processes are increasingly complicated, and limited, by conflicts of interest and provisions for commercial confidentiality ([Anonymous, 2004a](#)). The post-Chakrabarty, post-Bayh-Dole U.S. intellectual-property

regime and the business strategies of “life science” corporations have also contributed significantly to this transformation (see, e.g., [Atkinson-Grosjean, 2002](#); [Anonymous, 2004b](#); [Kleinman, 2004](#); [Rai & Eisenberg, 2001](#); [Wright, 1994](#)).

The picture is further complicated by the developments [Tickell & Peck](#) have termed “roll-out” neoliberalisation, which can be seen as a response to some of the consequences of roll-back; however, roll-out should also be seen as elaborating upon and co-existing with, rather than replacing, roll-back. Roll-out neoliberalisation is characterised by a technocratic normalisation and discursive de-politicisation of the value-laden political choices that construct and maintain neoliberalism, but also by a more activist government orientation toward some of the social consequences of neoliberalisation ([Tickell & Peck, 2003](#); see also [Newman, 2001](#)). While interventions into the lives of those categorised as unemployed, beneficiaries, and criminals are often emphasised in this regard (see, e.g., [Dean, 1998](#); [Tickell & Peck, 2003](#)), we can also include here “dialogical” efforts to address purported deficits of “social cohesion” and “trust”—including trust in science and its regulation. From this perspective, the dialogical turn, while signalling a more managerially active and engaged stance for government, remains firmly framed by the “normalised” values of neoliberalism. As discussed below, this has implications for the nature and goals of public dialogue.

It is instructive to note the ways in which the governance discourse encompasses and interprets both these dimensions of neoliberalisation. The term governance has gone from archaic to ubiquitous in a very short time.³ While the term saw some use among management circles in the late 1960s, its widespread use even in relation to corporate management did not occur until the 1980s ([Pestre, forthcoming](#)), and it moved into general political use via the World Bank’s embrace of a “good governance” development agenda only in 1989.

In the view of many scholars of development, “the governance agenda is best understood as a means of managing the adjustment effort” ([Abrahamsen, 2000](#))—more particularly, managing the failures of the previous decade’s (roll-back) Structural Adjustment Programmes and the social unrest that followed them. The emphasis on governance “allowed the international lending institutions to work themselves out of an intellectual and practical dead-end, into which they had earlier been pushed by their extreme reliance on free-market ideals” ([Hewitt de Alcantara, 1998](#), p. 106). The “good governance” agenda managed this by attributing these failures to government corruption, inefficiency and lack of transparency, and by adopting “participatory” development strategies, which provided a new justification for the continuing insistence on contracting the public sector and expanding the role of the private and voluntary sectors in the provision of services.⁴

It is significant for a number of reasons that the Bank did not develop a “good government” agenda. First, the World Bank and IMF are forbidden by

³Massimo De Angelis notes that the British Library catalogue contains 47 titles including the word “governance” published before 1975 and nearly 1000 such titles published between 1975 and May 2003 ([De Angelis, 2003](#)).

⁴For a discussion of the nature and implications of these participatory development strategies, see [Cooke & Kothary \(2001\)](#).

their founding charters to intervene in domestic politics; to circumvent this, the reforms—and “governance”—were portrayed as technical matters. As Abrahamsen notes, “the launch of the good governance agenda was accompanied by an attempt by donors to define governance as both politically and culturally neutral, as calling simply for the efficient and optimal management of a nation’s resources and not prescribing a particular system of rule” (Abrahamsen, 2000, p. 11). The denial of the political choices and socio-cultural values embedded in “governance” programs—i.e., what I am calling discursive de-politicisation—has the effect of removing these choices from the political agenda.

Second, and equally applicable to its career in the global North, “governance” discursively performs the neoliberal aim of replacing governments with markets. “Governance” implies that “governing” does not require “government”. The governance discourse is an acknowledgement of, and implicit justification for, roll-back neoliberalisation: government is unnecessary because governance can and does take place without it.⁵ At the same time, it points toward roll-out neoliberalisation in its more active and positive characterisation of governing activity: the focus is not simply on absence (removing government from decision-making), but on mobilisation and coordination of various “stakeholders” in the governing process.

