

Chapter 1

European Risk Governance in a Global Context

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Introduction: The Crisis of Confidence

The ramifications of the BSE crisis of the 1990s have stretched far into the 21st century. The collapse of consumer confidence caused *inter alia* by shortcomings in the institutionalisation of scientific knowledge within both the EU Member States and within the Union itself prompted wholesale re-evaluation of prevailing structures of science-based decision-making. However, losses in consumer confidence have not been the only catalyst for the change in the manner in which we view the legitimate use of science within government. In addition to the indisputable need for a review of the quality of scientific advice used to verify agricultural production methods, the extraordinary degree of public political disquiet about the authorised use of genetically modified organism within agriculture and industry has raised new issues about science-based governance. Today, the issue is not merely one of ensuring that the science used in governance is sound. Instead, thought must be given to the balancing of scientific opinion against wider ethical and social values.

Burning cows in English fields and images of slaughterhouses, cattle-blood and -brains led not only to a fall in beef consumption but also to a drop in citizens' belief in the credibility of government. How could citizens ever trust governance structures which gave priority to agricultural concerns over the protection of their health?¹ Governmental responses entailed institutional and procedural reform to ensure the quality and transparency of science-based decision-making, and the participation of citizens throughout the process. A similar political outcry in relation to the authorisation of GMOs only intensified the need for such governmental efforts to reform the institutions of risk governance. In addition to exposing failings in the quality of scientific advice used within decision-making, the BSE crisis also highlighted problems of scientific uncertainty. It became common knowledge amongst the public that scientists would not always have answers to problems of risk. To what degree would infected beef within the food chain result in full scale infection of the human population with the new-variant Creutzfeldt-Jakob disease? The debate around GMOs was not only marked by an even greater degree of conflict around scientific uncertainty, but also began to raise issues of whether under conditions of scientific uncertainty, it would be legitimate to demand that scientific rationalities could ever be overruled by ethical or social values.

New approaches to risk analysis, introduced in the wake of BSE and in the face of a growing controversy about the authorised use of GMOs, sought to combat the 'organised irresponsibility' (see Beck 1986, 2005) that had marked much risk policy at both Member States and EU level in the previous years. Reform was carried through at an institutional level, with a clearer separation being made between risk assessment and risk management; a reform which consolidated executive management of risk, making clear which portions of risk policy would be attributed to scientists and bureaucracies and the rules under which scientific advice was to be collated and adopted.² Further, reform also saw an increase in procedural standards of

risk oversight, above all with regard to the strengthening of the principles of openness and participation as well as the precautionary principle, a seemingly 'neutral' standard allowing pre-emptive regulatory intervention to combat uncertain risks (see in particular Fisher 2007).

One side-effect of the effort to regain public trust in the credibility of risk regulators and regulation was the strengthening of the bureaucracy and executive centred around risk regulation; the newly consolidated executive, with its newly apportioned responsibilities within the process of risk analysis, was to be the main vehicle through which public trust might be regained. Equally, the consolidation of executive powers and profile within the risk constellation was only augmented by virtue of the globalisation of markets and the consequent internationalisation of risks and institutions. Even though the Commission and other Member States were keen to portray BSE as a purely British problem, consolidated food markets within the EU ensured that the Commission and national regulatory authorities were inevitably confronted with the management of the BSE risk. By the same token, GMOs are not geographically confined such that a consolidated EU GMO policy will still require co-ordination with national and international policies and institutions of market management. Within the ever more global trade context, normative, practical and legal pressures tend to encourage networking of executives and of bureaucratic/legal rationales. For example, the technical standards generated within the framework of the Codex Alimentarius Commission gain in significance as an evidential aid within the science-based WTO framework and, thus, inevitably function as a magnet for the executive agenda-setting preoccupations of national and supranational bureaucracies such as the European Commission (see Mason-Matthee 2007).

In this ever more global world of risk management, the EU executive has an increasingly complex task to manage risks. As the most powerful supranational bureaucracy, the European Commission has unparallel

significance acting as a nodal management structure between national and international frameworks of risks. In this contribution, we aim to understand the dynamics of European risk governance and its embeddedness in the ever more global context of risk regulation.

Science as a Panacea?

