Social Divisions of Trust: Scepticism and Democracy in the *GM Nation?* Debate

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Abstract

This paper reviews recent developments in research on institutional and expert trust across a number of disciplines to show that a deferential and accepting public stance in relation to officially sanctioned judgements is increasingly being replaced by a more sceptical approach. One outcome is a move towards greater public engagement in issues of high profile new technology. This paper reviews the literature and considers the most substantial public engagement exercise in the UK so far – the *GM Nation?* debate in 2002-3. It shows that scepticism is widespread but that the relation between scepticism and trust differs across social groups. Among the more privileged scepticism undermines trust. Among working class and less well educated groups scepticism and trust are positively correlated

Introduction

It is a commonplace of academic and policy debate that trust in experts and in institutions is changing. The traditional deferential, accepting trust of the lay public in the wisdom of authorities (political, administrative and technical) has increasingly been replaced by more critical and engaged attitudes. The impact of this shift can be traced in UK government activities that seek the active engagement of a wider citizenry to enhance public commitment to new policy directions. However, there is increasing evidence that shifts in trust and trust responses are socially differentiated by experience and social group so that a 'one size fits all' approach to public engagement may disregard some interests. One reason for this may be that the emphasis in some of the contributing social sciences has tended to be on approaches which stress the idea of the public as a homogenous entity, encapsulated in the notion of a respondent in a survey or an experiment as an undifferentiated 'universal individual'. The outcome may be a process of policy development that directs attention disproportionately to the interests of those groups most prominent in engagement exercises.

This paper considers discussion of the importance of and trends in trust in recent political science, sociology and psychology, and then goes on to examine the *GM Nation?* debate – the largest consultation exercise so far in the UK – and some recent evidence on the structure of public trust in this area.

The Social Significance of Trust

Two themes emerge most powerfully in recent discussion of institutional and expert trust. First, trust at this level has been seen as socially important because it facilitates social cooperation. This has been seen as yielding a number of benefits:

- At the most general level, it enables the co-ordination of activities between strangers (Axelrod, 1981; Dasgupta 2002, Coleman 1986, Rousseau et al 1998, Barbalet, 1996)
- it facilitates economic development (Fukuyama, 1996, Putnam 1993, Knight 1921)
- it promotes and support organisation co-ordination and successful management (Das and Teng, 2004)
- it enables the conduct of democratic politics (Almond and Verba 1963) and
- it improves the general happiness of society (Rothstein, 2002; Dayton-Johnston 2001)

The tradition that sees people as essentially untrustworthy and thus argues for the design of social institutions so that they are robust in the face of deceit (memorably summed up in Hume's remark: 'in contriving any system of government…every man ought to be supposed a knave, and to have no other end in all his actions than private interest.' 1875) has also received some attention (see Kramer, 2004; Kramer and Cook, 2004, and the recent policy-related work of Le Grand (2003). However, despite such concerns (see also Dasgupta 2002 and Putnam (1993)'s references to the 'dark side of social capital', which are not however developed in his work) the main theme in discussion of trust has been to stress social benefits.

Secondly, the social resources of trust are seen as under pressure, for a range of reasons:

- at the level of economic development, writers from Durkheim onwards have argued that the continuing division of labour places demands on trust-relationships between the various emerging groups in production and distribution. The current process of economic globalisation exacerbates this

by reducing the authority and capacity to act of co-ordinating institutions such as national governments while increasing the potential for instability of international financial and product markets (Held, 1999);

- changes in approaches to organisation in government and public administration and also across the private sector, have tended to dismantle large hierarchical organisations into separate agencies which interact in complex ways, as a result of globalisation, the opportunities made available by new information technologies and new philosophies of management (Bartlett and Le Grand, 1993). The trend to 'hollowing out' of the state (Rhodes 1997) places greater demands on systems of organisation co-ordination and thus on trust (Scharpf 1999; Nye, Zelikow and King, 1997, 269);

- a number of government agencies, professional and public bodies and think tanks have stressed the impact of declining institutional and expert trust on the capacity to develop and implement appropriate policies (O'Neill 2002, ch. 1, Cabinet Office Strategy Unit 2002, Royal Society 1997, Rayner, 2004, 351-3). For a thoughtful earlier analysis of the way institutional structures frame nuclear power controversies and of the implications for democratic engagement, see Slovic (1993).

- similar points are made in literatures on social trust and social capital (Putnam, 1995; Hall, 1999; Grenier and Wright 2003)

These themes imply that, just as demands on trust are increasing, the supply may be diminishing, posing serious problems for future economic, social and political developments. One outcome has been intense interest in trust among social scientists. Recent work on institutional and expert trust across a number of disciplines has in common a central theme: while traditional deferential and essentially uncritical trust does appear to be in decline, for a number of reasons, this development may be best understood, not so much as a downward trend, but more as a shift towards a different kind of trust, more appropriate to changed social and cultural circumstances. This new conception of trust incorporates the point made above that, on occasion, unconsidered trust may have negative effects.