Governance also performs discursive de-politicisations in the Northern context. The governance agenda encompasses, for example, shifting responsibility for service provision to the private and voluntary sectors and shifting power at international, national, and local levels to well-resourced actors not subject to democratic mechanisms of accountability. Yet the governance discourse would obscure the deeply political nature of these choices. As Pestre (forthcoming) notes, “the vocabulary of governance conveys the idea that the world of the political, as it was invented and practiced for decades, is now obsolete. . . The only remaining questions are procedural and managerial in nature. . .” Kazancigil (1998, p. 71) has drawn attention to the way in which the governance discourse incorporates a “pretence to govern by excluding politics, through a market-like mode of decision-making.” This draws upon the neoliberal depiction of markets as arenas of voluntary action, innocent of coercion. The governance discourse has also obscured the fact that the adoption of this governance orientation is a choice: “there is an underlying conviction in all the literature on governance that the values it represents are inescapable ones in this world” (Pagden, 1998, p. 14).

Important for our purposes is the link between this discursively de-politicised politics and what might be called the friendly face of governance: governance as the shift toward the horizontal, coordinative, and participatory and away from the vertical, interventionist, and impositional.⁶ It is here that we need to

⁵“There is . . . a baseline agreement [in the governance literature] that governance refers to the development of governing styles in which boundaries between and within public and private sectors have become blurred. The essence of governance is its focus on governing mechanisms which do not rest on recourse to the authority and sanctions of government” (Stoker, 1998).

⁶This terminology comes from Kazancigil (1998, p. 77).

locate the shift to dialogue, the “participatory turn” (Jasanoff, 2003), in science and technology policy. While factors such as changes in the practice of science (“post-normal” (Funtowicz & Ravetz, 1992), “Mode 2” (Gibbons et al., 1994)), the implications of powerful new technologies, and transformations of industrial societies (Beck, 1992) have all had a bearing on opening up science and technology policy to a broader range of input, the ways in which this has occurred are importantly mediated by the neoliberal context in which it is occurring.

Thus, the call for dialogue is often couched in “stakeholder” language, with the general public or the community portrayed as one of a number of stakeholders in some sense entitled to be party to the dialogue. The democratic public is dislodged from its position as (in principle) the ultimate judge and arbiter in the realm of “governing”; with governance, it is at best one among many stakeholders—it merits no privileged position. And, as “democratic public”, it may not be recognised at all: consistent with the neoliberal emphasis on markets as the preferred site of decision-making, its place is often taken by “consumers”.

Consumers and democratic public are not equivalent categories; while movements exist to use consumer power to shape processes of production (e.g., fair trade, organic, dolphin-friendly, etc.), consumer power is a product of economic resources and thus reflects economic inequalities. Further, consumers operate at an informational disadvantage, as producing and marketing organisations remain essentially non-transparent, and commercial confidentiality can be invoked to block access to information relevant to process-based decision-making.

This is not to argue that consumer-based movements are without effect; it is rather to argue that those engaged in dialogue projects need to be aware of the possible consequences of their embeddedness in the stakeholder governance model. How are the participants configured? How does this configuration shape the dynamics and the content of the dialogue? How will the stakeholder model shape the reception of the dialogue by those with the power to effect change?

3 Dialogue and biotechnology: what is there to talk about?

As noted above, public opposition to some biotechnologies has created problems for governments that regard these technologies as keys to developing or maintaining an internationally competitive economy. This accounts at least in part for the relatively large sums of public money allocated in recent years for research into public attitudes toward biotechnology and into new ways of facilitating “public talk” about biotechnology. It is not, I think, overly cynical to link the investment in such research with the desire to find a way out of this awkward situation.

However, if this is the case, findings from much of the research on public attitudes would not be particularly encouraging. The research shows consistently that a major concern of various publics relates to the (neoliberalised) power relations characterising research, development, and regulation of biotechnology

(see, e.g., Einsiedel et al., 2001; Goven, 2003, 2006; Grove-White et al., 2000; Hagendijk & Egmond, 2004; Marris et al., 2001; National Committees for Research Ethics, 2003). There are concerns about the commercial forces shaping the research agenda, a lack of public-good research, and profit-driven premature commercialization of technologies without sufficient knowledge of their environmental and health effects. Beyond concerns about the environmental and health impacts of the technologies, there are concerns about the social and political impacts that will result from permitting or promoting both the technological developments and their attendant practices (such as patenting)—specifically, the growing social and political power of the “life sciences” industry and the vulnerability of those whose interests conflict with the industry’s. Concentrated and private ownership and control of technologies and their products, including living organisms, is a source of concern in itself. The power of commercial interests in biotechnology is linked to a lack of confidence in biotechnology regulation, with regulatory institutions seen as weak and overly influenced by industry. In other words, research has shown that publics are concerned with the impacts of the reconfigured public/private power relationship characteristic of neoliberalism.⁷

Neoliberalisation has both increased economic inequalities and enhanced the fungibility of economic resources in relation to other types (e.g., political, cultural, and intellectual), thus increasing the significance of economic inequality. One manifestation of this is the growing size, power, and influence of multinational corporations, “life science” corporations being pre-eminent among them. Another effect of neoliberalisation has been the removal of jurisdiction over a range of issues away from democratically accountable institutions toward a number of other institutions and actors (e.g., “independent” central banks, multilateral institutions, and deregulated economic actors). It has also, as noted above, increased the ability of other unaccountable forces (such as financial markets) to discipline national decision-makers.