Faced with the shortcomings identified above, in particular the European Commission, in handling the BSE crisis, one line of reform concerned the separation of risk assessment and risk management at the EU and national level. As such, it involved conceiving of the movement of science, and the responsibility for scientific advice, out of the traditional executive framework into independent bodies. From this, regulatory provision that risk assessment and management must be made institutionally independent from one another both at European and at Member State level, hereby linking with the international concept of risk analysis of the Codex Alimentarius Commission, flowed.³ This new regulatory philosophy whereby the hazard potential is, where possible, formulated as a quantifiable risk solely with reference to technical and scientific criteria has thus found institutional approval in the creation of independent scientific/technical bodies such as the European Food Safety Authority (EFSA) at the European level and the British Food Standards Agency (FSA), the French *Agence Française de Sécurité Sanitaire des Aliments* (AFFSA) and the Dutch *Voedsel- en Warenautoriteit* (VWA) at the national level. By the same token, the risk management function, or the final decision on the acceptability of risk, is made a clear responsibility of traditional executive bodies such as the European Commission at European level and national administrations within the Member States.

Within this emergent regulatory philosophy of rationalisation of risk assessment and management functions, the growing reliance on technical and scientific criteria for the framing of the risk problem as well as the mode of

combating risk interestingly may also extend to constellations of scientific uncertainty and to the overcoming of uncertain risk. In other words, even in cases where science cannot adequately quantify risk, or situations in which there are suspicions of hazard, although scientific or historical evidence is lacking, rationalising regulatory strategies may yet prevail. Typically, ‘uncertain risks’ concern particular instances of suspected possible hazards that are usually associated with complex causalities, large-scale, long-term and trans-border processes, and which are usually difficult to control (see Van Asselt, Vos and Rooijackers 2008). Equally typically, these uncertain risks not only reveal the limits of science but also unveil their political character as a wider public perceives that those hazards could impact negatively upon society and therefore demand that some action be taken by political actors.

Nonetheless, with a notion of ‘precaution’, constitutionalised within the European Union as the precautionary principle, uncertain risk may yet be treated within a rational framework of decision-making devoid of direct interaction, whether deliberative or otherwise, between societal and technical values. Alternatively, in one analysis, precautionary action – or the notion that restrictive interventions are justified where hazard may not be verified in a quantifiable manner, but qualitative analysis suggests that potential damage is large-scale, irreversible and impacts significantly upon large sectors of society – is still founded in rational-technical science.

Fisher’s analysis demonstrates that executives – whether made up of traditional bureaucratic bodies such as the European Commission or now found in independent bodies dedicated solely to technical analysis and the promulgation of science – can restore and secure public faith in the credibility of risk regulation through application of a rational instrumentalist model of administrative decision-making (Fisher 2008). Risk may pose great threats to the joint enjoyment of the social environment. Equally, hazard and uncertain risk remains a constant source of social anxiety. Nonetheless, the distinction

made between risk assessment and risk management, clear rules guaranteeing the quality of scientific advice and the independence of experts, together with the rationalist constitutional reading of the precautionary principle seemingly provide us with a rational framework that obviates irrationality fears. It thus ensures that decision-making takes place in a context free from interest politics and the value irrationalism that otherwise marks unstructured public political debate.

Offering us a tool to combat the negative externalities of the global risk society that has developed in tandem with global, liberal patterns of trade and development, rational instrumentalist philosophies both help to structure executive action and further facilitate interaction between executives within the global complex of national, supra-national and international executives. One language is spoken by all; a language, furthermore, which, with its Weberian claim to establish common truths out of diversity, is perfectly suited to the management of risk between diverse societies.

However, the 'panacea' of science and instrumental rationality is perhaps not all it would seem to be. Where it would mean that paradoxically more resort to science is taken in situations of uncertainty (see Weingart 1999: 151-161), it is by definition in these situations of uncertainty that science reveals its true limits and that other factors, such as social and ethical concerns, are bound to play a role. In this way, the European Commission for example recognises that in situations in which the precautionary principle is applied, other factors than science should also be taken into account in the decision-making process.⁴ Inevitably, this has led to much controversy surrounding the precautionary principle, where it is considered by some as a principle that gives almost *carte blanche* to arbitrary decision-making and by others as a principle that allows for a more reflexive and pluralistic decision-making process.⁵ Interestingly, it is increasingly recognised that there cannot be a single definition of this principle across the European Union, the

national levels and the global level, as the principle strongly depends on its context and the legal culture in which it is embedded (see *inter alia*, particular Fisher 2007).