It stresses the emergence of a more discriminating and sceptical approach to trust among what might be seen as a better educated, ('cleverer' as Giddens, 1994, puts it), but more querulous citizenry.

The Contributions of Political Science, Sociology and Psychology

The idea that trust resources are under pressure is reflected in work across a range of disciplines, which we will briefly review:

Political Science

A central concern of political science is the expansion and sustainability of democratic government. A path breaking work in the post-war period was Almond and Verba's *The Civic Culture*, which sought to identify through cross-national research the essential components of a civic culture capable of sustaining democracy. Their conclusions identify two basic components: engagement and deference (1963). On the one hand, the citizens of democracy must be sufficiently concerned about the democratic process and sufficiently well informed to participate as appropriate, in voting at periodic elections, in calling their representatives to account and in feeding information on their needs to the politicians. On the other, they must be sufficiently deferential to accept the results of elections and of political processes which set priorities they may not themselves share.

A major recent study, coming from the Harvard government project, investigates the decline in trust in major governmental institutions observed internationally during the past three decades. Norris is careful, following Easton (1965, 75) to distinguish different aspects of political trust. She interprets a range of studies drawing on ISSP, WVS and national election study evidence to argue: 'in established democracies during the last decades of the 20th century, growing numbers of citizens have become increasingly critical of the major institutions of representative government…[but]… support for the community and for democratic principles remains overwhelming' (1999, 27) 'The evidence presented in this volume suggests that we have seen the growth of more critical citizens who value democracy as an ideal, yet remain

dissatisfied with the performance of their political system and particularly the institutions of representative government' (1999, 269).

Nye carries out a careful analysis of possible explanations of declining trust in US and West European governments and argues that the most important factors are bound up with the 'Third Industrial Revolution' and current continuing social changes (the impact on the political process of new media which democratise and accelerate information flows, an increasingly globalised world, the associated loss of nation-state authority, and the realignment of elites) rather than with economic shifts (the slow-down in growth and rising inequality of the 1980s and 1990s) or the growth of 'bi government (Nye, Zelikow and King, 1997, Table 11-1). He argues that 'a certain level of mistrust of government is a long-standing and healthy feature of ?American life' (p.276). It remains unclear whether this is in the longer term damaging for the democratic ideal and for government capacity to carry out its tasks, or a source of pressure for maintaining high standards.

These developments parallel new approaches in political theory. Building on the work of writers such as Mouffe (1993), recent work has stressed the importance of deliberation and reflection rather than simple representation in democratic processes (Beetham, 2000) Processes of deliberation and engagement are seen as central to building a stable and responsive democracy in a more globalised world, and ensuring that good opportunities are available for more critical and active citizens to challenge authorities (Held 2002, ch 1). This approach is influential in work oriented more directly to practical politics, for example Giddens, 1998 (subtitled the *The Renewal of Social Democracy*), or Marquand and Crouch (1995).

Sociology

Sociological interest in trust covers a broad range of issues from individual to social and community to institutional and structural; it has also accommodated a range of theoretical frameworks, from rational actor models (Coleman, 1986) though to highly cultural approaches (Lash in Beck et al 1994). A high degree of recognition of declining trust is evident across the discipline and here we focus on the socio-cultural

approaches, most notably risk society, which typify the distinctive contribution of the discipline.

Academics working in the broad 'risk society' tradition have stressed a process of social change, involving detraditionalisation and individualisation and reflexivity at the individual and cultural level, and greater instability and diversity at the institutional level as central in the move towards a risk society. The process grows out of the development of modernity (characterised by modern industrialism, the nuclear family, the nation state, confidence in science and technology and reliant on a system of authority perceived as rationally based) towards a 'second' or 'high' or 'liquid' modernity, characterised by instability across all the areas. One result is an apprehension of technical risks from the unintended effects of uncontrolled technology. Another is greater uncertainty in social and personal life, resulting from greater fluidity it is claimed) in patterns of work and family.