I have argued that the increased popularity of dialogical approach to scientific-technological controversy is consistent with roll-out neoliberalisation’s more activist orientation toward some of the political consequences of the neoliberal turn, but that this activist orientation largely takes for granted, rather than challenges, the “normalised” values of neoliberalism as well as much of the social change brought about by roll-back neoliberalisation. What does this mean for public engagement on science/technology issues in general and biotechnology in particular?

Part of the answer may lie in the fact that government calls for dialogue are paired with the insistence that controversial technologies must be developed for the sake of the country’s “international competitiveness”. This points to

⁷While the concerns I have detailed here are not the only concerns or views expressed by various publics, they are consistently present and prominent, and they underlie or are otherwise associated with other common concerns, such as lack of knowledge about long-term and synergistic effects, reinforcement of undesirable agricultural practices, and failures to consider other approaches to problems which the industry claims to be addressing through its biotechnology applications.

a complex legitimisation crisis for the governments involved. Responsiveness to the concerns outlined above is presumably constrained by governments' dedication to a neoliberal competitiveness model and/or their embeddedness in multilateral and disciplinary regimes that enforce such a model. To the degree that the offending technologies are believed to be crucial to economic growth through maintaining or improving competitiveness, governments are caught between conflicting responsibilities that have come to be seen as fundamental. On one side is the argument (and possibility) that the commercialisation of GMOs is premature and risks inflicting serious harm on the environment and/or human health; on the other is the argument (and possibility) that precautionary regulation of GMOs will place the economy at a competitive disadvantage and hinder growth.

But the crisis may be more acute than that: agricultural biotechnology has become a lens magnifying and focusing attention on key attributes of the current neoliberal ascendancy. These issues are not technical, nor are they the kind of "ethical" issues for which the domain of institutionalised bioethics was formed; they are political. Public opposition to biotechnology has highlighted a more general democratic deficit characterising rule-making within the current international trade, investment and intellectual property regimes, as well as the resulting concentration of power in the hands of publicly unaccountable corporations.

As noted above, the results of past engagement exercises and other research (cited above) on public orientations toward biotechnology, if taken seriously, would have far-reaching implications for policy directions currently prevailing in Europe, North America, Australia and New Zealand. Public concerns about profit-driven research agendas call into question the legitimacy of government policies that pressure researchers in academia and the public sector to develop closer ties to industry and to focus their work on commercialisable applications. Concerns over concentration of ownership and control and over the appropriateness of many biotechnology patents call into question the legitimacy of these governments' support for international agreements, such as WTO TRIPS (trade-related aspects of intellectual property rights), which extend commodification and the rights of owners. Concerns over inadequate regulation and overly close relations between government and the biotechnology industry call into question the legitimacy of the prevailing assumptions that favour "streamlined" risk-assessment processes and "light-handed" regulation, and of international agreements that constrain national regulatory activity.

In this context, the definition of the problem to be addressed through dialogue is clearly a political act. As [Murphy & Levidow \(forthcoming\)](#) argue, governments have sought to manage conflict over biotechnology through shaping the definition of the "collective problem" to be addressed; proposals and concerns that fall outside that problem-framing are marginalised. However, as they have also shown, those problem-framings are not fixed; in Europe, at least, shifts in the definition of the relevant collective problem have been provoked by sustained public opposition. This act of problem-definition is one of the ways in which the "normalised" values of roll-back neoliberalism are (or, potentially,

are not) built into stakeholder engagement activities.

If public opposition to biotechnology is in part about a democratic deficit in the (de-)regulatory regime that has shaped biotechnology research and commercialisation, then designing public engagement on biotechnology that is intended to inform or influence the direction of policy must grapple with whether this more fundamental critique of current modes of “governance” should be framed in or out of the process. And this highlights the fundamentally political nature of designing, implementing, and researching public engagement activity, whether it is done by governments, consultants, or academic researchers. Despite current efforts to produce “best practice” guidelines for public engagement, it cannot be reduced to a technical exercise.