We have already noted that failings within the historical scheme of ‘organised irresponsibility’ for risk regulation led to an immediate crisis of public confidence and a governance response which stressed the need to re-establish credibility through the scientification of knowledge production on risk and the clear apportionment of assessment and management responsibilities to the traditional executive bureaucracy and newer independent technical-scientific bodies. This governance response, privileging technical rationalities and leading to a consolidation of the executive in the broad sense, was also well suited to the complexities of a global trade regime and the need to find decisional criteria which might overcome cultural sensitivities and the clash between economic and non-economic values. However, the expanded and consolidated executive function which this evolution has entailed, together with the technically-rational philosophy within which it is founded, is itself a new governance threat: executives thrive on consolidation and conformity. Thus, for example, notwithstanding its recognition that socio-economic values impact upon the precautionary decisional equation, the European Commission nonetheless seeks to promote a monolithic conception of precaution, viewed in some sections of society as an arbitrary yardstick, which fails to take account either of science or of the very series of diverse social and cultural interests it was designed to protect (see Fisher 2008).

At one level, the monolithic nature of the principle of precautionary action that the Commission promotes, raises a very old spectre indeed. Although he argued in favour of formal bureaucratic rationalities, Max Weber expressed concern that rationalising tendencies within modernity would also give new life to the danger of despotic behaviour (Weber 1976).

A rational administration would also be deaf to human concerns that are not recognisable within rationally structured discourse. Within the expanded and consolidated executive function, spanning national, supranational and international entities we might accordingly be concerned that the emphasis laid on the use of science to define and frame the problems which risk regulation must address, together with the instrumental rationality that marks processes of interlinked risk management across the global institutions of trade regulation, might lead to a fatal disregard for ethical and social sensibilities (Everson and Eisner 2007).

Equally, however, the spread of the executive function across local boundaries to embrace a global world can also be argued to obscure the real rationales that underlie decision-making. As empirical analysis of the case of Pfizer, a European refusal to authorise the use of particular antibiotics as growth promoters within European pork markets, demonstrates (Van Asselt, Vos and Rooijackers 2008), executive decision-makers may be tempted to hide behind ambiguous scientific findings to pursue their own agendas. In this case, the European Commission did not listen to the relevant European scientific body's conclusion that there was no immediate risk to human health and preferred to refer to other scientific bodies (the Dutch Health Council, WHO, UK House of Lords) who adduced scientific uncertainty. On the basis of the findings of those bodies and some use of the language of the uncertainty by the European scientific body, the European Commission constructed its argument of scientific uncertainty that formed the basis of its precautionary measures: i.e. a ban on the relevant antibiotics on the European market, whilst it could have more openly acknowledged that the ban was an outcome of its desire/policy to combat resistance to antibiotics, which is in fact a human health concern within the Community. On the other hand, empirical analysis also makes clear that the Commission desperately needs advice from scientists in what is an area of highly technical and complex

issues to help them with identifying the human health concerns and to guide them in their decision-making. For example, one interviewed Commission official pictured the relationship between the European Commission and EFSA as being one of a blind driver, the Commission, and a directions-giving passenger, EFSA (Vos and Wendler 2006: 122).

Seen in this light, the executive nature of global risk governance raises a dual and interconnected problem of too great an emphasis on the decisional legitimacy of scientific and technical criteria, together with a refusal to make transparent the social and economic values that guide decision-makers. The problem is one of de-politicisation, or, better stated, a politicisation of the scientific executive function, which might and can lead to obscure and insensitive decision-making at the level of the simple application of science to complex social relations, and which might furthermore also deny its own normative underpinnings or commitment to positive values such as human health.

