Some four decades ago, Jacques Ellul (1964) published a classic work of science studies that warned of the dangers of technocracy displacing democracy in modern society. His concern was not the isolated alarmism of a mid-20th century European intellectual. His alert came on the heels of a warning by one of the century’s hardest headed American realists, Dwight D. Eisenhower, who, upon his retirement as US president issued his famous caution to beware of the growing power of the military-industrial complex and what it might portend for democracy.
In the four decades since Ellul's warning that technocracy was depoliticising society. Governments on both sides of the Atlantic have made increased use of benefit-cost analysis to justify a wide range of public policy decisions. In fields where science promises useful input to decision-making, there has been an increased reliance on a variety of techniques, such as probabilistic risk analysis, pollution dispersion models, urban planning models, traffic-flow models, dose-response curves, and so on. International negotiations on trans-boundary environmental issues, such as climate change, rely heavily on models of emissions, atmospheric chemistry and dynamics, and climate impacts.

Internationalisation of Assessment

The Age of Assessment is not a phenomenon confined to the wealthy industrial countries. A common vehicle for their extension into the less-industrialised world has been the operation of international development aid programmes, particularly those of the World Bank. In many parts of the developing world, technical needs assessments, benefit-cost analyses, and environmental impact analyses, usually performed by consultants from the donor countries, are likely to play a bigger role in shaping the people's lives than the operation of their local and national institutions of, hopefully democratic, governance.

Issues of technology transfer and the promulgation of developmentally appropriate technologies often echo, on an international scale, the kinds of debates that we associate with controversial scientific and technical innovations and practices at home, and often pit experts against experts and against wider interests in society. In some cases, however, the alliances and allegiances that dominate the development discourse challenge conventional assumptions about the role of various stakeholders in domestic debates.

For example, international environmental negotiations often pit northern scientists, governments and NGOs, acting in the name of a global sustainable development agenda that is heavily informed by the earth
Displacing democratisation

sciences, against southern governments and citizen organisations, whose concept of sustainable development is focused on more local needs and local knowledge. Opposition to the World Trade Organisation is at least partially rooted in resistance to global cultural homogenisation, which is propelled by the universalisation of scientific and technological assessment that usually trumps local knowledge and concerns, as much as it is driven by financial forces. Thus, in both the North and the South, science, rather than society shapes the agendas for science-in-society debates.

Electoral Decline in the Age of Assessment

The growth in governmental reliance on expert techniques and formal decision-making technologies in all walks of public life has been accompanied, over the same period, by a disconcerting decline in electoral participation in many industrialised countries, especially Britain and the United States [Dalton and Wattenberg 2000]. This decline is puzzling to the dominant model of political participation in political science, the civic voluntarism model, which predicts that voter turnouts will increase as educational opportunities expand and incomes rise [Parry et al 1992; Verba et al 1995]. Is it possible that the concatenation of rising demand for evidence- and science-based policy and the displacement of moral judgment from the public sphere could have something to do with the decline of electoral participation? Whereas most citizens feel that they are competent to judge whose moral or aesthetic values appeal to them, they are less confident in their competence to second-guess technical expertise.
Where once, citizens voted for candidates based on assessments of their values, such judgments have become marginal in importance and much harder to make. Technocracy is clearly an important aspect of the drift to the centre in both US and UK politics. On the one hand, the dominance of technique appears to reduce the scope for political differentiation, which comes to be seen as deviation from a technically defined reality. At the same time, if the decision is to be based on purely 'technical' criteria, what difference does it make who is in charge? Such reasoning suggests that it is not worthwhile participating in electoral democracy. “It doesn't matter who you vote for, the government always gets in!” Where once statesmen based decisions on some idea of the good, politicians and businessmen now look to technical experts to inform decisions.

Public Consultation and Participation

The ideal of involving different perspectives and values of interest groups has been a central theme of technology assessment almost since its beginnings [Carroll 1971; Coates 1975; Paschen et al 1975] although through most of the first decade it was more of a principle than a practice. The Technology Assessment Bureau of the German parliament established the practice of stakeholder evaluation of controlled confrontation of expertise and counter-expertise. However, this remained a highly mediated technique.