One might ask at this point why such governments would want to open this can of worms. While among government calls for public engagement on biotechnology one can still find considerable attention devoted to the need for public education about the “real risks” (as opposed to “perceived” risks”) of biotechnology, perhaps a dominant motif in this context is that dialogue should be embraced as a way to restore the public’s trust in science and its regulation (see, e.g., [European Commission, 2002](#); [New Zealand Ministry of Research, Science and Technology, 2003](#); [Levidow & Marris, 2001](#)).

Why is dialogue expected to restore public trust? Calls for dialogue are not explicit about this, but two possibilities suggest themselves. If the public’s lack of trust in biotechnology and/or its regulation is regarded as resulting from misunderstanding or misperception, and dialogue is seen as potentially rectifying the misunderstanding or misperception, then dialogue may remedy the situation. It is also possible that the dialogue process is seen as therapeutic in itself; in the words of the New Zealand Biotechnology Strategy, “[b]y having the chance to express information and views, people can gain greater trust and confidence in science and technological development” ([New Zealand Ministry of Research, Science and Technology, 2003](#), p. 14). It may be thought that people need to *feel* heard, and that dialogue itself will supply that feeling. Or lack of trust in science or scientists may be diagnosed as a relationship problem, to be remedied by creating opportunities for personal interactions with scientists.⁸ For dialogue to be expected to restore trust in these ways, however, would require the concerns detailed above to be dismissed as misinformed, and the problem to be diagnosed as lack of trust rather than lack of trustworthiness.

Dialogue is also regarded as a way to determine the relative public acceptability of different biotechnologies.⁹ It could be argued that such dialogue both takes public concerns seriously and is compatible with a strategy to promote the development and commercialisation of biotechnology. This hinges on whether there is a genuine willingness to turn away from applications rejected by the public and to address the concerns about the power of commercial actors detailed above. In other words, it returns us to the legitimation crisis.

Bruna De Marchi has argued with regard to public engagement that “even

⁸Thus it can be considered significant that some participants come to appreciate that “scientists are people, too!”

⁹An example of this is the Canadian Biotechnology Advisory Committee’s “Dialogue Tool”.

before considering implementation, we should have clearly in mind that the main purpose of a public debate is not to eliminate conflict, but possibly to clarify what conflict is really about” (De Marchi, 2003). De Marchi’s point is important here for two reasons: first, it serves as a warning to those who see public engagement as the “answer” to public opposition (and public opposition as a problem to be overcome); and second, it highlights the need to be wary of an ongoing focus on engagement itself at the expense of acknowledging and responding to the results of engagement that has already taken place, results that have already gone a long way toward clarifying “what the conflict is really about”.

4 Dialogue and salmon genomics: key questions

For social scientists and ethicists, the conflict between public and government views of biotechnology has been a bonanza, providing access to sizeable new sources of research funding.¹⁰ We have consequently had resources to devise, develop, and evaluate methods and mechanisms for engaging with the public on biotechnology. That is, we have been focusing on tools for dialogue.

The papers initiating this Special Issue illustrate this trend. ? see dialogue as a way “to identify novel and ethically relevant perspectives” and as a method for “evaluating whether beliefs and claims are warranted.” Ahmad et al. see their survey instrument both as a way to “improve public consultation on biotechnology” and as a way to improve understanding of “public acceptance/rejection of novel technology and its applications” by showing “the social norms and other heuristics that people use in making decisions about important technologies.” Fishkin seeks to expand “the democratic toolkit of mechanisms for public consultation” by showing that the mechanism he has developed is able to combine “inclusiveness and thoughtfulness.”¹¹

I would certainly not argue against the contention that there is a need to enable governments to be more responsive to their publics on technology issues (and more generally). Nor do I dismiss the debates that have long raged in political-theoretical circles over the possibility of “deepening” democracy beyond the periodic vote for representatives. But there is a danger that the focus on consultative and deliberative tools as the means to accomplish this risks irrelevance or worse if it does not sufficiently take into account the broader political-economic context in which they will be used. This includes, crucially, who the audience for the dialogue is; and if, as in many cases, the implicit or explicit intended audience is policy-makers, how their response is pre-determined by their existing policy commitments and by the types of constraints on regulatory action described above as characteristic of neoliberalism. For if a key mes-

¹⁰The author includes herself among those whose research has benefited from this funding.