These claims are highly controversial. A number of scholars have pointed out that the impact of new technical risks is not so democratic and socially relevant as is sometimes suggested (Elliot, 2002). Similarly the fluidity of personal life may be exaggerated. Unemployment has fluctuated in most countries according to the economic cycle (Gallie and Paugam 2000), there is no evidence of a secular trend to a decline in job-tenure (Green and Ashton 1996); and the stable institutions of family life remain important for most people (Williams, 2004). Nonetheless, the argument that a shift towards what Beck terms a 'self-culture' is a feature of current experience is persuasive and is widely debated. 'Self-culture means detraditionalisation, release from pre-given certainties and supports. Your life becomes in principle a risky venture. A normal life story becomes a seemingly elective life, a risk biography, in the sense that everything (or nearly everything) is a matter for decision'; 'and yet, faced with the opaque and contradictory character of modern society, the self-focused individual is hardly in a position to take unavoidable decisions in a rational and responsible manner, that is with reference to the possible consequences' (Beck and Beck-Gernsheim, 2002, 47).

The point that the cultural basis for making life-course choices in the form of a received authority that tells you what to do is now widely perceived as always open to

question informs a great deal of sociological work (Tulloch and Lupton 2003; Lupton 1999;Giddens 1994; Lash et al, 1996; Bauman 1998). There is considerable evidence for the co-existence of diverse normative systems in relation to child care (Duncan and Edwards 1999) and in family life (Finch 1989; Williams 2003). These processes throw greater stress on mechanisms for social integration and some commentators argue that new forms of trust are emerging in this context. On this topic, Beck and Beck Gernsheim endorse Giddens' approach: 'Giddens gives a guardedly optimistic answer to the question of what holds modern society together: namely 'active trust' which ultimately requires a democratisation of democracy. Active trust is the basis of self culture. It assumes not a clinging to consensus, but the presence of dissent; it rests upon recognition … of the claim to a 'life of one's own' in a cosmopolitan world.' (Beck and Beck-Gernsheim 2002, 46). Giddens sees 'active trust' as replacing older traditions of trust. Whether or not to trust becomes in itself a decision, where there can be no authoritative guidance. This 'presupposes a process of mutual narrative and emotional disclosure' in personal relations. At the institutional level, 'active trust' depends on a more institutional opening out' (Beck et al, 1994, 187)

Giddens is aware of, but has not entirely resolved the problems of uncertainty that such a process involves. Individuals must choose and may revise their choices about trust in personal relationships and in relation to political and social institutions. They must work to build and sustain trust, if they wish to, but there can be no guarantee of success. Citizens become 'clever', in Giddens sense – well-informed and able to criticise. In a more unstable society, institutional trust rests on continuing efforts to promote it, leading Giddens believes to a more engaged and 'dialogic' democracy. A similar issue emerges in relation to intimate relations. As society moves more and more towards what Beck and Beck-Gernsheim (1995) term 'elective affinities', these become more important but increasingly difficult to guarantee.

The nature of the dialogue which then develops is subject to controversy. From Giddens' perspective the situation is typically one in which self-confident and active citizens seek to interpret the views of different experts with varying claims to authority. However others have stressed the importance of the vernacular and local expertise available to lay publics and often disregarded by the officially sanctioned

establishment. An important study is Wynne's account of the role of lay knowledge in the responses of Cumbrian sheep farmers to the claims of government employed scientists about the impact of radiation from the Chernobyl disaster (1992, 1996). Wynne points out that the farmers felt themselves 'completely controlled by the exercise of scientific interpretation' (1996, 63) but developed a thorough-going scepticism of scientists pronouncements, because scientists made demonstrable errors. They failed to predict the course of the outbreak of radiation in ways which were financially devastating for the farmers and made elementary and obvious mistakes in experiments and analysis because they simply did not have the farmers' understanding of sheep behaviour and of local environmental conditions (1996, 65-7). In this context lay expertise demonstrated itself as superior to that of officials.

The outcome is the development of a theory of the transformations of modernity and their impact on trust that shares some features of Beck and /Giddens' model, but also stresses the possibility of developing 'new forms of political, moral and epistemic order…enjoying greater public identification and reinvigorated moral grounding' which introduce the problematisation of 'expert knowledge' and the possibility that contextual and local knowledge may offer a superior guide to behaviour. Similar arguments have been developed by researchers pursuing detailed and locally grounded work, for example, in relation to the chemical industry (Irwin et al, 1999), vaccination (Petts and Niemeyer, 2004, Hobson-West 2004) and allergy (Ward et al, 2000). This approach adds a further dimension to the processes that are replacing trust in expert authority.