All of these techniques attempt to equip groups of citizens to make informed decisions about issues involving complex science or technology. The best of them also seek to enable scientists and policymakers to better understand the origins of citizen concerns. Some particularly interesting innovations have confronted citizens with technical expertise embodied in computer models that enable individuals and focus groups to specify and compare alternative environment and development scenarios [eg, Robinson 1998; Darier et al 1998]. The assumptions underlying all of these approaches to public participation are that it leads to better decisions through transparency.
and that expertise can and should be harnessed through the exercise of the popular will of citizens.

A perspective on citizenship as emergent solidarity suggests a view of democracy that emphasises the capacity of citizens to actively participate and engage in the discourses that affect their lives [Pateman 1970]. Locating the concept of citizen and consumer in emergent solidarities differentiates democratic governance in which citizens themselves determine the institutional forms and shape the terms of the debate from mere participatory management, which permits rational debate only within received expert framings. The theory of democratic governance also stresses that citizenship is a dynamic learning process that creates and enhances citizenship capabilities [Sirianni and Freeland 2000: 23].

However, little of this kind of thinking about citizenship seems to inform official or even social science thinking around issues of science and technology. Much of the debate about participation and deliberation in technology assessment and science policy has relied upon rather traditional notions of stable, not to say static conceptions of the public, community, state, knowledge, and interests that do not challenge
dominant managerial perspectives. Whatever the motivations for supporting participatory exercises in science and technological decision-making, the most common explicit justifications offered in support of the widespread employment of formal assessment techniques are that they promote efficiency and transparency.

**Efficiency Rationale**

As an explicit value to guide decision-making, the concept of efficiency was almost unknown in commerce or government prior to the 18th century. It arose alongside the practice of commercial accounting for the stocks and flows of goods. The extension of this practice to government was the emergence of statistics – literally, measurement of the state. It was but a short step from the idea that one could calculate "what would contribute to the greatest happiness of the greatest number into the imperative to pursue that goal. The solution that provides the greatest happiness of the greatest number must also be an efficient solution, since any departure from efficiency, also by definition, reduces the amount of good available for distribution" [Rayner and Malone 1998: 60].

The same process systematically attenuates decision-makers’ awareness of alternative ethical considerations. The imperative to provide for societal good at the highest level of aggregation provides no guidance for securing the happiness of minorities and individuals, even those individuals in the happy majority. “The guiding criterion for policy is the greatest good for society, quantitatively defined. But contemporary utilitarians, primarily economists and theorists of public choice, like Bentham, still have no principle for distributing this social good according to manifest principles of equity” [Heineman et al 1990: 40].

*Increasing insight into the diversity of motives, values and preferences of individuals actually tends to frustrate utilitarian social accountancy, which depends on blending out such distinctions in the process of aggregation.* "Most utilitarians assume, like the politics of interest, that the sole legitimate basis of social good is what individuals happen to
value. And they view the process of social choice as an aggregative one, in which individual preferences are added to one another in arriving at decisions on the substance of social welfare” [Heineman et al 1990:71].

It is hardly surprising therefore that insights into individual and social diversity are not merely considered irrelevant to, but actually have to be excluded from utilitarian decision-making in order to preserve the rationality and legitimacy of the utility principle. Yet scientific, environmental and technological decisions are not oriented by a unique consistent value system. Even a single individual may be influenced by several value systems that contradict each other [Jaeger et al 1998].

Ironically, just as technical criteria have increased in prominence for public policy decisions, the past half-century has been one of increased recognition of cultural diversity, much of it driven by and justified by reference to the postmodern movement in social science. At its best, this recognition has taken the form of greater appreciation of variety among value systems and the need to understand the diverse sources of concern that people have about public policy decisions.

However, a darker side of the recognition of diversity has emerged as the idea that because values are so diverse, the only way to make sound policy is to exclude explicit consideration of diverse values from policy debates altogether. It supports the idea that policy can only be based on technical criteria that are somehow believed to be objective and independent of all value systems. This drives valid differences in values underground. Debate is conducted in the idiom of independent
science, even when the issues at stake are not really scientific at all. For example, the view that it is simply wrong or a violation of the divine pattern of creation to engage in genetic manipulation receives no standing in courts, legislatures or the WTO. Someone of that conviction is forced to frame his or her arguments in terms of the potential for tangible harm.

**Transparency Rationale**

Transparency is the other plank of justification for the ubiquitous adoption of formal assessment techniques. Interestingly, whereas critics who invoke other values such as individual equality or natural rights often contest the technocratic utilitarian value of efficiency, the principle of transparency seems to have been almost universally embraced.