¹¹The author is part of a project that aims “to develop, pilot and evaluate a methodology for facilitating constructive conversations among diverse participants on contentious technology” (see www.conversations.canterbury.ac.nz), which both goaded and enabled her to pursue alternative methods for investigating the social implications of technologies (Goven et al., 2004; Goven, 2005).

sage from the public is one that decision-makers have decided in advance that they will not hear, there is a real danger that dialogue will, at best, waste participants' time and/or be instrumentalised as democratic window-dressing; at worst, it may act to delegitimize those actors who refuse to enter the dialogue on the grounds that it can only be window-dressing as long as the pre-determined policy commitments and orientations remain in place (see, e.g., [Hagendijk & Egmond, 2004](#)).

From the perspective of the argument presented here, one might initially approach the papers by ?, [Fishkin](#), and [Ahmad et al.](#) with two questions: first, how do they define the problem to be addressed through dialogue? Would their approach frame out fundamental political concerns? Second, is there any possibility that the kinds of concerns raised elsewhere and discussed above will be addressed by the intended audience for the dialogue?

The first question is relatively straightforward and appears to be encompassed by the dominant “what can the mechanism do?” orientation (though it is surprisingly absent from some prominent evaluation research (see especially [Rowe & Frewer, 2000](#); [Rowe et al., 2004](#))). It points to the broader issue of whether and how the dialogue is or should be framed.

? show that these concerns have indeed arisen within the focus groups they conducted, although it should be noted that their focus groups are not seen as dialogue mechanisms in themselves but are intended to indicate “what aspects of the population should be represented [in dialogue] and the breadth of policy and related information to be presented.” (It remains unclear what the dialogue itself would look like.)

? see focus groups as an “open-ended method”, in which “the structure of the discussion and the topics raised reflect how the participants think and feel about the topic.” The authors are here calling attention to the fact that some other research approaches may pre-frame or pre-determine the relevant issues. While focus groups have become popular among researchers as a way to avoid this problem of pre-framing, there is reason to question their usefulness in this regard. Rather than avoiding the problem of framing, focus group discussions often end up being framed by the input of one or two people. That is, while the researcher may shed responsibility for framing, framing still occurs, and it occurs in an unpredictable and essentially arbitrary way.¹²

Whether or not this matters depends upon the burden placed on the outcome (i.e, the conversation) of any particular focus group. Are the groups seen as representative of the larger society? Is the discussion seen as an accurate representation of the views or reasoning of the group's participants? Is the trajectory of discussion within the group seen as significant in itself? The problem can perhaps be somewhat mitigated by increasing the numbers of focus groups. And with or without representativeness, they may still perform the function of widening the range of issues recognized as relevant to the information needed

¹²We should not forget that focus groups were developed for, and are widely used in, market research, which has been more interested in learning about and shaping (non-rational) taste, than in facilitating reflection and deliberation.

to inform dialogue. They are a compromise in this regard (and should be recognized as such).

Fishkin's more general discussion of deliberative polling (it is not discussed in relation to biotechnology or salmon genomics) is an interesting contrast to ? in that the question of framing is perhaps skirted over a bit too readily with the assurance that the information provided is "balanced and accurate". On biotechnology issues, claims of "balance" and "accuracy" are highly contested. The desirability of "balance" can itself be questioned: one can have "balance" and still frame key issues out of the discussion.¹³ The way in which media organizations handle, for example, the climate change issue also points to problems with the "balance" criterion. (Are there really two sides to the issue? Are there only two sides? Does representation of "sides" actually allow key fundamental questions to be articulated? Who defines the problem around which "sides" are taken? Is this definition consistent with community priorities and concerns?) The very possibility of "accuracy" may itself be a crucial divide between those who see existing scientific knowledge as solid and predictive and those who see it as tentative, contested and provisional.¹⁴

The method described by Ahmad et al. is most troubling in this regard. Rejecting (I think, correctly) the notion that discussion can be unframed, they attempt to make a virtue of necessity by seeking to test the degree to which framing influences choices while also purporting to provide an instrument to allow informed and considered public views to influence policy. The desire to measure the influence of framing (which the authors equate to social norms) leads to a heavily structured process which requires participants to choose from a series of predetermined and highly constraining sets of options. The constraints stem partly from the fact that the central underlying problematique addressed by the instrument is "public acceptance/rejection of novel technologies". It cannot elucidate fundamental concerns of the public if they are located in an entirely different problematique, such as the rise of inequality or of unaccountable social power, the role and scope of property rights, or the sustainability of current methods of food production.

