BioSocieties (2008), **3**, 265–286 © London School of Economics and Political Science
doi:10.1017/S1745855208006194

Participation and the New Governance of Life

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Abstract

In the article we report on the findings of an EU-funded research project, Paganini (Participatory Governance and Institutional Innovation), that investigated the question of whether 'politics of life' themes have led to the emergence of new forms of governance in Europe. The focus of our research was on human embryonic stem cell research, genetic testing, GM crops, and BSE in the United Kingdom, Germany, Austria, the Netherlands, and on the EU level—hotly contested topics at the intersection of society, politics, nature and the human body. We argue that, in the domain of life-political issues, the notions of participation and governance have become intermingled to an unusual extent. Our case studies demonstrate that the concept of participation needs to be rethought. While 'spontaneous' public participation certainly still is a political fact, increasingly participation has turned into a 'technology' that is based on the construction of publics. Different participatory technologies are linked to a changing landscape of political subjects considered relevant to the debate. As the case studies have shown, the design of any *formal participatory arrangement involves a considerable amount of 'engineering', including arrangements seeking to invite a 'representative', disinterested, 'pure' public. There is no such thing as 'the public' waiting for pure representation. Formal participatory arrangements are* inevitably *based on a process of active construction, involving goal setting, selection, decision making and prioritization, including the decision to prioritize the pure public at the expense of engaged publics. What seems to be occurring today is that 'old' definitions of social order no longer hold and various groups try to impose new (partial) definitions of a new order on others. A new, postmodernist logic seems to be spinning new relations among citizens/consumers and scientists and administrators. Thus, there is no single New Way of governing Europe.*

Keywords Institutional Reform, Life Sciences, Political Mobilization, Politics of Life, State

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In a much-quoted 'White Paper on Governance' (Commission of the European Communities, 2001), presented by the European Commission in 2001, its authors point towards the paradox that 'on the one hand, Europeans want (politicians) to find solutions to major problems confronting our society. On the other hand, people increasingly distrust institutions and politics or are simply not interested in them' (2001: 3). To remedy this problem the White Paper defined 'openness, participation, accountability, effectiveness and coherence' as main principles of 'good governance' (Commission of the European Communities, 2001: 10, 32). In many documents that have followed, such as in the Communication 'Life sciences and biotechnology—Strategy for Europe' (Commission of the European Communities, 2002: 40), the Commission emphasized the crucial importance of devising new political mechanisms integrating participation and ethics into political decision making and connecting local, national and supranational levels of governance. In Europe, experimentation with such new participatory mechanisms can be observed in many countries, particularly beginning in the 1990s. Special attention has been paid to bringing participation into governance in a field that can loosely be called the 'politics of life'. In this article we report on the findings of an European Union (EU)-funded research project, Paganini (Participatory Governance and Institutional Innovation), that investigated precisely the question of whether politics of life themes have actually led to the emergence of new forms of governance in Europe. The focus of our research was on human embryonic stem cell research, genetic testing, GM crops and BSE in the United Kingdom, Germany, Austria, the Netherlands and on the EU level, hotly contested topics at the intersection of society, politics, nature and the human body. All four cases had created a need for a response by governance institutions and we attempted to determine whether those responses justify the conclusion that we are currently witnessing the shaping of new forms of governance in Europe, or if such an assessment would be premature or even misleading.

Between modernist and post-modernist statecraft

During the last decades of the twentieth century, concerns about the environment and nature had become an important cause of political reform and the creation of new political constituencies, such as new parties or non-governmental organizations (NGOs). Further, over the past two decades, many important political controversies in Western democracies have centred on topics that relate to life. For example, advances in human biomedical research (in conjunction with the human genome project or new discoveries on the early stages of life) have not only had profound and far-reaching practical implications for health care provisioning but have also affected our perceptions of what are considered the most basic human rights and values. When life itself enters our human understanding and our attempts to order things, there is a politics of life. New to the life-political issues of late modernity is that they entail novel constellations in the constructed relations between mind, body and non-human nature. As a consequence, they challenge the very institutional arrangements that political and scientific communities produced in the course of the past centuries to deal with nature as a resource or a threat to social order and human life, and to eradicate the associated uncertainty.

In our definition, the 'new politics of life' of the twenty-first century thus concerns those issues regarding life in both its somatic and environmental interpretations and their

associated constructions of human identity, selfhood and individual and collective responsibility, for the ordering of which modernist forms of governance are found no longer viable nor legitimate. Hence, a hypothesis of the Paganini project has been that life-political issues in late modernist times tend to expose the built-in tensions and implicit assumptions underlying modern governance in such a way that this mode of ordering is called into question in acute, concrete political and scientific practices. Inherent to new life-political issues is that there cannot be, at least not self-evidently, a 'binding, authoritative allocation of values for society as a whole' by the centre of formally institutionalized state power. The ensuing situations of institutional ambiguity imply the need to develop, in situ and ad hoc, new modes of governance by which actors can deal with the issues at stake effectively and legitimately, in a context where no a priori unity or implicit notion of 'the common good' as a motive for political action may be assumed, nor a possibility of taking recourse to an 'objective truth' for knowing what to do as a community. Thus society is faced with the need to produce modes of reordering which can accommodate feelings of distrust, uncertainty and a diversity of values, particularly concerning the teleological orientation of social, political or scientific action. Therefore, continuing our hypothesis, it is likely that in the domain of the politics of life in late modernity, participation and governance become intermingled to an unusual extent.

In many respects it seems that the belief in the distinction between the 'ontological real' of nature and the social reality of politics and other practices of sense-making is faltering today, which has consequences for the way in which the risks involved in life-influencing developments (such as life-threatening diseases or life-generating technologies) are being handled. With the loss of a potentially 'unifiable' community, the element of normative choice in attempts at mastering nature, or life, is inherently complex. Therefore, with regard to life-political issues, situations of institutional ambiguity are bound to occur. Governance is faced with new challenges in this newly developing setting of 'blurred boundaries' between science and politics, and between nature and society the approaches to risk control and risk management are affected.

In the face of such uncertainties and often crises, public participation has increasingly become a preferred strategy for policy makers wanting to build public support for a new policy or regulatory measure. 'Participatory governance' in state-initiated institutional designs can be defined as 'the practice of consulting and involving members of the public in the agenda-setting, decision-making and policy-forming activities of organizations or institutions responsible for policy development' (Rowe and Frewer, 2004). Yet it must be stressed that the institutional transformation of politics is not restricted to state-initiated designs. Rather, the effects of changing relations between science, states and non-state actors owing to such dynamics as EU integration, globalization of economic relations and an increasing privatization of public regulation become manifest in myriad forms: for example, governance networks that provide space for the participation of non-state actors, including networks that are *not* state-initiated. In fact, over the past few years, the term 'public participation' has come to signify precisely these types of consultation with the public. While this approach, such as that of the European Commission, seems to be largely state or agency driven, we will argue in this article that today, although the politics of participation in Europe is often planned and state-driven, empirical data suggest that such exercises in participation constitute only a fraction of the various activities that can count as participation. However, we

will show that it cannot be denied that, in contemporary Europe, governance, and the rise of participation as a governance technique, is tightly integrated with modernist forms of statecraft that continue to be employed in the settling of governance challenges such as GM foods or stem cell research.