Psychological perspectives

Work from a psychological perspective has tended to be more formally structured than that in sociology. An initial concern has been with the definition of institutional trust. A thorough literature review by Das and Teng identifies 28 definitions. The core idea is 'subjective trust' which refers to 'the assessment of the probability that the person will perform as expected' (2004, 96). This is distinguished from a behavioural notion which is simply 'the behavioural result of having trust in someone' (104); behavioural trust leads to subjective trust. Work by Rousseau and others brings out an important point: trust only matters when something is at stake, linking trust

directly to risk and uncertainty. This leads to a definition of trust which expands Das and Teng's core idea: trust is 'a psychological state comprising the intention to accept vulnerability based upon positive expectations of the behaviour of another' (1998, 395, compare 'voluntarily being vulnerable' Crasswell, 1993, 104)

This approach has generated a body of work developing increasingly sophisticated analyses of the components of trust, and now leads back to a refinement of the core notion. This has been applied by social psychologists in examination of the circumstances under which lay publics would or would not accept expert and official claims about matters which concerned them and the implications of this for understanding the social role of institutional trust (for example, Weyman and Kelly, 1999, Petts, 1998; Renn and Levine, 1991, Slovic, 2000, Royal Society 1997).

Initial work on trust identified two dimensions: competence and care, or trustworthiness (see for example Hovland et al, 1953). Further analysis refined the list of components, typically using principal components analysis techniques on responses to batteries of items in questionnaires. Renn and Levine (1991) identify five aspects of trust: perceived competence, objectivity, fairness, consistency, faith (in the goodwill of the subject) and there is debate about how far these components are to be understood as logically or empirically distinct. More recent scholars such as Metlay (1999) have reduced this to two *affective beliefs*: trustworthiness and perceptions of competence.

Frewer et al (1996) refine the method by resting their analysis on items generated from the statements of respondents rather than a prepared list. In their work both trustworthiness and competence are conflated into a single dimension of trust and the accountability of the institution concerned emerges as a second dimension. This is significant because previous work had tended not to identify accountability as a relevant area and therefore not to include relevant items in its batteries. Work by Poortinga and Pidgeon, discussed in more detail below, develops methods for contrasting this critical stance with the components of trust identified in previous work (2003a).

Other work on trust emphasizes the importance of affective and cultural components. Cvetovich and Earle (1997) argue that in everyday life, most people find complex risk issues too difficult and wearisome to analysis and resort to a general sense of sympathy with the institution (or otherwise) rather than cognition to guide them. This is analogous to Slovic's notion of the importance of an affect heuristic in making risky choices, and there are parallels to the notion of 'quick trust' (Alaszewski, 2003, 238) or 'facework-based trust' (Cook, ch 1 in Kramer and Cook, 2004) to account for the processes whereby people make decisions whether or not to trust doctors on the basis of brief interviews when they themselves are not competent to judge the issues. This approach is further developed by Eiser and colleagues (2002). Viklund (2003) and Rohrmann (1999, 145) stress the role of cultural factors to account for otherwise puzzling cross-national differences in levels of trust in relation to parallel developments, but this is relatively unexplored by psychologists.

The analysis of the dimensionality of trust to some extent parallels work in political science where typically the personal efficacy of the individual is distinguished from the system efficacy of government – the former being close to the trustworthiness of government in relation to the individual while the latter is closer to the competence dimension, the capacity of government to achieve the goals it aims for (see, for example Pattie and Johnston, 1998, Curtice and Seyd, 2003, 95).

Psychological work has been influential in recent discussions of trust at a theoretical level and among policy-makers. It has contributed rigorous definitions: attempts to refine the definition of trust have led to more interest in the accountability of institutions, in some ways paralleling the interest in scepticism and critical foundations of trust in sociology and political science, and also in non-cognitive processes.

Discussion

This brief discussion of some points made across three major social science disciplines about institutional trust supports three common points. First, there is a recognition in the definitions and frameworks for trust commonly used that trust is generally valuable as one way of managing communication and the co-ordination of

social activities under conditions of uncertainty, which are particularly pressing at present. Secondly, there is quite widespread agreement that there have been substantial shifts in approaches to trust, reflecting shifts in the social context in which trust relations are important. Thirdly, there is a shift towards greater self-activity in relation to trust. From different perspectives, the language of critical citizens, active trust and accountability/scepticism points in a common direction which may be termed the 'new scepticism'.

There are also differences between approaches, particularly in relation to whether scepticism and the capacity for more active and engaged trust is socially unequal in distribution. This seems to apply within the disciplines. Much of the work in political science discusses social trends as applying broadly across society. Giddens writes of the impact of globalisation and active trust in a similar way. Much psychological work operates in terms of an assumed 'universal individual' who is socially undifferentiated.

At the same time analyses of personal efficacy (the component of political trust identified by political scientists working from a survey tradition that concerns the extent to which people feel that the system is responsive to their needs and views – Bromley and Curtice, 2002) indicate, perhaps unsurprisingly, that the more privileged groups are likely to perceive greater efficacy. Work on social capital points in the same direction. Social capital has been persuasively presented as promoting social integration and economic development, by aiding the co-ordination of market systems in historical and cross-national studies (Putnam 1993, Fukuyama 1996, Dasgupta 2002, Osberg 2002, Hall 1999, Dayton-Johnson, 2001, 125). A number of recent studies have expressed concern about a decline in social capital (Putnam, 1993, Hall 1999) These studies typically use social trust questions as their primary measure.