The second question posed above—is there any possibility that these concerns will be addressed by the intended audience for the dialogue?—asks the researcher to clarify who and what the dialogue is for and to evaluate the likelihood that it will accomplish its purpose. Well before the dialogical turn, a healthy literature had developed around the general purpose of public participation on scientific/technology policy issues, arguing for the benefits to policy of eliciting participation and input from citizens who have neither specialist technical expertise nor vested interests in the issue (see, e.g., Andersen & Jæger, 1999; Fiorino, 1990; Frankenfeld, 1992; Irwin, 1995; Laird, 1993; Renn et al., 1994; Sclove, 1995; Winner, 1995). But now that many of us are engaged in developing, implementing, or evaluating actual dialogical engagements with the public, we may need to be more assiduous in asking: what is the purpose of this

¹³For an example in the field of biotechnology, see Goven (2003).

¹⁴On this, again in relation to biotechnology, see Goven (2006).

dialogue? Who is its intended audience? And is this audience willing and able to respond to the kinds of concerns that are likely to be raised?

Of course, if we knew before the fact which issues would arise, there would presumably be no need to hold the dialogue. But it is reasonable to expect that the kinds of concerns that research has shown to have been raised with regularity in the past will be raised (among others) again. We are obliged, I think, to consider whether the intended audience has given any indication that it would respond to these concerns. If the answer is no, we are in a difficult situation. Is it responsible to our participants to proceed with the dialogue, perhaps hoping that issues will arise out of this dialogue that our audience is willing to address?

If governments are indeed unwilling to address the nature of the power relations characterizing research, development, implementation, and regulation of biotechnologies, this does not necessarily require us to abandon dialogue, but it does, I think, require us to design dialogues with this and other limitations in mind. Perhaps the audience for the dialogue should be reconceptualized—if the primary audience were not policy-makers, or scientists, but rather “civil society” or “consumers” or “biology students” or “bioethics committees”, how would this change the design of the dialogue? (It may be, for example, that the kind of engagement described by ? is best aimed at influencing the increasingly influential but often woefully de-contextualised perspectives of bioethicists.) Or perhaps the topics of dialogue should be more strategically or opportunistically chosen to increase the specificity and “bite” of the results—e.g., if the government is about to review its patent regime or to enter into a new set of TRIPS negotiations, dialogue might focus specifically on biotechnology patents; if it is due to enter into negotiations on traceability and labeling of genetically modified organisms within the Cartagena Protocol on Biosafety, dialogue might focus on traceability and labeling.

One could object that this would frame the dialogue too narrowly. One could also question, however, whether “salmon genomics” identifies a meaningful focus for public dialogue. It may be that it is time to let the results of previous dialogues and consultations frame our current ones, in order both to deepen our discussions of “what the conflict is really about” and to enable participants to address current policies in greater detail.

I have presented here a perhaps overly pessimistic or skeptical view of dialogue and its possibilities, informed by the political-economic context within which dialogues on biotechnology are proliferating. The last thing I would wish to do is imply that the current political-economic constraints are either permanent or unavoidable. But they are directly relevant to public concerns about, and therefore public engagement on, biotechnology and should, I believe, figure more prominently in our theorizations and implementation of biotechnology dialogue.

To end on a perhaps more hopeful note, it may be that the most significant impact of proliferating dialogues will remain outside the intentions and evaluations of researchers and their sponsors: who knows what gradual and unpredictable process of social and political transformation may be sparked by

contemplation of the fordist salmon or the flex-spec organ farm?

5 Acknowledgements

The author thanks Les Levidow and two anonymous reviewers for their comments.

6 Bibliography

- Abelson, J., Forest, P.-G., Eyles, J., Smith, P., Martin, E. & Gauvin, F.-P. (2003), 'Deliberations about deliberative methods: issues in the design and evaluation of public participation processes', *Social Science & Medicine* **57**, 239–251. [100](#)
- Abrahamsen, R. (2000), *Disciplining democracy: Development discourse and good governance in Africa*, Zed Books, London. [102](#), [103](#)
- Ahmad, R., Bailey, J., Bornik, Z., Danielson, P., Dowlatabadi, H., Levy, E. & Longstaff, H. (2006), 'A web-based instrument to model social norms: NERD design and results', *The Integrated Assessment Journal* **6**(2), 9–36.
- Andersen, I.-E. & Jæger, B. (1999), 'Scenario workshops and consensus conferences: Toward more democratic decision-making', *Science and Public Policy* **26**(5), 331–340. [110](#)
- Anonymous (2004a), '“Good citizenship” or good business?', *Nature Genetics* **36**, 1025. [101](#)
- Anonymous (2004b), 'Recent developments: Axcel Patent Litigation, e.g., genentech, Inc. v. Tr. of Columbia Univ., N.D. Cal. 2003, No. 3:03-cv-01603', *Harvard Journal of Law and Technology*. [102](#)
- Atkinson-Grosjean, J. (2002), 'Science policy and university research: Canada and the USA, 1979–1999', *International Journal of Technology, Policy and Management* **2**, 102–124. [102](#)
- Beck, U. (1992), *Risk Society: Towards a New Modernity*, Sage, London. [104](#)
- Bekelman, J. E., Li, Y. & Gross, C. P. (2003), 'Scope and impact of financial conflicts of interest in biomedical research: A systematic review', *Journal of the American Medical Association* **289**, 454–465. [101](#)
- Cooke, B. & Kothary, U. (2001), *Participation: The New Tyranny?*, Zed Books, London. [102](#)
- De Angelis, M. (2003), 'Neoliberal governance, reproduction and accumulation', *The Commoner* **7**, 1–28. [102](#)