Governance in the political sciences, crystallized in the twentieth century, has long been defined in terms of the formal, centralized political institutions by which the intent to govern materializes. Governing is defined here as the public handling of a problem or issue in a way that respects the interests of a community. In this context, the government of a nation-state was conceived of as the apex of power and authority and the centre of political will and steering activities. Today's practices of governing have long since gone beyond the scope of the classical-modernist topography of politics. New 'government technologies' have been developed to overcome the capacity deficit (Mayntz and Scharpf, 1975; cf. Mayntz, 1980) that stems from imperfect information flows between public policy actors and 'policy target groups', and the so-called legitimation deficit—the lack of public trust in and commitment to traditional democratic institutions.

The trend to experiment with new forms of participatory or 'interactive' policy making or 'interactive policy analysis' has been widely covered in the literature (e.g. Akkerman *et al.*, 2004; Bellucci and Joss, 2002; Chandler, 2000). On a conceptual level, the literature has largely focused on developing taxonomies and systems of classification to assess and analyse the participatory practices that have been identified (e.g. Collins and Evans, 2002; Fiorino, 1990; Laird, 1993; see also Rowe and Frewer, 2004). Central criteria in the assessment of these practices are those concerning *access* (who is allowed to participate; by whom is that determined) and *autonomy and influence* of the participants vis-à-vis formal political institutions. The exemplar case for the political sciences is the 'Ladder of Citizen Participation' by Arnstein (1969), which distinguishes between eight levels of participation in political decision making, ranging from 'manipulation' to 'citizen control'. In the latter case, citizens fully control all stages of decision making, having been granted total sovereignty in reaching decisions.

Adopting a post-conventional view on governance, we hold that 'the polity' is not necessarily co-extensive with the territory of the nation-state (Hajer, 2003). The loosening (conceptually and practically) of the ties between the territory and the act of governing has far-reaching implications for the notion of participation, for if the political community does not necessarily coincide with the nation-state, then membership in a political community does not coincide with formal citizenship. Participation, then, may refer to a number of different, possibly overlapping, 'polities'—and not only to the state. In a world where not only the organization of politics but also the construction of identity and a sense of 'belonging' are no longer self-evidently coupled to territory, 'the citizen' has become plural: he or she is characterized by a diffuse identity or, rather, can adopt multiple identities and roles depending on the concrete settings in which he or she operates (see Fox and Miller, 1996). Moreover, with the territorial bind the notion of the 'common good' becomes ever more problematic, as not only the content of the 'common good' is politically contested—which has arguably always been the case in democratic states—but also the group to which the adjective 'common' refers; it cannot simply be presupposed that this group coincides with the members of the nation-state. Consequently, a relevant empirical question emerges: what is it that brings people together in the intentional 'production of politics'?

The increasing interdependencies between states and their citizens worldwide in the second half of the twentieth century render the concept of the nation-state as the organizing principle in politics increasingly problematic. Phrases like Castells' 'displacement of politics' or the 'dispersion of politics' (see Hajer and Underhill, 2003) are part of a new, emerging vocabulary in the policy sciences. New concepts have been coined to describe the sites of politics and notably the *changing topography of politics* such as 'nodal points' (Gottweis, 2003: 260) and 'public energy fields' (Fox and Miller, 1996: 100–110).

To guide the empirical focus, the project set out to at least take into consideration 'new political spaces' (Hajer, 2000) as an object of research, in addition to formally arranged participatory practices. New political spaces in the Paganini project are sites where processes of political judgement and decision making take place that exist *next to* or *across* the institutions that are traditionally considered the exclusive centres of political power. These new loci of political activity are considered to present sites of 'participatory governance' *by definition*, as they entail the involvement of non-state actors.

New political spaces provide the settings where 'reality' is re-created and rewritten as the outcome of new processes of discursive construction. These processes are both inherently political and inherently social. They are *social* in that, as an ensemble of ideas and concepts, they are being 'produced, reproduced, and transformed in a particular set of practices' (Hajer, 1995: 44). They are *political* in that such discourses do not merely disclose some underlying reality but 'actually constitute it' (Gottweis, 2003b: 251). The inextricability of discourse from social practice and the political nature of discursive construction make all practices in which meaning is articulated the *loci* of politics. In contrast to the conventional understanding of 'the political system' the notion of site or 'space' is constructed here without any territorial reference. Hence, governance, in the Paganini vocabulary, refers to a regime of practices.

In the following sections, we will argue that new political spaces have come into being in relation to the formal codified, 'classical-modernist' political institutions, for example, institutes for representative democracy, when institutions are unable to cope adequately with unruly societal problems. New political spaces in those cases may emerge as an historical product of an institutional ambiguity. The concept of 'institutional ambiguity' indicates a situation in which the 'rules of the game'—the way in which a problem or issue can and should be legitimately framed and publicly handled—are themselves the subject of political deliberation and struggle. Institutional ambiguity, we assumed, appears when, on the one hand, the existing rules and norms that shape politics and policy making with regard to a specific issue are considered problematic and/or unacceptable, while, on the other hand, clear rules are considered indispensable by the parties involved to determine who is responsible, who has authority over whom and what sort of accountability is to be expected. Sheila Jasanoff (1997) speaks of a 'civic dislocation', denoting 'a mismatch between what governmental institutions were supposed to do for the public and what they did in reality', causing citizens, at least temporarily, to 'disengage from the state'.

Furthermore, we argue that institutional ambiguity or 'civic dislocation', and subsequently new political spaces, may occur in reaction to either sudden disruptive events or, alternatively, as a result of more pervasive, lasting perceptions of scepticism and alienation (see Jasanoff, 2004). Referring to Laclau's (1990) concept of 'dislocation', we coined the notion of 'dislocatory moments', indicating the 'emergence of an event, or a set of events,

that cannot be represented, symbolized, or in other ways domesticated by the [dominant] discursive structure—which therefore is disrupted' (Laclau, 1990: 41). In those moments, the apparent consensus on meanings, roles and identities between actors is fundamentally shattered. Please note that such a dislocation may not only refer to a 'traumatic event' of chaos or crisis but can also be triggered by lasting scepticism and uncertainty, resulting, for example, from 'conflicting state imperatives'. In other words, dislocatory moments, or a series of dislocatory moments, may cause a sense, and a situation, of institutional ambiguity and impel a need for 'reordering'. In so doing, they may be seen to trigger the emergence of new political spaces where framings of the problem, as well as the rules of the game, are being (re)articulated.