In a final analysis, then, the tension between the functionalist necessity for science-based decision-making and the wider demand for a form of public participation within risk governance continues to be the primary characteristic of modern risk governance regimes. The potential inhumanity and obscurity of a science-based rationally instrumentalist executive must be balanced by public participation, which is more transparently dedicated to the re-introduction of ethical and social criteria within the bureaucratic discourse. At the same time, however, explicitly political debate must be subject to the limits of science, and more particularly must continue to be disciplined in the light of neutral, technical-scientific criteria.

Precaution and the Problems of Political Pluralism

If modern schemes of risk governance might be said to be characterised by ongoing tension between scientific/technical rationalities and the demand for appropriate consideration of the ethical, social and economic values that may also be affected by global trade regimes; then, by the same token, the primary function of risk governance might also be argued to be the effort to bring scientific rationales and social/ethical values into a lasting equilibrium within stable institutional structures of governance. As a consequence, the process of risk management which, as we have seen, is sometimes simply conceived of as a bureaucratic exercise of adapting regulatory intervention in the light of technocratic/scientific analysis, might be viewed in a wholly different manner. Where the task is one of balancing rationales and values, risk management is a political exercise, a discursive process of the establishment and implementation of a policy about risk and its regulation.

As the case studies reveal, in practice as well theory, the precautionary principle is coming to be regarded less as a neutral procedural standard to be applied in the exceptional context of uncertain risk and more as an institution in its own right within which risk policy is drawn up. As Rothstein notes in relation to the activities of the UK Food Standards Agency, recent regulatory debates within the UK reveal ‘how scientific, normative and institutional uncertainties provide significant scope for conflict on what constitutes precautionary action’ (Rothstein 2008). The core of this contention is provided by the insight that, even in relation to simple (quantifiable?) risks, ‘scientific knowledge does not provide an uncontested universal evidential basis for decision-making’. Instead, a proposed UK ban on sausage skins teaches us that where a country has no economic and societal interest in maintaining a product on its market, it is not difficult to address uncertain risks within a precautionary action, which was then considered to be proportional. This was not the case within the whole of the EU, and more

particularly in Germany where natural sausage skins are used on a very large scale. The notion of proportional precautionary action allowed the Scientific Steering Committee at EU level to shift its evidential basis and reject a precautionary ban on sausage skins on the basis of the relative lack of risk posed by them in comparison to normal carcass meat (Rothstein 2008).

The perception that precaution is a policy and not a simple neutral cost-benefit criterion since costs and benefits may vary in relation to the overall socio-economic context within which risk is posed, is further confirmed by the legal reasoning structures adopted by US courts in their oversight of food regulation. Here precaution does not have a meta-legal status as an independent criterion that may be applied to all cases regardless of their factual constellation. Instead, it is argued to be a 'high level policy' which political actors must use to elaborate particular rules to apply to particular fact-finding procedures (see Walker 2008). The legal contextualisation of the principle underlines its relational status. Precaution and the evidential basis for precaution alters in the light of the particular circumstances of production, the socio-economics of particular production processes, as well as with regard to the legal culture within which evidence for precaution must be established.

The recognition that the evidential basis for precaution and the evaluation of risk will necessarily fluctuate in light of institutional, social and economic contexts, in its turn, raises new questions about the renewed emphasis upon 'participation' within governance that we have seen since the BSE crisis. At one level, the move towards the securing of greater degrees of public participation within risk governance structures might be considered to be part of the overall effort to improve regulatory institutional credibility through greater participation and transparency with the consequential enhancement of the trust of citizens in the risk management regime. However, once we have admitted that risk management is itself a necessarily

political process, entailing the weighing of relative substantive costs and benefits of fluctuating interests, the inevitable political contestation which such processes entail may also be argued to necessitate public participation with the executive for other normative and efficiency reasons.

Thus, participation, and more particularly public participation within institutional structures of risk governance, can serve a variety of rationales. As has been suggested, in contrast with traditional bureaucratic structures whereby delegation was itself considered to be a manifestation of public trust in the efficacy of the executive process, and further, was designed to overcome complexity in regulatory matters, trust in modern risk management can only be assured where the public is afforded participatory tools that allow it to oversee each stage in the management of complex issues. In contrast, however, public participation within executive structures can also be viewed to be a part of a general normative scheme of government which demands that executive action always be integrated within democratic decision-making. Participation then, in this constellation, is seen as a vital element of democratic legitimacy. Finally, participation may also be conceived of in an ‘instrumentalist-normative light’, focusing on the quality of the outcome of the decision-making process, and thus aimed at enhancing the quality of decisions.⁶