- De Marchi, B. (2003), 'Public participation and risk governance', *Science and Public Policy* **30**, 171–176. [108](#)
- Dean, M. (1998), Administering asceticism: Reworking the ethical life of the unemployed citizen, in M. Dean & B. Hindess, eds, 'Governing Australia: Studies in Contemporary Rationalities of Government', Cambridge University Press, Cambridge. [102](#)
- Einsiedel, E., Jelsø, E. & Breck, T. (2001), 'Publics at the technology table: The consensus conference in Denmark, Canada, and Australia', *Public Understanding of Science* **10**, 83–98. [105](#)
- European Commission (2002), *Life sciences and biotechnology—A strategy for Europe*, Communication from the Commission to the Council, the European Parliament, the Economic and social Committee and the Committee of the Regions, Brussels. Available at www.eu.int/eur-lex/en/com/cnc/2002/com2002_0027en01.pdf. [107](#)
- Fiorino, D. J. (1990), 'Citizen participation and environmental risk: A survey of institutional mechanisms', *Science, Technology & Human Values* **15**(2), 226–243. [110](#)
- Fishkin, J. S. (2006), 'Strategies of public consultation', *The Integrated Assessment Journal* **6**(2), 57–71.
- Frankenfeld, P. J. (1992), 'Technological citizenship: A normative framework for risk studies', *Science, Technology & Human Values* **17**(4), 459–484. [110](#)
- Funtowicz, S. & Ravetz, J. R. (1992), Three types of risk assessment and the emergence of post-normal science, in S. Krinsky & D. Golding, eds, 'Social Theories of Risk', Praeger, Westport, CT, pp. 251–274. [104](#)
- Gibbons, M., Limoges, C., Nowotny, H., Schwartzman, S., Scott, P. & Trow, M. (1994), *The new production of knowledge*, Sage, London. [104](#)
- Goven, J. (2003), 'Deploying the consensus conference in New Zealand: Democracy and de-problematisation', *Public Understanding of Science* **12**, 421–438. [105](#), [110](#)
- Goven, J. (2005), Implications of genetic testing for the workplace and ACC: Findings from the Complementary Expertise subproject., Constructive Conversations/ Whakaaetanga Kōrero Research Report no. 8. http://www.conversations.canterbury.ac.nz/docs/Report_8_Implications_of_genetic_testing.pdf. [108](#)
- Goven, J. (2006), 'Dialogue, governance, and biotechnology: Acknowledging the context of the conversation', *The Integrated Assessment Journal* **6**(2), 99–116. [105](#), [110](#)

- Goven, J., Cram, F. & Gilbert, J. (2004), Eliciting complementary expertise on genetic testing in Aotearoa New Zealand., Constructive Conversations/Whakaaetanga Kōrero Research Report no. 4. http://www.conversations.canterbury.ac.nz/docs/Report_4_Com_Expertise.pdf. 108
- Grove-White, R., Macnaghten, P. & Wynne, B. (2000), *Wising up: The public and new technologies*, Institute for Environment, Philosophy and Public Policy, Lancaster, UK. 105
- Hagendijk, R. & Egmond, M. (2004), The GM food debate in the Netherlands, 1999–2002, STAGE (Science, Technology and Governance in Europe) Discussion Paper 14. www.stage-research.net/STAGE/DOWNLOADS/StageDiscussPaper14.pdf. 105, 109
- Healy, D. (2004), ‘Shaping the intimate: Influences on the experience of everyday nerves’, *Social Studies of Science* **34**, 219–245. 101
- Hewitt de Alcantara, C. (1998), ‘Uses and abuses of the concept of governance’, *International Social Science Journal* **155**, 105–113. 102
- Irwin, A. (1995), *Citizen science: A study of people, expertise and sustainable development*, Routledge, London. 110
- Irwin, A. & Michael, M. (2003), *Science, Social Theory and Public Knowledge*, Open University Press, Maidenhead. 99, 100
- Jasanoff, S. (2003), ‘Technologies of humility: Citizen participation in governing science’, *Minerva* **41**, 223–244. 104
- Kazancigil, A. (1998), ‘Governance and science: Market-like modes of managing society and producing knowledge’, *International Social Science Journal* **155**, 70–79. 103
- Kleinman, D. L. (2004), *Impure Cultures: University Biology and the World of Commerce*, University of Wisconsin Press, Madison. 101, 102
- Laird, F. N. (1993), ‘Participatory analysis, democracy, and technological decision-making’, *Science, Technology & Human Values* **18**(3), 341–361. 110
- Levidow, L. & Marris, C. (2001), ‘Science and governance in Europe: Lessons from the case of agricultural biotechnology’, *Science and Public Policy* **28**, 345–360. 100, 107
- Lexchin, J. R. (2005), ‘Implications of pharmaceutical industry funding on clinical research’, *Annals of Pharmacotherapy* **39**, 194–197. 101
- Marris, C., Wynne, B., Simmons, P. & Weldon, S. (2001), Public perceptions of agricultural biotechnologies in Europe: Final report of the PABE research project, Technical report, University of Lancaster. Available at <http://www.lancs.ac.uk/depts/ieppp/pabe/docs.htm>. 105