Finally, we suggest that moments of dislocation may bring unprecedented crises with regard to the credibility of formal political institutions and associated knowledge institutes; notably disrupting the 'passive trust' which is presupposed in the formal organization of government, and which is derived from classical means of political participation and representation such as elections, representation of political leadership and the enactment of scientific expertise. Essential for situations of institutional ambiguity is that the component parts of trust (which according to Elster [1989] comprise unity, stability, cohesion and cooperation among members of a collective) are not self-evident, and therefore one-way communications from classical-modernist institutes to 'the citizen' no longer suffice. Such communication, which generally consists of information flows in which a particular framing of the problem is conveyed, no longer serve to arouse feelings of commitment. In those moments, trust will have to be *actively* re-created in and through the actual interaction between human beings.

In cases of institutional ambiguity, the 'silent contract' between citizens and formal political institutions, including those operating through the enactment of scientific expertise, is broken, and the state's licence-to-operate may be withdrawn.

In some cases, feelings of unease may find an expression in public turmoil and visible protest. A case in point is the 1980s example of wrecking test plots of GM crops in the Netherlands by 'action groups' calling themselves the 'Raging Potatoes'. In other cases, unease may be expressed individually, for example, by a patient or a pregnant woman in the doctor's office faced with conflicting imperatives of self-determination and responsibility on the one hand, and the impossibility of reducing uncertainty about health risks for oneself or one's offspring to a 'manageable' level on the other. Moreover, institutional ambiguity may be experienced not only by non-state actors but also by actors operating professionally in formal political institutions. To them, social, technological and political dynamics may cause regulatory practices to come across as 'conflicting state imperatives'.

Thus, in the Paganini project, the notion of 'participatory governance' denoted the emergent, iterative and fluid performance of governance in which varieties of actors, who can be identified not only in relation to the state as a pre-given entity but also in relation to attempts to align problem framings, articulate roles and generate trust, deliberate their problem definitions and solutions. The practices in which this kind of governance become manifest may include formal 'participatory arrangements' but may also take different shapes. Thus, society is faced with the need to produce modes of reordering which can accommodate feelings of distrust, uncertainty and a diversity of values, particularly concerning the teleological orientation of social, political or scientific action.

Therefore, extending our hypothesis, it is likely that in the domain of the politics of life in late modernity, participation and governance become intermingled to an unusual extent. Governance increasingly seems to require participation in its various operations.

Triggers for new modes of governance

For a life-politics topic to enter the sphere of governance deliberation, very often a dislocation—a disruptive moment—had occurred that triggered off political reaction.

A key dislocatory event in the field of embryonic stem cell and cloning research was the announcement of the birth of the first cloned sheep, Dolly, in March 1997. The announcement led to intense sense-making, ordering and soul searching. It was met with shock and horror in many countries worldwide, and it incited regulatory activities, both on the level of individual countries and on the level of numerous international organizations such as the United Nations, the European Union and the Council of Europe. What rendered things more complicated, however, was that Dolly was not universally rejected. The birth of Dolly the sheep also generated a great deal of excitement concerning the potential benefits of a technology that helped to give birth to the world's first cloned mammal. The birth of Dolly proved that somatic cell nuclear transfer (SCNT) did indeed work, thus demonstrating that an adult cell could be 'reprogrammed' and go 'back in time'. A somatic cell that fulfils a specific function could be rebooted into an early developmental stage and give rise to an embryo and, progressively, to a foetus. Some scientists and policy makers argued that while this technology should not be used for human reproductive purposes, the technology as such should nevertheless have its place in the range of permissible practices. SCNT, so the argument went, could be used to generate cell lines that are perfectly compatible with patients. The combination of human embryonic stem (hES) cell and cloning technology gave shape to a whole set of new medical-therapeutic expectations that promised to offer unprecedented possibilities for dealing with serious ailments and diseases for which there existed no alternative treatments. However, while some framed these prospects as unprecedented opportunities, others regarded them as the crossing of 'fundamental moral boundaries' and as the beginning of a public-health nightmare.

One could argue that the birth of Dolly the sheep had such a strong dislocatory power because of its 'ontopolitical implications' (Mol, 2002). With ontopolitics we refer to political contestations in which questions about 'what to do with an entity' are related to or translated into struggles and debates on their categorization. Struggles on what to do with entities are related to struggles on their very labelling, their categorization and, consequently, their very ontological status. A cloned mammal, a vital human embryo outside a woman's body, a blastocyst derived not through fertilization but through SCNT, all confront actors with the question of what these entities actually *are* and how they can be represented within the moral and epistemological order.

In contrast to cloning, genetic testing has had a *de-escalation* of public controversy and public unrest within the past two decades, although important differences exist between different fields of controversy concerning the issue. At least for the time being prenatal diagnosis (PND) has become a widely accepted practice in antenatal care in many countries and has largely ceased being a dense public energy field. Even many non-pro-life critics of PND and selective abortion choose not to fundamentally challenge the regulatory frame

of PND, mainly because this might risk reopening the abortion controversy, which many want to avoid. There are still matters of concern in this field, such as the issue of late-term abortions and the kind of counselling that should be provided, but these issues do not really stir public unrest or public debate. The situation is somewhat different concerning pre-implantation genetic diagnosis (PGD). In contrast to PND, which is mainly governed by professional self-regulation, the question of how to properly regulate PGD has given rise to considerable public debate. Debate was most intensive and controversial in Germany, but to some extent took place in other countries such as Austria and the UK. There seems to be an inverse relationship between the commonness of a practice and the intensity of debate about it; the more widespread a practice gets (see PND), the less controversial the public debate becomes. Rather, PGD, as an interview partner put it, 'pushes some very sensitive buttons of some individuals, on both sides' (Interview with a representative of the Genetic Internet Group, 13 March 2006), evoking anxieties about 'designer babies', the status of the embryo and the health of future children. The PGD debate was especially intense at the turn of the millennium and accompanied the establishment of new advisory bodies and new bioethics councils. In recent years, however, public debate about PGD has calmed down too.