A number of studies have pointed to social inequality as implicated in this process. Careful empirical work by Johnston and Jowell et al (1999) and Grenier and Wright (2003) points out that, for the UK, the various measures, including social participation, group membership, political and civic engagement and social trust, tend all show that social capital is higher among middle class people, and negatively

correlated with social class. This leads some (for example, Cabinet Office Strategy Unit, 2003) to talk of a transformation rather than a decline in social capital.

From a social psychological perspective, there is evidence that trust and mistrust and engagement in consultations and similar exercises are spread differently across different social groups (Slovic 2000; Williams et al, 1999, 1021). Slovic also showed earlier that the degree of trust in experts and support for participation also varies between different societies (1993, 680). While much of risk society sociology operates at the level of an undifferentiated analysis of society, Beck and Beck-Gernsheim point out that the 'in the 1970s and 1980s it was no doubt possible to talk of an individualisation based on affluence, but since the early 1990s the starting point has rather been an individualisation based on the precarious conditions of a capitalism without work' (writing in the context of post-unification Germany - 2002, 47). This indicates that it may be appropriate to analyse the social processes that influence trust in terms of the impact on different social groups, rather than through a holistic social analysis in which a 'universal individual' is taken to stand for the whole of society.

Implications for Public Policy

The new scepticism may be seen as part of a positive development towards a more informed, disenchanted but engaged form of democracy, in which citizens do not provide automatic support for those who tell them that they know best, but demand to be treated on a more equal basis, something that might be seen as the development of traditional participatory democracy (Pateman, 1990) for more modern times. One response has been to seek to develop linkages between individuals and authorities that circumvent the traditional hierarchical patterns. These include a wide range of activities.

At the most simple level there is increased stress on making expertise more widely available, for example through the very widely used 'NHS Direct' website – an expert system for diagnosis of common medical disorders available to the mass public, or through the algorithms for calculating benefit entitlement available on the DWP website. There are specific exercises to promote knowledge and acceptance of

reforms. Examples are: the Social Security Roadshows in relation to Bush's proposals for substantial reduction of risk-pooling in relation to pensions in the US (VandeHei and Baker, 2005, 3); the 'Your Britain, Your Europe' Roadshow organised by the Foreign Office in 2000 (Hansard WA 7.4.00, 631W); the Roadshows to promote the wage support and benefit containment policies of New Labour (Glover and Stewart, 2000); and the *GM Nation?* debate, funded by government but conducted through an independent GM Public Debate Steering Board to 'find a way to foster informed public discussion of the development and application of new technologies' (AEBC, 2001, para 68) in 2001-2). These approaches form part of a new policy stance that treats service users more as quasi-independent consumers more than as dependent clients (Bauman, 1998). In general they correspond to an approach to government that emphasizes informed choice rather than top-down policy-making: 'Extending choice – for the many, not the few …. Choice and consumer power as the route to greater social justice not social division' (Blair 2003).

We now consider some recent empirical work on the most significant such exercise in the UK to date: the *GM Nation?* exercise.

The '*GM Nation?*' Debate

The development of GM food, particularly by US manufacturers, and attempts to introduce it to a largely resistant European market, were initially welcomed and supported by the UK government, eager to promote international trade and develop a position at the forefront of new technologies. This provoked widespread public concern summed up in headlines in the Daily Mail and elsewhere about the threat from 'Frankenfoods' (for example, Fowler, 2003) or the extensive warnings about 'the most powerful technology the world has ever known' on the GMWatch website (2005). As public concerns across Europe grew, many food retailers and processors have been forced to bar GM ingredients from their products. One result has been substantial pressure upon EU-level systems of environmental regulation leading to challenges to the traditional EU top-down technocratic approach and a greater emphasis on national subsidiarity. Different procedures have been followed in different countries with some placing more emphasis on regulation, some pursuing

experimentation and some relying more on 'soft law' approaches (Levidow, Carr and Wield, 2000, 203-5).

Mindful of the experience of BSE, in the late 1980s (Eldridge and Reilly, 2003, 140-2), when initial attempts by government to minimise the significance of the problem led to a damaging loss of public confidence as the government was forced to reverse its message, substantial public spending on compensation, dislocation of the UK farming industry and bad media publicity in the run up to a general election, the government was determined to adopt a more considered and transparent approach. The UK initially pressed for more stringent legislatory safeguards at the EU level, but also pursued the 'managed development' of GM crops at a national level (Levidow and Carr, 2000, 263). The mobilisation of pressure groups and an increasingly hostile response led to what Levidow and Carr term 'precautionary commercialisation' with extensive field-trials and further regulation (2000, 267-8). However, this process failed to contain suspicion and hostility. The *GM Nation?* debate was launched in the context of public mistrust of GM food, a lack of demand for it and lack of confidence in the research that was being made available. Interestingly, the EU appears to have switched position more recently. An attempt by the Commission in June 2005, supported by the UK, to overturn bans on GM crops in Austria France, Germany, Greece and Luxembourg failed to secure the support of the Council of Ministers (BBC News, 2005).