- Murphy, J. & Levidow, L. (forthcoming), *Governing the Transatlantic Conflict over Agricultural Biotechnology*, Routledge, London. 106
- National Committees for Research Ethics (2003), Fast salmon and technoburgers: Report from the consensus conference on genetically modified food, 18-21 October 1996., Technical report, National Committees for Research Ethics (Norway). Available at <http://www.etikkom.no/Engelsk/Publications>. Last accessed 25 January 2006. 105
- New Zealand Ministry of Research, Science and Technology (2003), *New Zealand Biotechnology Strategy*, MoRST, Wellington. 107
- Newman, J. (2001), *Modernising Governance: New Labour, Policy and Society*, Sage, London. 102
- Pagden, A. (1998), 'The genesis of 'governance' and Enlightenment conceptions of the cosmopolitan world order', *International Social Science Journal* **155**, 7–16. 103
- Pestre, D. (forthcoming), 'Radically broadening the frame of our analyses: Techno-science, the field of STS, and the political.', *Science, Technology & Human Values*. 102, 103
- Rai, A. K. & Eisenberg, R. S. (2001), 'The public and the private in biopharmaceutical research'. Available at <http://www.law.duke.edu/pd/papers/raieisen.pdf>. 102
- Renn, O., Webler, T. & Wiedemann, P., eds (1994), *Fairness and competence in citizen participation: Evaluating models for environmental discourse*, Kluwer Academic Publishers, Dordrecht. 110
- Rowe, G. & Frewer, L. J. (2000), 'Public participation methods: A framework for evaluation', *Science, Technology & Human Values* **25**, 3–29. 100, 109
- Rowe, G., Marsh, R. & Frewer, L. J. (2004), 'Evaluation of a deliberative conference', *Science, Technology & Human Values* **29**, 88–121. 100, 109
- Sclove, R. E. (1995), *Democracy and Technology*, The Guilford Press, New York. 110
- Smith, W. & Montgomery, H. (2001), Ensuring effective public participation in decision-making relating to genetically modified organisms, A report prepared for the [New Zealand] Secretary for the Environment. 100
- Stoker, G. (1998), 'Governance as a theory: Five propositions', *International Social Science Journal* **155**, 17–28. 103
- Tickell, A. & Peck, J. (2003), Making global rules: Globalisation or neoliberalisation?, in J. Peck & H. W.-C. Yeung, eds, 'Remaking the Global Economy: Economic-Geographical Perspectives', Sage, London, pp. 163–181. 101, 102

- Winner, L. (1995), Citizen virtues in a technological order, *in* A. Feenberg & A. Hannay, eds, 'Technology and the politics of knowledge', Indiana University Press, Bloomington, pp. 65–84. [110](#)
- Wright, S. (1994), *Molecular Politics: Developing American and British regulatory policy for genetic engineering, 1972–1982.*, University of Chicago Press, Chicago. [101](#), [102](#)
- Wynne, B. (1995), Public understanding of science, *in* S. Jasanoff, G. E. Markle, J. C. Petersen & T. Pinch, eds, 'Handbook of Science and Technology Studies', Sage, Thousand Oaks, pp. 365–370. [99](#)
- Wynne, B. (2001), 'Creating public alienation: Expert cultures of risk and ethics on GMOs.', *Science as Culture* **10**, 445–481. [100](#)