In the case of genetic testing, the peak of public unrest and public controversy had been in the 1980s when the possible future implications of human genetics became a subject of heated political debate ignited by social movements. These movements evoked apocalyptical scenarios ('brave new world', 'total surveillance state', 'production of human beings', etc.) often based on deterministic ideas about the implications of technological change for society (Kontos, 1985; Schultz, 1996). In Germany a broad range of feminist groups and organizations of disabled people articulated criticism towards reproductive technologies and genetic engineering (Bradish *et al.*, 1989; Die Grünen im Bundestag, 1985). The main frame applied by feminist groups could be termed an 'oppression frame', portraying women as victims of increasing medicalization and alienation by (male) medical experts and scientists who wanted to get access to and control over procreation and the uterus, human eggs and embryos. Anti-eugenic and anti-capitalist positions also developed in this context, pushed forward by the radical movement of disabled people, who called themselves the 'movement of cripples'. They saw genetic testing, PND and selective abortion as a modern form of eugenics and an instrument to enhance the 'quality' of the future labour force or the national population. Militant activists such as the feminist guerrilla group Rote Zora invaded laboratories in Germany and published research papers which they had seized in their assaults (Bürobert *et al.*, 1996: 99; Rote Zora, 1989). In the UK, pro-life movements connected their protest against the new technologies with their moral objections against abortion.

All in all, in comparison to the mid- and late 1980s, the years after the millennium change are characterized by a non-antagonistic constellation. By 'non-antagonistic constellation' we mean a situation not characterized by the confrontation of two opposing camps, one opposed to and the other in favour of genetic technology, each striving to defeat the respective other camp. To be sure, we are still concerned about the prospect of 'designer babies' or 'a new form of eugenics', but these concerns are rather subliminal, roaming around within an overall non-antagonistic constellation; techno-sceptic arguments are circulating within a post-euphoric and post-apocalyptic debate that is more fragmented, sophisticated, professionalized and normalized—a debate whose focus has shifted from fundamental 'yes or no' questions to rather pragmatic questions such as how to properly

organize counselling. Interestingly, in this case study the *absence* of fierce antagonistic conflict goes together with a *discourse intensification* and a number of participatory governance arrangements and experiments such as consultation processes, consensus conferences or youth conferences.

Another case study, in which we can identify a moment of dislocation that set off a series of institutional responses is the case of BSE and food scares. It was not so much the first clinical signs of BSE in cows in the UK in 1986—although quite disruptive of the dominant understanding of spongiform diseases in mammals—that came to upset long-standing practices of risk control, but the concern that the disease might afflict humans too. In 1995, public concern proved justified when three young people died from what was apparently a new human variant of the brain infliction Creutzfeldt-Jacob Disease (nvCJD). Public turmoil in Britain arose when, on 20 March 1996, UK Health Secretary Stephen Dorell publicly announced the likelihood of a link between the cattle disease and the newly found variant of the human equivalent. These developments made a strong impact in various policy fields, among them trade and internal relations within the EU. The same year, the EU imposed a ban on the export of British beef, forcing Germany to replace the unilateral ban it had set in place in a first reaction to the British veterinary problems.

In hindsight, the reasons why BSE proved a powerful dislocatory event (also in comparison to other food scares) are manifold. First of all, the assertion that BSE was a zoönosis, that is, an animal disease that may affect humans, strongly disrupted the institutional organization of both policy areas involved: agriculture and public health. Previously, both fields had largely been organized in relative isolation from one another in the three countries presently under investigation. The institutional design that was characteristically divided into a series of arrangements set up to deal with agricultural production and veterinary care on the one hand, and a set of arrangements for dealing with human health on the other, made it possible for the human risks involved in BSE to go unnoticed for a long time (see Van Zwanenberg and Millstone, 2005). The landslide that BSE set in motion once it was identified as a zoönosis included more than mere organizational rearrangements. BSE cut through the classificatory schemes that modernist institutions use to routinely separate the realm of the animal from that of the human. BSE presented a clear and unavoidable incentive to reconsider the boundaries between the two spheres. As a result, the institutional arrangements for governing the public consequences of food production and consumption themselves became the object of political conflict, which culminated particularly in a redesigning of food safety regulatory settings.

BSE could have such strong implications, notably in the UK and on the level of the EU, because of the sheer costs involved in its abatement and its impact on the intra-EU market, as well as its costs in terms of loss of political goodwill in view of the principle of freedom of movement for animals and goods. A second decisive development was that the BSE–nvCJD turmoil in the UK developed at the time that the Labour opposition began to seriously challenge the Conservatives' long-term hegemony and made the 'mad cow disease food scare' into an election issue. For this reason, and because Britain was hit more severely than any other European country, it is possible to observe the most extensive institutional responses in the UK.

Another reason why BSE may be considered as fundamentally upsetting the dominant food safety control regimes was that its pathogen agent seemed to escape the analytic tools

available for assessing and managing food-borne diseases. As BSE was constructed as a scrapie-related brain infliction, the cause of the disease was identified in terms of the 'protein only' hypothesis (Prusiner, 1982). Problematic to the governing of BSE was that the prion (or protein only) hypothesis provided almost no clues as to how to proceed. It is inconsistent with animal disease and zoönosis control protocols which are used in determining which national measures must be put in place in case of an outbreak.

The dislocatory power of BSE and nCJD (new Creutzfeldt Jacob Disease), partly spilled over to the area of GM crops. When in 1996 the first GM crops came to the European market, they soon became the centre of contention. This contention was considerably fuelled through the announcement by the UK government in March 1996 that a probable link had been established between the human brain disease of vCJD (variant Creutzfeldt Jacob Disease) and BSE, after years of assurances by government scientific advisers, politicians and the industry that 'British beef is safe to eat'. Following this admission in 1996, public trust in the regulatory and scientific advice system along with the food and agriculture industries plummeted. The years 1996–9 became a period of crisis for the existing European regulatory regime which had been established by the Deliberate Release Directive (DRD) (1990/220). By the end of 1998, the crisis of legitimacy for those trying to promote GM agri-food in Europe had become critical. An institutional void around the governance of GM crops had become visible to all. The 1990/220 DRD had attempted to govern the release of GM crops as a separate and distinct category. However, it had provided no machinery for post-market regulation, assuming that its responsibility ended once the new varieties were released into the fields or supermarkets. Yet now retailers found themselves on the frontline of a new cultural and political battle that threatened their sensitive and elaborate system of negotiations with consumer consciousness, based on trading with symbols of naturalness, purity and health. Within this meltdown of public trust a growing series of improvised measures proliferated, ranging from national bans by EU member states to boycotts by powerful supermarket chains. Activists arrested for sabotaging GM test fields escaped punishment when some courts refused to convict them, demonstrating the wider lack of cultural legitimacy of the GM project.

This political, cultural, epistemic and regulatory logjam intensified in the following years. Hence, what we see in the case of the GMO (genetically modified organisms) conflict is less the dislocatory power of a certain identifiable event, or a series of events, than an institutional void created by the clash of two contradictory imperatives, built into the EU's original GMO regulatory framework of the 1990 DRD on the one hand an imperative to foster a climate of innovation and economic growth, on the other an imperative to address the precautionary concerns around the potential impact of these innovations on health and the environment. Thus while being committed to the free movement of GMOs within Europe, the DRD created a special regulatory category for GMOs, with each variety being required to go through a process of approval before gaining admission to the EU. However, having highlighted these precautionary concerns, the 1990 DRD then made no provisions for post-release monitoring, labelling or the traceability of these products once admitted into the European regulatory environment. This tension shaped the dynamics of the ensuing conflict within the EU, creating a regulatory void that drew in new participants and which allowed various parties, including food retailers, nature conservation bodies and member states to demand a moratorium and push for a new round of regulation.