The debate was carefully structured and included a three-tiered programme of public meetings (on which most of the available resources were spent), focus group studies and closed expert workshops. It was described in the official evaluation as 'an unprecedented experiment in public participation' (Understanding Risk Team, 2004, 6). The review of the debate in 2003 concluded by revealing a pattern of responses which were not encouraging for proponents of GM foods. The summary of the findings stressed 'public unease' on the issue and the 'hardening of attitudes' as the debate developed. It indicated an extensive lack of support and 'widespread mistrust of government' (GM Public Debate Steering Group, 2003, 2-3) However, individuals were prepared to consider the circumstances of developing countries as possibly justifying a different degree of regulation and strongly welcomed the opportunity to

participate in the debate. At the same time attitude studies, a review of the scientific evidence and a cost-benefit study of GM crops were conducted

The scientific review produced reports in 2003 and 2004 which attracted considerable attention (with over 20,000 copies downloaded) but both concluded that they could find 'no scientific case for ruling out all GM crops and their products' but nor did they give it 'blanket approval…. GM is not a single homogeneous technology and its applications should be considered on a case-by-case basis.' (GM Science Review Panel, 2004, 6). The first report found 'no scientific case' for ruling out all GM crops and their products, but nor did it give 'blanket approval'. It addressed the general characteristics of GM, but emphasised that GM is not a single homogeneous technology and its applications should be considered on a case-by-case basis. The cost-benefit study concluded that analysis of the value of GM crops was difficult due to the range of possible scenarios – five were identified and developed. The key factor in the scenarios was how public attitudes and public acceptability of GM cultivation and GM foods interacted with what was produced. The report argues that a substantial regulatory regime is currently in place and 'there is significant potential for benefits from future developments in GM crop technology' (COSU, 2003, paras 47-48). However, public attitudes constitute the central issue in determining the viability of future development of GM food from a cost-benefit perspective.

The outcome is that the Agriculture and Environment Biotechnology Commission, set up as an independent body to oversee the debate, was wound up in early 2005 on the grounds that since 'there is no immediate prospect of GM crops being grown commercially in the UK, there are no obvious outstanding key issues that the Commission might address in the near future' (DTI, 2005a, para 4). Various trials continue and are evaluated, but public attitudes and acceptability are seen as the most important stumbling block to further development in this area, just as they were seen as the most important element in any cost-benefit analysis. Interestingly, an officially funded academic evaluation suggests that the *GM Nation?* debate may have overstated the extent of public concern due to 'worrying' difficulties with methodology. These involve placing too much emphasis on consensus achieved during workshops and in focus groups which may overlay real but unstated differences of opinion. 'Current UK public opinion is not a unitary whole, but

fragmented and considerable ambivalence co-existing alongside outright opposition' (Understanding Risk Team, 2004, 7). Thus 'the extent of opposition ..is probably lower than indicated in *GM Nation?* findings' (p. 10).

This point is reinforced by the work of Townsend and colleagues, which shows that 'more people than expected are willing to taste GM food and purchase it..' (Townsend and Campbell, 2004, 1392; see also Townsend, Clarke and Travis, 2004). Thee studies used topic blind recruitment to ensures that those whose behaviour in relation tot eh food-stuffs was assessed were unaware that the focus of the study was on GM food so that the sample was unbiased. As Campbell and Townsend point out in a letter to *Nature* (2003, 559): the *GM Nation?* 'sample is certainly large, but it is not random. It is... most likely to attract those who have strong opinions..'.

As a prominent example of participation and public engagement, the *GM Nation?* exercise had considerable impact. The views expressed appeared to contribute to deflecting the government from the course of action it appeared initially to prefer. There are some grounds for claiming that the new and more sceptical public stance analysed in the various disciplinary approaches discussed above is having some impact on democratic processes. This may be seen as a shift from a simple representative model to one in which continuing engagement over specific high profile issues plays a stronger role.

We now go on to analyse some recent empirical work in relation to public trust in government institutions and in official scientific expertise which indicates that the patterns of trust and scepticism are rather more complex, and may require a more sophisticated institutional response, than the engagement model implies.