In this latter perspective, the recognition that scientific evidential bases are not monoliths, nor are they indisputable truths in their own right, but are instead both necessary to structure and constrain debate, and are at the same time, relative both to the institutional context and the material problem constellation to be addressed, has as its necessary corollary an alteration in the significance that is attached to the material views and opinions that participation brings to the risk management and risk assessment process. In this context, participation does not simply serve abstract normative goals of government such as enhancing trust or meeting democratic requirements, but

also acts *as a part of knowledge creation itself*, as a material contribution to the evidential bases for assessment and management of risk. In this way, participation thus aims to enhance the *quality of both scientific opinion and the management decision*. By allowing citizens and/or stakeholders to provide knowledge about the scientific issues at stake on both a scientific/technical level as well as on the level of ethical and social values, scientists are confronted with knowledge within a wider context, also allowing for lay knowledge to be introduced in the ‘hard science’ context (see e.g. Wynne 2001: 445-481). In addition, allowing stakeholders and/or citizens to participate in management decision-making may also enhance the quality of the ultimate decisions as they would be able to express themselves on the management options/preference at hand, thus augmenting the knowledge-base for decision-making.

Participation as a contribution to knowledge creation seems thus a sensitive response to the threats thrown up by a global risk governance regime. Ameliorating the potential ‘inhumanity’, insensitivity and opaqueness of bureaucratic and scientific rationales, participation as knowledge creation can be argued to represent a shift within conceptions of governance and to be a positive response to the complexity of uncertain risks. However, participation as knowledge contribution must also be recognised to give rise to its own particular problems of the institutional structuring of risk governance. In contrast to traditional bureaucracies which ensured unitary and universal decision-making through the exclusion of public participation from implementation processes, the re-evaluation of participation as a positive contribution to knowledge creation also demands that we identify institutional mechanisms and procedures which reconcile potentially irreconcilable rationalities of science and ethics, and which further guard against executive capture by inappropriate interests, or even an utter collapse in the executive function as plural processes of knowledge creation descend

into meaningless and fruitless conflict between varied views and interests. Historically, trust was a communitarian good established within normal political processes. It predated and justified delegation in the effort to reduce regulatory complexity.

Three Models of Plural Risk Governance

In the preceding sections we argued that within the traditional models of bureaucracy maintained within the nation states of modernity, the major concern was one of ensuring the authority of bureaucratic rationales and decision-making through a strict delimitation between political processes of policy and decision-making and bureaucratic processes of implementation. The plurality of interests which circle each regulatory task were first neutralised within the conventional democratic processes of the national polity; subsequently, a unitary will for action was transmitted to an implementing executive. Within plural global risk governance structures contestation continues between scientific and ethical/social rationales as well as between diverse interests from the moment of problem definition through to the point of regulatory intervention of the establishment of a precautionary approach. Here the problem is a heightened one, both of the identification of a principle that might reconcile conflicting rationalities and that may legitimate a final (universal) decision, which transcends all particularistic interests that arise within particular constellations of risk.

Broadly speaking, we may distinguish three models within which we might begin to conceive of a plural risk governance institutional structure and within which the dangers of particularistic plural contestation and a lack of final regulatory authority might be combated.

1) For the political scientist Andreas Klinke, the primary problem is one of how the identification of a universal rationality of 'justice' within

scientific and ethical-social rationalities may be reconciled and the varying cost-benefit calculations of individual actors be conflated. The process of global risk management must be dedicated to the identification of a 'common good' that will then legitimate the final decision. However, this model of *'the common good-orientation' of risk management strategies* also raises the question of inclusion or exclusion, whose good ought to be taken into account and, what, substantively-speaking is the common good' (Klinke 2008). To Klinke, a deliberative conception of the common good is the only possible outcome. Certainly, 'resort may be made to the category of justice'; however, justice will necessarily be a 'relational' concept to be established in each concrete case of risk management by constant cognitive reflection by and between all interested parties.