Hence, in the case of BSE and GM crops, new unprecedented phenomena, and the political struggles and turbulences they evoked, introduced novel challenges to governance, for which institutions responded by introducing a number of institutional novelties and transformations. For a successful interactive process of policy formation and implementation across these different levels to be achieved, new political spaces need to be opened up because there can be no simple top-down solutions to these types of conflict.

Towards institutional reform?

A key question of the Paganini project was to identify possibly newly arising forms of governance, in particular with a focus on the field of life politics, but also generally in the context of EU politics.

Concerning both the areas of genetic testing and embryonic stem cell research, we see in particular the establishment of a series of new institutions from the 1980s to the 2000s that were charged to advise the government on how to regulate these new biomedical technologies on the one hand, and how to meet public concerns and public unease on the other. The emergence and proliferation of bioethics advisory bodies, on the level of government, is the most conspicuous phenomenon of institutional innovation in the area of genetic testing and embryonic stem cell research.

What we can also see is a change from expert-based governance schemes in the 1980s, largely based on a 'risks and benefits' framing, to governance schemes that increasingly refer to an 'ethical implications' framing. In part, but not always, the 'ethical turn' is accompanied by the integration of new types of expert, such as lay people, citizens, social scientists or ethicists—we will revisit this point later in the article.

On the EU level, the EGE (European Group on Ethics in Science and New Technologies)—which had started in 1991 as the Group of Advisers to the European Commission on the Ethical Implications of Biotechnology (GAEIB)—plays an important role in EU stem cell policy. In preparation for the 6th Framework Programme of the European Commission for Research and Technological Development (2003–6), the European Commission came to the conclusion that the decision of whether or not to include hES in research funding should be backed by an Opinion of EGE (Gottweis, 2003a: 17). This Opinion, as Commissioner Busquin declared, was the basis of the Commission's policy: in general, the EU addressed the 'new' and disorderly topic of ethics by efforts to build up, integrate and 'harmonize' expert bodies and expertise in bioethics.

In Germany, a series of new expert bodies were established between the mid-1980s and 1990 that were designed to give policy advice on biomedicine and biotechnology, including issues of genetic testing. Such new expert bodies included the Benda Commission, named after its chair, Ernst Benda, which was established in 1984 in order to advise policy makers on ethical and legal questions of IVF, gene therapy and embryo transfer (Bundesminister für Forschung und Technologie, 1985); the Parliamentary Study Commission on Risks and Benefits of Genetic Technology (Enquetekommission Chancen und Risiken der Gentechnologie, 1987), a commission established in 1987 and comprising equal numbers of parliamentarians and experts; and the Office for Technology Assessment (Büro für Technikfolgenabschätzung) in the German Parliament, established in 1990. Although these commissions and bodies to some extent already referred to 'ethics', 'ethical implications' or 'ethical issues',

the main frame through which genetic testing was interpreted was the 'risks and benefits frame'. The language of risks and benefits suggested that the risks as well as the benefits of this new technology could best be assessed by experts who were not necessarily only scientists but also jurists and physicians recruited from elite scientific, medical and legal professions. In contrast, the 2000 Parliamentarian Study Commission on Law and Ethics of Modern Medicine, already in its title referred to the language of ethics. Among the members of this commission were a number of experts from the social sciences and from feminist or disability rights NGOs. In 2001 Chancellor Helmut Schröder set up the Nationaler Ethikrat (National Ethics Council) exactly at the time when the legalization of importing hES cell lines was being discussed in Germany. In fact, barely six months after its creation, it issued a recommendation in favour of allowing the import of hES cell lines. However, the setting up of the National Ethics Council had been heavily contested at the time, on the grounds that it constituted a 'counter project' to the Parliamentarian Study Commission (Bogner *et al.*, 2006; Braun, 2005) and was a puppet institution intended to generate ad hoc legitimation for the government's allegedly bio-liberal decisions. The Parliamentary Study Commission on Law and Ethics of Modern Medicine also devoted a considerable part of its work to stem cell research and came up with a more restrictive opinion in the end, recommending that the German ban on embryo research be upheld, but that the import of ES cells should be allowed under certain conditions.

In Austria, too, a new national Bioethics Commission was established in 2001 in order to advise the Federal Chancellor from an ethical perspective on all the social, scientific and legal questions that stem from the scientific development of human medicine and human biology.

In the UK, the government in 1982 authorized a Committee of Inquiry into Human Fertilization and Embryology, the Warnock Commission, headed by the moral philosopher Baroness Mary Warnock. The task of the inquiry committee was 'to consider recent and potential developments', 'safeguards' and 'social, ethical and legal implications' (Ziegler, 2004: 66). Partly as an outcome of the recommendations made by the Warnock Report, the Human Fertilization and Embryology Authority (HFEA) was established in 1991. Its purview includes regulating IVF clinics, licensing research using human embryos, or approving or disapproving contested practices such as sex selection via pre-implantation genetic diagnosis or creating 'saviour siblings'. While it is an authority and not a bioethics advisory commission in the sense of the other bodies mentioned previously, it is still charged with taking ethical issues into account. Fifty percent of the board members of the HFEA must be 'lay', always including both the Chair and Deputy Chair, and at least one-third must be medical or scientific experts. In 1992, the Human Genetics Commission (HGC) was created as a meta-regulatory agency and advisory body for human genetics, and as part of a system of arm's-length bodies, while preserving the statutory body of the HFEA in regard to assisted reproduction (Cabinet Office and Office of Science and Technology, 1999). The explicit aim of this reform was to expand the mandate of the advisory system beyond the reaction to concrete cases of technological development and beyond the expertise of specialized technocratic bodies. The system of meta-regulatory bodies was assigned the function not only to react but also to initiate debates. The HGC has made strong efforts to promote elements of participatory governance in recent years by conducting consultations, citizen juries and opinion polls grouping the debates on genetic testing. For the HFEA as well, a consultative and deliberative style of

communicating through position papers and open public consultations was characteristic of the policy making process. At the same time, the HFEA, a 'trusted institution', an institution with an 'ethos', had been designated as the key institutional actor in hESC regulation and was not known either for its bioethical expertise or for its transparency, but instead for its pragmatic and successful way of dealing with complex matters in reproductive medicine. The early involvement of the HFEA in shaping UK stem cell governance was not only a result of path-dependence, but also the result of a deliberative and purposeful approach by policy makers in the late 1990s to create and re-create a system of regulation that combined competence with success and trust-building.