A classic defence of benefit-cost analysis is that it is surely better to make the various dimensions in decision-making explicit so that they can be reviewed for completeness (Are all of the appropriate issues taken into consideration?) and are subject to scrutiny than it is to take decisions based on implicit, partial, or intuitive understandings. Surely no one would argue against the idea that consequential decisions should be made on a thorough examination of all of the relevant evidence that is available. The difficulties arise where there is disagreement about what is relevant and what counts as evidence. These difficulties are compounded by the reduction of incommensurable values to a single metric that permits the bottom-line benefit-cost ratio to be determined [Self 1975]. The problem is further exacerbated when the original values of some of the non-marketable items in the calculation had to be inferred by surrogate techniques, such as willingness to pay or contingent valuation.

Benefit-cost analysis represents the aggregation of incommensurables in monetary terms. Another form of such aggregation takes the form of risk assessment, in which a diverse range of technical and social considerations are reduced to the common metric of ‘risk’, usually expressed as the probability of mortality. Like efficiency, risk is a
modern invention of western thought that serves the Benthamite
calculation of aggregate social welfare. In earlier times and in non-
western traditions today, danger is specific, embedded in particular
objects or activities, and quite different from the abstract universalisable
concept of risk. The discourse of governance is reduced to a discourse
of science. The discourse of science is reduced to risk. Thus, the whole
business of governance is reduced to a discourse of risk management.

**But, societal disagreements about risk cannot be resolved by
recourse to expert assessments of potential damage. They must
be addressed through political processes as ethical or even
aesthetic disagreements.**

**Evaluation**

Evaluation of the performance of public participation remains
problematic. It is almost exclusively self-evaluation performed by the
organisers of the consultation or engagement activity or sympathetic
evaluation by social scientists known to be committed to the principle
and techniques being employed. Most evaluation is of single projects.
There is very little systematic or comparative evaluation across multiple
sites and different techniques.

**Representation**

One of the most persistent criticisms of participatory techniques relates
to the problem of representativeness, both in terms of validity of the
sample of the public that is drawn upon and in the sense of its
legitimacy to shape decisions for those who were not included directly in
the process.

Are consultative and participatory decision processes devised by social
scientists a true path to increased democracy or just another layer of
technocracy? Is it possible that rather than digging us out of the
technocratic hole we are really just digging ourselves in deeper? Are we
seeking to compensate for the triumph of technique by devising new techniques, this time social science techniques of consultation? As social scientists, we need to ask whether such initiatives move us closer to or further still from the participation of an informed citizenry in key decision-making.

It seems that the discourse of participation is essentially a managerial discourse, perhaps, even more narrowly, a crisis-management discourse masquerading as a theory of democracy. It leaves the concept of ‘risk’ intact and presents citizens with a largely predetermined range of remedial or damage-mitigating options from which to select. It is consensus-seeking with respect to both knowledge and values and, as such, it is depoliticising. Its adequacy is evaluated overwhelmingly in terms of process rather than of outcome.

The solution to the problem of democratic participation is not so much dependent upon the democratisation of expertise, but on what Giddens (1999) has called ‘the democratisation of democracy’.

To create a governance discourse, one might begin by contrasting the concepts and practices of participation with a term that seems to have fallen out of favour in the last thirty years, that is ‘mobilisation’. A discourse of mobilisation around science in society suggests a very different approach. It begins with social issues of identity and emergent solidarity rather than technocratic ideas of risk. It seeks to destabilise taken-for-granted knowledge. Since it is explicitly values-based, it is inevitably conflictual. Rather than addressing science, technology, and environment from the standpoint of remediation it seeks to address them from a standpoint of anticipation and authentic social choice. Its adequacy is evaluated in terms of outcome as much as of process.
Within a governance discourse, I am still (just about) inclined to believe that new processes of public discourse, informed by social science, have significant potential to inform and supplement (but not substitute for) decision-making in representative democracies. However, under current arrangements, it is very difficult, perhaps impossible, for such techniques to break free of the political and cultural constraints that reduce complex moral and aesthetic issues to scientific framings.

The solution to the problem of democratic participation is not so much dependent upon the democratisation of expertise, but on what Giddens (1999) has called ‘the democratisation of democracy’. I remain sceptical that the first can be achieved in the absence of the second. In the meantime, we can expect to see electoral participation continue to fall and consumption to carry on rising to unprecedented levels.