At the practical of institutional design, then, global schemes of risk governance must be informed by, and processes of risk management are only legitimated by, 'inclusive risk governance through discourse, deliberation and public participation'. Publicly acceptable common good rationality is a product of a political pressure which ensures that policy-making and advisory bodies consider and condense unadulterated and reliably collated public opinion and input throughout the whole of the risk governance process. The model is one that locates authority for final decision-making within constitutive deliberation, whereby no one rationality can ever claim to represent and embody objective criteria for decision-making: the common good is an epistemological product of concrete deliberation (Klinke 2008).

2) The notion that decisional authority can never be derived from one rationality but must instead be teased out of deliberation between competing and contested rationalities is one which science also recognises. The model of *'sound science'* can be distinguished as a second model. It extends deliberation into the process of risk assessment and the amelioration of the public sensitivity of science by contrasting the scientific rationales with varying

public ethical and social concerns at the very point of the creation of the scientific knowledge base. In this model, active stakeholder participation may occur at a number of levels, for example '(i) during the process of problem identification; (ii) during the organisation of the risk analysis process, and, above all, decisions about who should participate within that process; (iii) in relation to the identification of the relevant technical, social and economical parameters that should be applied during risk analysis; (iv) with regard to the establishment of judgement values on the acceptance and mitigation of identified and characterised risks; and (v) with regard to the measures to be taken to monitor and control risk factors that have already been released into the environment' (Kuiper 2008).

The pivotal point to note is that although the common good cannot be found within the purported 'objective' criteria to be found within any one rationality (scientific, bureaucratic, social or ethical) and must instead be established by the constant deliberative process of cross-referencing between competing rationalities, the institutional structures and procedures of global risk governance must also take care never to dilute the individual rationalities that are brought to bear upon the search for a common good and decisional authority. Science must not be contaminated by ethical considerations. Likewise, the ethics and social mores current amongst and supported by a wider process of public participation may not simply be set aside with reference to scientific criteria. This process of constitutive deliberation founded within mutual respect and cross-referencing between rationalities likewise finds a supportive partner within the disciplines of law and administrative design.

3) A third model, '*administrative constitutionalism*' (Fisher 2007) or '*reflexive proceduralism*' (Everson and Eisner 2007), focuses upon a reorientation of the logics that drive institutional administrative design and legal oversight of risk regulation. Neither the institutions of risk management, nor the law

that oversees them, can claim to embody or apply substantive criteria to legitimate constitutive deliberation. Constitutive deliberation cannot be tested or ensured simply within the logic of scientific discourse. Nor can it be measured purely against ever changing ethical and social mores. Accordingly, both the notion of administrative constitutionalism and the notion of reflexive proceduralism aim to secure a change in administrative and legal cultures. The administration may no longer simply rely on instrumental rationalism. Law cannot simply promote science. Instead, both administrative design and law must be dedicated to ensuring that constitutive deliberation between competing rationalities and interests is promoted and structured to ensure respect for contestation within the risk governance regime and, further, they must establish a clear set of procedures and rules which address conflict. Most importantly, legal and institutional structures guiding constitutive deliberation are not simply concerned with the provision of a neutral forum for debate between conflicting rationalities. Instead, both aim to guarantee the quality of this debate by ensuring that each scientific, rational or ethical rationality promoted within the global risk governance regime is not simply subsumed within an obfuscating melting pot of values, but instead retains its own integrity and, thus, ability to convince in concrete cases. Thus, concrete administrative and legal structures are likewise used to enhance the philosophy of constitutive deliberation, further strengthening discursively established legitimacy through procedural values of transparency, participation, independence and excellence.

European Risk Governance in the Global Context:

The Cases of Food and GMO Regulation

With its constitutionalised precautionary principle and its ever more differentiated institutional efforts to rationalise the process of risk regulation and scientific uncertainty, the European Union might initially appear to have

developed the most streamlined of responses to risk and scientific uncertainty. However, when we investigate the specific examples of food and GMO regulation, the hidden subtleties and complexities of both risk and regulatory intervention become apparent. They demonstrate the particular difficulties of acts of risk assessment and management in light of long-standing contestation between industrial and consumer interests that are difficult to maintain in equilibrium within institutional structures. Which forms of food might be deemed safe? Should we pay greater attention to the efficiency demands of a global food market for consolidated foods standards than to local perceptions of food as a product anchored within ethical and social values? How might a European executive best mediate between global trade efficiency interests and national/local preconceptions about the cultural embedding of food? By the same token, case studies on GMOs unveil the difficult demands made upon a European executive in relation to the structuring of public participation within the regulatory regime and the effort to reconcile the ethical and social demands that public participation entails with the more rational interests and outlook of a global market and of global and European institutions of legal regulatory oversight. Such case studies are exemplary for the way in which 'contested governance' and (dis)trust challenge the legitimacy of existing institutional arrangements (Ansell and Vogel 2006: 10).