Thus, although a number of new institutions and, in part, novel types of institutions have been established, at the same time genetic testing and embryonic stem cell research have turned out to be fields that retained traditional high modernist modes of governance, based on the constitutionally legitimized institutions such as parliaments, the courts or even referenda, and operating through legal bans, referring to a fixed national territory, relying on elite expertise, and insulating the public from decision making on 'hard issues' such as research funding, patenting or the regulation of the healthcare system. It strikes us that in the countries under study here, the unruliness of human embryonic stem cell research was neither efficiently tamed nor tackled with new forms of participatory practices. That is not to say that there was no public involvement in the issue. In Germany, for instance, an extremely intense and controversial public debate occurred on the acceptability of preimplantation diagnosis and hES cell research, involving civil society organizations, such as churches, research organizations, organizations of the medical profession, and a series of NGOs, all lobbying for their respective cause and struggling to win over ministers or parliamentarians to their point of view. The main arenas where this form of public involvement took place were through the media, whether in the more conventional newspapers or TV shows, or on the Internet. A similar form of public involvement took place in the debate on the law on medically assisted procreation (Law 40/2004) in Italy. We can speak of 'conventional informal modes of participation' here: modes of participation that take the form of lobbying and interest group pressure, of legal participatory practices, using conventional arenas of political will formation such as the media in order to exercise influence on public opinion and political decision making by the institutions of representative democracy. Participants in these types of public involvement have neither been 'invited' nor selected by state institutions; informal participation is not state-initiated.

In addition to the resilience of 'old' institutions, we also found that, at least in the case of human embryonic stem cell and cloning research, national boundaries do still matter. Somehow, surprisingly and puzzlingly for an age that we know as a 'global(ized)' one, it is the nation-state that seems to have emerged as the key topographical unit on the map of stem cell regulation. 'States' actively shape stem cell and cloning research by drafting regulations that secure the safety and even operation of this line of research and by allocating funds that the private sector has only reluctantly invested so far. The very act of setting regulations in turn reaffirms national boundaries and differences between nation-states with regard to the technological and research landscape in the biomedical sector. Furthermore, the very interpretation and applied meaning of seemingly universal cells, embryos and clones differ strikingly from one topographical unit to the next; often, they are also imbued with particular 'national' meanings, ranging from narratives of national regeneration over

national pride to a language of national (dis-)advantages in the emerging global stem cell geo-economies. The politics of hES are embroiled in 'projects of reimagining nationhood' (Jasanoff, 2004: 7). In short, the politics of hES cell research seems to be a case in point of the nation-state *gaining* significance rather than losing it.

Institutional responses to BSE and the issue of food scares more generally were mixed in this respect. On the one hand, we certainly find an opening-up of the regulatory regime to non-state actors and non-scientists, and the rearrangement of the institutional settings regarding agricultural production and human health towards a more comprehensive approach, which set out to cover both areas in an integral manner. On the other hand, 20 years after the first identification of BSE, food safety is basically still being treated in terms of the original regime, namely on an essentially scientific, modernist basis. 'Sound science' as the source of legitimate and effective state activities in regard to food safety control is actually re-emphasized. How do we make sense of these observations? Are the dynamics set in motion by the BSE phenomenon and other food scares best designated as the mere expressions of 'a system repairing itself'? Or should we appreciate the changes in the institutional landscape regarding food safety control in terms of fundamental renewal and regime innovation?

In the UK, at the time BSE was first identified, food safety was a shared responsibility between the institutional arrangements governing issues related to human health, and those in charge of agricultural production. Yet in practice, food safety control was closely tied to the latter arrangements. The connection between food safety control and the representation of interest of the food-producing sector was formalized in the structure of the Ministry of Agriculture, Fisheries and Food (MAFF).

Perhaps more than a conscious strategy to protect farmers' interests against all odds, the ministry's 'muddling-through' approach vis-à-vis BSE, which was later found inexcusable, might have been informed by a 'culture of secrecy' that characterized the organization. In a depiction of the UK regulatory regime, Halfmann (2003) sketches an elite community of people who shared a background in exclusive educational centres and relied on the argued reasonableness of regulatory action (rather than on solid scientific proof or legalistic procedures). An interpretation of the traditional regulatory regime in terms of a 'culture of secrecy' gives depth to the factual information on how the interface between science and policy, with respect to agriculture and food safety, was organized in the UK. This added to the problems caused by the (geographical and cultural) segregation of the institutes responsible for human health and those responsible for animal health. If BSE is considered a 'connecting power' between these separate institutional fields, the Food Standards Agency (FSA), newly established as a result of Labour coming into office in the wake of the BSE event, may be considered the main institutional rearrangement set out to bridge the two areas and explicitly to address the problematic culture of secrecy.

Institutional responses to the novel challenge posed by GM crops were ambivalent too. The EU chose to take a different regulatory approach to GMO than the US and the World Trade Organization (WTO) and based its GMO regulatory system on the *process* behind the products, whereas the US approach was based on the simple regulation of the *end products* alone. Therefore, unlike the US, the EU considered GMOs to be a special category that required its own unique regulatory framework. The unique nature of GMOs and their potential risks is addressed in the preamble of the DRD. The preamble goes on to state that 'the protection of human health and the environment requires that due attention be

given to controlling risks' and that for each GM variety 'a case-by-case environmental risk assessment should always be carried out prior to a release'. The twin competing imperatives of techno-economic growth on the one hand and precaution on the other are both institutionalized in this directive, leading to a simultaneous commitment to both the deliberate release of possibly harmful products and to an attempt to evaluate and regulate their possible harm. While tending towards precaution, the EU's DRD therefore shared with both the US and the WTO a set of assumptions that confined the area of valid consideration to strictly science-based concerns around harm to health or the environment. Any assessment of wider social, economic, or cultural factors was ruled irrelevant. Furthermore, the procedure would be expert-based and technocratic, with little regard for public participation. In Germany, the issuing of the 1990/220 DRD was used as an occasion for the German government to revise its gene law and actually *restrict* the rights to public participation in GM decision making (Torgersen *et al.*, 2002: 52). Thus, while moving towards the precautionary principle, the regulatory framework established by the EU after 1990 was narrowly scientistic and technocratic, allowing no space for participation or for the other framings of the GMO issue that would emerge in the coming public controversy over the new technology.

The EU's approach was innovative in the sense that it took the novelty of GMOs into account and acknowledged rather than denied the issue of uncertainty this novel phenomenon brought about. The DRD was produced as a regulatory mechanism that serves to cope with this uncertainty. However, it left the procedure for doing so to experts and technocrats and hardly created any new political spaces where broader public concerns could be voiced. The revised directive (2001) differs from the 1990 version in several significant ways. These changes can be understood as a response to the regulatory crisis triggered by the original directive. These changes were supported by an explicit reference to the precautionary principle, for the first time contained in both the directive's preamble and in the important technical Annex II on risk assessment.