GM Food and Attitudes to Science

A number of surveys were carried out in relation to the GM Nation debate and the associated issues of trust in government and science. Here we refer to the 2002 UEA-MORI Risk Survey and the 2003 UEA-MORI study of GM Food, both large national random sample surveys (sample sizes are 1536 and 1363 respectively) using structured surveys with a number of pre-piloted batteries of questions. Data sets are

available from the UK Data Archive (www.data-archive.ac.uk) and full details are given in a number of publications, most importantly the reports on the data archive website and the publications Poortinga and Pidgeon (2003b) and DTI (2005b). Here we focus on the analysis of trust in science and in government policies based on data fro these surveys, supported by other material.

The main points to emerge are that despite a relatively high level of confidence in science overall, confidence in a number of high profile areas and in the public bodies responsible was low. The structure of trust included a strong element of scepticism and the patterns of trust varied between different social groups.

The surveys asked questions about the balance of risks and benefits from a range of interventions (genetic testing, mobile phone radiation, climate change, GM food and radioactive waste). In all cases except genetic testing and mobile phones in 2002, the risks were seen to outweigh the benefits, with GM food coming in the middle of the list. The preponderance of risk was 23 per cent in 2002, rising to 42 per cent in 2004 (DTI, 2005b, 30). This particularly marked among middle class respondents (62 per cent see risks as outweighing benefits, against 53 per cent for the working class group).

The 2002 survey found an interesting combination of generally positive views about science, in terms of the contribution of science to society and the value of scientific approaches, with low general trust in science – for example 39 per cent of the sample agreed with the statement that 'we put too much trust in science' as against 29 per cent who disagreed (Poortinga and Pidgeon, 2003b, 16). More detailed questions of various components of risk show a similar pattern across all five areas examined. A scale of thirteen components of trust in government derived from this work, covering the competence credibility, care, fairness and openness of government and also the similarity between government and the respondent's own values was examined (op cit, 41). Factor analysis showed two basic components to values: one dimension concerned general trust in government, the other specific items on credibility and reliability (the government 'distorts facts in its favour', 'is too influenced by industry' and 'changes policies without good reasons' – see Table 1). This division corresponds to the suggestion in the literatures reviewed earlier that scepticism and a

more critical approach by the public are becoming more marked in attitudes to authority in areas including science. The analysis concludes 'Conspicuously, all ratings on the first general trust factor were below the scale midpoint, indicating low trust in the government across the five risk issues. On the other hand, ratings on the scepticism factor were relatively high for each of the risk cases' (op cit, 43). Trust is low and scepticism of government high for GM Foods.

Table 1 about here

In the 2003 study, the questions covered trust in science and in government presentation and consultation more generally but focused on GM food. Trust in scientists at a general level remains high. Around two-thirds of the population (69 per cent in 2004) trust scientists to 'tell the truth' (DTI 2005b, 54). However the government is the second least trusted source of information on science (after scientists themselves, TV and campaign groups, but before journalists. The balance of trust and distrust in scientists funded by government is also low – 27 per cent more distrust than trust, compared with 44 per cent and 13 percent being more trusting for medical charities and environmental groups and 33 per cent distrust for industry (2005b, 56). Thus mistrust of government and of scientists working for it contrasts with a general trust in and enthusiasm for science.

In the 2002 and 2003 surveys the key analytic decision was between scepticism and the other elements in trust. The factor analysis of trust items was repeated in 2003 for a slightly more limited range of elements of trust (Table 2). In this case the distinction is if anything sharper than across the five areas examined in the 2002 study.

Table 2 about here

The studies of trust in science included discussion with eight focus groups. Further analysis of this work brings out another dimension of trust, concerning what one might term 'compulsory' or 'no choice' trust, similar to the loyalty that is the only refuge of those who have no alternative to a particular service, because, in

Hirschmann's analysis, they have weak opportunities for exit or voice (Hirschman, 1970). In the science and society study, there was strong support for public consultation on scientific issues (81 per cent of the sample – DTI, 2005b 63). However some 70 per cent thought that government did not listen to the outcomes of public consultation and three quarters that it does not act on the outcome (63). 'The strong feelings of cynicism about the government and public consultation.. expressed at the discussion groups are supported by the survey findings. Far more feel that public consultation events are just public relations activities and do not make any difference to policy than feel they do' (64). In questions on the regulation of science 'the most widely given reasons tend to imply that *because* science is regulated we must trust the regulation: "we have to trust the scientists" (59).

There are some indications of why middle class groups might be less sceptical in this field. They believe themselves to be better informed (37), are more aware of the existence of government and professional regulation for science (58), more aware of consultation exercises such as *GM Nation?* (61) and much more willing to take part in consultation exercises (63). The detail of the pattern of attitudes is, however, complex. A cluster analysis of overall views on science produced six clusters. Two contained distinctively middle class respondents of which one was strongly oriented towards trust in science, but one was 'the least likely to place trust in science' (100-101), indicting sharp differences in opinion among this group.