While being given some legitimacy, however, ethical concerns were kept separate from and subordinate to the traditional science-based environmental and health risk assessment paradigm. Finally, the revised 2001 directive made gestures toward including more space for public consultation, including mandatory public consultation.

These features marked a change from the 1990 directive, which had only called for public consultation on consent 'where a Member State considers it appropriate' (Article 7, 1990/220). However, even under the revised directive the calls for public information and consultation were still vague, with the mere placing of information on websites or advertisements in specified newspapers considered sufficient.

With this new regulatory machinery in place, the scene was set in 2004 for the commission's attempt finally to break the regulatory logjam that had led to the 'de facto' moratorium six years earlier and establish a compromise position of 'coexistence'. Things have changed: away from a narrow focus on positivistic discourses of risk assessment and embracing consumer perceptions; away from the model of a single high-technology agricultural bioeconomy for Europe, towards a model of multiple bioeconomies coexisting in the same space; and away from a linear model of simply checking the safety of GMOs before release, towards one of continuous management to enable the different bioeconomies to coexist. Thus we can discern a new mode of governance here whose fundamental logic is not that of the state but of the market—albeit one guaranteed by the centralized scientific safety

assessments carried out by the European Food Safety Authority—presenting an idealized vision of a new, normalized and less politicized 'post-conflict' regime of GM governance.

Beyond modernist statecraft?

On the basis of the preceding, we aim to answer the question of whether new political spaces and new regimes of governance practices emerged in the fields under study with a cautious 'yes and no'. No, because we found a remarkable and unexpected resilience of what have been designated 'high modernist institutions', which apparently are quite capable of surviving in the face of dislocating events and/or pervasive, lasting perceptions of scepticism and alienation. Yes, however, we would add, because what we observe is that the resilience of these institutions is derived largely from a new governance logic that is being developed in- and outside these institutions. While there is no evidence for a 'meltdown' of modernist practices and institutions, there is ample evidence of new and innovative approaches to governing life-political issues under early twenty-first-century economic, ecological and geo-political conditions. Among these are the increasing dominance of private-sector regulations, emphasizing the individual and the particular in regulation (at the cost of traditional foci like the collective and the universal), and the ongoing integration of EU and member states' policy arrangements into practices of multi-level governance. Let us now discuss two aspects of the life-political issues under scrutiny that became apparent from our empirical work as both characteristic of, and determining for, the new governance logic we detect: the element of lasting (scientific) uncertainty in policy making and the trend towards the ethicization of governance.

Classical-modernist statecraft was based on the assumption that, first, society and market could be shaped from the centre, that is, by the state; and, second, that the state, in turn, could rely on synoptic, universally valid and politically neutral knowledge. Taken together, governance within the classical-modernist paradigm worked as knowledge-based 'social engineering', initiated and exercised by state-actors. The classical-modernist paradigm is seriously challenged, yet remarkably enduring. The picture that emerges from the case studies with regard to the viability of classical-modernist statecraft is mixed and shows partly inconsistent or contradictory tendencies. The assumption that governance can be based on synoptic, universally valid knowledge is shattered indeed. Each of our case studies makes it clear that governance is heavily reliant on knowledge, but that the knowledge available is insufficient, deeply contested and highly uncertain, and, what is more, that actors *are increasingly aware of this*. Thus, the institutions of classical-modernist statecraft find themselves confronted and challenged by a *culture of uncertainty*. It is precisely this constellation that calls for a rethinking of current practices of governance.

From calculability to incalculability and ethics?

The new politics of life addresses critical choices about the future of humankind and makes this manifest in ways that essentially challenge the mode of social and political ordering in terms of risk. While 'risk' is still an influential concept and a widely applied technology of government, risk discourse is profoundly challenged by the fact that *the criteria*, both scientific and normative, for calculating 'risk', balancing 'risks' and 'benefits', and in part also for

distinguishing 'risks' and 'benefits', are deeply contested. Radical uncertainty has become an inescapable condition of governance.

A common feature of the politics of life areas that emerged from the case studies concerns the salience of a language of ethics and morality. Issues turned out to be strongly framed in normative terms such as 'moral obligations' or 'responsibility', the qualification of certain courses of action as being 'ethically permissible' or not, 'moral' or 'immoral', or imperatives to 'relieve suffering', to respect 'human dignity', 'protect biodiversity' or promote 'animal welfare'. It seems that today in governance the language of logos is increasingly complemented by a language of 'ethos' and 'pathos'. Governance in the politics of life areas is, to a remarkable degree, confronted with and/or contributing to the interpretation of policy problems, the supposed causes of these problems as well as possible remedies and solutions in a language of ethics, morality and emotion. We can therefore speak of an ethicization and emotionalization of governance that has taken place in politics of life areas.

The phenomenon of ethicization and emotionalization relates to the other features of politics of life areas outlined above, namely perceived need for action in the face of radical uncertainty. Under conditions of radical uncertainty, 'facts' cannot be separated from 'values', 'matters of fact' from 'matters of concern'. That means, however, that actors cannot find sufficient orientation for decision making and acting in scientific truth (logos) and thus look for orientation in the realm of normative values and principles, but also by reliance on what David Hume (2007 [1740]) has called 'sentiments'. Thus, framing governance issues in the language of ethics and pathos seems to be correlated with a situation in which science has increasingly lost the authority to produce 'truth' as a basis for governance. This phenomenon in turn relates to questions of control, responsibility and participation.

The 'ethics turn' is inherently related to claims to participation; in moralized or ethicized issue areas, people take the first-person stance on issues; they raise and discuss questions such as: 'What are *we* supposed to do?', 'What shall *we* do next?', 'What is the right thing for *me*/for *us* to do?' Ethicization means that actors relate the issue to themselves and their actions and thus take a *participant's*, in contrast to an observer's, point of view. Actors assume that it *does* matter to some extent what they personally do or not do. Put differently, the ethics turn can be understood as manifesting the erosion of classical-modernist statecraft based on the assumption that government is the centre of effective political control within a given territory, that science provides 'true' and neutral knowledge for governments to use in order to effectively shape society, and that one can be neatly separated from the other. It is the erosion of this model of combined, yet separated, scientific authority and state control that is manifested by, and promoted further, by ethicization; in using the language of ethics, actors deny that the issue can or should be left exclusively to government control and scientific truth production.

Participation and beyond

We have argued that in the domain of life-political issues, the notions of participation and governance seem to have become intermingled to an unusual extent. But, as our case studies demonstrated, things are complex and the concept of participation needs to be rethought. 'Participation' and 'public involvement', for one thing, cannot and should not be confined to formal, state-initiated arrangements. Participation can for instance, as the cases of GMO politics in Greece and the UK demonstrate, take the form of grassroots and NGO

actions, seeking to make their case heard in the public and to exercise pressure on the government through legal means such as lobbying, the mass media or advertisement campaigns. We can speak of conventional informal forms of participation here.

While 'spontaneous' public participation certainly still is a political fact, increasingly participation has turned into a 'technology' that is based on the construction of publics. There are what we call 'educated publics', that is, formerly 'ignorant' but then 'informed' and 'educated publics', as for example via citizen juries. 'Expert publics' are publics composed of actors who are well-informed about a topic to the point that they can claim to represent it, as 'stakeholders' do. Finally, we find many examples for 'concerned publics' in today's arena of participatory politics. These different participatory technologies are linked to a changing landscape of political subjects considered relevant to the debate. Generally, we are observing a trend towards two poles. On the one hand, there is an increased limitation on what is considered a 'concerned public'—reduced to people with personal experiences with problematic 'genetic conditions' and leaving out older 'concerned subjects' rooted in social movements such as feminist or disability movements. On the other hand, there is a preference to perform abstract publics as 'citizens' or 'lay people', conceptualized as ignorant but nevertheless capable of being educated and providing ethically valid evaluations and opinions.

Also in the case study on GM plants, we found the politicization of spaces which had originally not been designed as arenas of formal civic participation, such as supermarkets, farmers' fields, village halls, Magistrates and Crown Courts. Public involvement or participation in these spaces can be classified as partly 'conventional informal participation' and partly *unconventional* informal participation, for instance in the form of 'crop-trashing'. Then again, we can also distinguish a form of civic participation we termed 'wildcat participation', namely in the case of the National Seed List hearings—an important event in the UK GMO debate because it undermined the supposed separation of 'science' and 'politics', 'matters of fact' and 'matters of concern'. These hearings had originally not been designed to make political statements or political decisions but to gather 'facts', but they unexpectedly turned into newly politicized spaces where the debate about facts mingled with political arguments.

What these forms of participation have in common is that they are not state-initiated but emerge from civil society. Participants in these cases have not been 'invited' by government institutions nor have they been selected by formal organizers, on the contrary, actors are self-selected or 'self-appointed' and, as such, usually entered the debate from a 'partisan' point of view, promoting their respective cause concerning the issue at stake. Consequently, participation or public involvement that takes place at such unexpectedly politicized sites and is led by civil society rather than by the state tends to feature a rather antagonistic structure, sometimes characterized by adversarial arguments and struggles. We can term the types of publics emerging at such sites 'engaged publics' or 'issue publics'.

On the other hand, we found a number of *formal participatory arrangements*, mainly in the case studies on genetic testing and GM plants. Both academic and political discourses on enhancing 'civic participation' or strengthening 'participatory governance' usually refer to such formal arrangements, which are largely understood as a means to democratize policy making and (re-)create trust, particularly in contested policy areas such as science and technology policy. Having looked more closely into such formal

participatory arrangements *within the broader context* of other forms of political participation and governance practices, however, we would offer a warning that formal civic participation has its own implications that require careful consideration. In contrast to the antagonistic structure of civil society-led participation, formal participatory governance arrangements were at times set up by state institutions precisely to counter and mediate this adversarial type of public involvement. The participatory governance arrangement termed 'GM Nation', for instance, was set up in response, and as an alternative to, the wildcat type of participation at the National Seed List hearings. Formal, state-initiated participatory arrangements, as the case studies on GM plants and genetic testing show, are often informed by the desire to achieve representativeness among participants, to mirror the general public, composed of individual participants taking no particular interest in the respective issue and, possibly, as in the case of the youth conferences we analysed, as yet 'unspoiled' by partisan views and supposedly open 'rational' education. Thus, the construction of such pure publics may provide an alternative to existing engaged publics or issue publics.

However, as the case studies have shown, the design of *any* formal participatory arrangement involves a considerable amount of 'engineering', including arrangements seeking to invite a 'representative', disinterested, 'pure' public. There is no such thing as 'the public' waiting for pure representation. Formal participatory arrangements are *inevitably* based on a process of active construction, involving goal setting, selection, decision making and prioritization, including the decision to prioritize the pure public at the expense of engaged publics.

What seems to be occurring today is that 'old' definitions no longer hold and various groups try to impose new (partial) definitions of a new order on others. A new, postmodernist logic seems to be spinning new relations among citizens/consumers and scientists and administrators. Thus, there is no single New Way of governing Europe.

Governing the future in the face of uncertainty

The absence of agreed-upon criteria to calculate future risks and benefits of course does not reduce the need for political action in the present. On the contrary, politics of life areas seem to be characterized by a strongly perceived need for political action—often *urgent* action; a need for governance activities that cannot be postponed until the day science will have provided sufficient, reliable and uncontested evidence and a consensus on normative criteria for appropriate action. This pressure for action is linked to and partly caused by another salient feature of politics of life areas; in these areas, the objects of governance, or rather the objects perceived to *require* governance, have 'a life of their own'; they are constantly evolving, altering, increasing or decreasing, and manifesting themselves *in time*. Phenomena of life thus are inherently dynamic—which makes them particularly unruly and unpredictable and poses specific challenges to governance, not least the challenge to govern the, as yet unknown and never completely predictable, *future* manifestations and implications of these objects. Governance, in politics of life areas, largely means trying to govern the future, but this future is unforeseeable and unpredictable and consists of an endless multiplicity of possible futures. The *envisioning*—or not—of such futures in this context has political implications and thus is a political act.

Whether we look at stem cells, stem cell lines and the prospects of therapies derived from them, or monogenetic or multi-factorial diseases and the prospects of genetic diagnosis and therapy, or genetically modified plants and their future environmental or health impact, or the threat of BSE and nvCJD, we find that prognosis is politics; envisioning some possible futures at the expense of others, and drawing conclusions from these visions, forms part of the struggle over meaning which, in Paganini, we consider to be politics. Governance in politics of life areas inevitably means governing the future, but 'the future' is an outcome of envisioning processes that are not normatively neutral and not derived from the extrapolation of 'objective' scientific data. Governance in politics of life areas should abandon the claim that it is based on normatively neutral prognoses derived from scientific extrapolation but should arrange for transparency concerning the normatively laden assumptions and ideas that inform contesting visions of the future and give room for contesting visions.

Acknowledgements

This paper summarizes and is based on the following research reports written in the context of the Paganini project, funded by the European Commission under the 6th Framework Programme, Contract No. CIT2-CT-2004-505791. Gottweis and Braun (2006); Loeber *et al.* (2006); Gottweis *et al.* (2006); Schultz *et al.* (2006); Haila *et al.* (2006); Loeber and Hajer (2006); Reynolds *et al.* (2006). All reports can be downloaded at: http://www.univie.ac.at/LSG/paganini/

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