This finding led to further analysis of the factor scales representing trust in government and scepticism for the 2003 survey. We examined the correlation between the scales among middle and working class groups and those with a higher and lower level of education (Table 3). Among middle class groups and those educated to first degree level or above there is a substantial and significant negative relationship between trust and scepticism (as might be expected), while for the less privileged the relation is weaker but highly significant and positive. The latter finding is counter-intuitive. On explanation, following Hirschman's analysis, would be that those with greater capacity and confidence to challenge and assess need to have their scepticism answered in order to trust, while others may experience scepticism, but feel they have little alternative but to trust. The former feel they have voice and need

to be convinced by government if their misgivings are to be assuaged. The latter lack voice and may be mistrustful but have no alternative to continued loyalty.

Table 3 about here

The group discussions fleshed this out. A number of issues, including the way the evidence on weapons of mass destruction issue had been handled in the run-up to the Iraq war, the BSE issue and the thalidomide tragedy were seen as '*particularly damaging to trust in Government*' (90). However the report concludes 'trust in government is low and more needs to be done to give reassurance to people on trust issues. ..the government needs to '*repay our trust.. We have nothing but blind faith in what they present to us*' (97).

Conclusions

The review of developments across a range of social sciences indicated a transition taking place in accounts of institutional and expert trust. Assumptions that trust is largely deferential and based on respect for those in accredited positions of authority has tended to decline, to be replaced by a more active and sceptical approach, where the public feels more confidence in its ability to assess the claims of officials and experts (Walls et al, 2004). This shift towards greater independence and confidence among the citizens fits the assumptions of a political shift towards the 'third way', which stresses opportunity rather than paternalism (Giddens, 1998). It is reflected at the level of policy in a greater emphasis on public consultation exercises and in shifts in the regulatory framework towards systems that seek to move more responsibility for identifying problems and initiating challenge to them in better educated and empowered consumers.

Analysis of individual attitudes and experience indicates low levels of trust and a widespread scepticism towards government in policy areas. This fits the thesis of the shift in institutional trust. A closer examination of the evidence shows that there are complex social divisions in patterns of attitudes and responses. While some groups readily engage in consultations and take on the role of active citizens, others see the

opportunities for such engagement as limited and operate more at the level of 'blind trust'. There are some indications that social class and education levels play a part in this, with more privileged groups playing the stronger role, while for others a lack of perceived voice is associated with loyalty. One implication is that the idea that the stage is now set for an engaged 'dialogic democracy' may be simplistic. Some consultation exercises risk empowering particular groups but not others, and many citizens are well aware of the differences in opportunities they face.

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Table 1: Factor analysis: attitudes to government about genetic testing, mobile phone radiation, climate change, GM food and radioactive waste, 2002

	Component	
The government…	1	2
has the same opinion as me about x	.734	.115
is doing good job with regard to x	.794	.071
competent enough to deal with x	.795	-.034
Has necessary skilled people carry out its job with regard to x	.690	.091
Distorts facts in its favour regarding x	-.004	.839
Changes policies regarding x without good reasons	.089	.856
Is too influenced by the [relevant] industry regarding x	.064	.793
is acting the public interest regard to x	.546	-.053
listens to concerns about x raised by the public	.771	.026
Has the same ideas as me about x	.784	.100
Listens what ordinary people think about x	.791	-.010
I feel that the way government makes decisions about x is fair	.805	.112
Provides relevant information about x to the public	.743	.073
Eigenvalues	5.6	2.1
% of variance explained	43	16

Table 2: Factor analysis: attitudes to government about GM food, 2003

	Component	
The government…	1	2
Has the same opinion as me about GM food	.80	-.14
Is doing good job with regard to GM food	.77	-.26
Distorts facts in its favour regarding GM food	-.30	.75
Changes policies regarding GM food without good reasons	-.32	.71
Is too influenced by the GM food industry	-.21	.79
Listens to concerns about GM food raised by the public	.66	-.30
Has the same ideas as me about GM food	.80	-.17
Listens what ordinary people think about GM food	.72	-.25
The government want to promote GM food	-.12	.62
Provides all relevant information about GM food to the public	.69	-.27
Eigenvalues	4.2	2.5
% of variance explained	38	23

Table 3: Correlations between the Trust and Scepticism factors – specific social groups, 2003

Social Class	Social Class A or B only (n=306)	Social Class D or E only (n=379)
Factor correlation	-.26**	+.13**
Level of education	Degree or Higher Degree only (n=275)	GCSE or Equivalent only (n=448)
Factor correlation	-.26**	+.45**