Above all, the current global framework for risk governance, encompassing national regulation, supranational regimes and international regulatory bodies and treaties, is still strongly characterised by inherent tension between instrumentalist rationality and demands that political participation and, above all, the ethical and social values that participation entails, be better structured and given a clearer profile within risk governance structures. In practice, the global risk regime presents us with a paradox, a dual and intertwined process of re-scientification and re-politicisation, whereby neither scientific/technical rationales, nor political deliberation are

properly structured or secured to ensure the integrity of the risk governance regime.

As noted, maintenance of the integrity of scientific discourse is a vital component within risk governance regimes. Scientific discourse is a universal discourse that creates objective values, which may be tested and which in turn may be used to test the validity claims of other political, social or ethical discourses and, above all, may be used to unveil hidden motivations, such as protectionism or the hidden evolution of, say, health protection policies within competing rationalities. At the same time, however, scientific rationalities, if never challenged within competing discourses, can prove to be insensitive to established ethical values and simple social realities. If further embedded within expansionist executive and bureaucratic logics and rationales, science and technical rationality harbour the potential to disenfranchise necessary political debate and to contribute instead to the expansion of a hegemonic executive function.

Pressures for the re-scientification of the European and global risk governance regimes are manifold. However, perhaps the most powerful of pressures for re-scientification remains the 'global' nature of trade, which, when taken together with the political aspirations of individual segments of the global risk governance executive, sees actors motivated to use the universal rationality of science to gain the upper hand within interconnected national, supranational and international regimes (see Scott 2008). Thus, for instance, we witness the curious efforts of the European Commission to colonise the standard-making procedures of the Codex Alimentarius Commission by asserting the overwhelming scientific excellence of the activities of the European Food Safety Authority (see Vos and Wendler 2006: 128). Thus, the argument is made, this excellence should – for wholly rational reasons – be deployed in the global effort to identify a 'state of the art' for food standards that will apply throughout the whole of global trade. A

fine and worthy endeavour? Perhaps not: the Commission's efforts to colonise the Codex using scientific rationale is surely also informed by political motivations and, more particularly, by the WTO recognition of the Codex as a state-of-the-art set of standards, which means that they might then form the evidential basis for evaluation of potentially restrictive precautionary regulation at national and supranational level (see Mason-Matthee 2007).

At once, science has become a tool in the endless controversy between US and European regulatory regimes that centres on WTO dispute settlements. The exact significance of scientific rationality within this dispute is highly opaque. The GMO dispute, recently heard by a WTO panel,⁷ presents us with a scenario whereby the EU has chosen to allow its member states to continue to apply precautionary regulatory provisions, which appear, in the eyes of the US regulatory regime, to have very little to do with scientific and market rationalities and, instead to represent the continuing pre-occupation of European market cultures with the maintenance of cultural traditions within modes of production (see Joerges 2008; Joerges and Petersmann 2006: see also Zürn and Joerges 2006). Above all, the continuing restrictions placed upon GMOs reflect a 'European' notion that a (food) product is more than simply an end product but also encompasses the mode of its production: cheese is only cheese and beer is only beer where the same production methods have been used for generations (Everson and Joerges 2006). The old world 'feudalism' of such constructions are a necessary affront to US market liberalism; an affront that they seek to overturn with reference to scientific rationality. In this view, the European notion of precaution is context-based, founded not in rational, objective and universal criteria but in the social constructions of European markets, taking into account, next to scientific rationales, other legitimate and lifestyle concerns of European citizens. This kind of thinking and argumentation will be tested as soon as the

EU labelling regime on GM products is challenged before the WTO dispute body.

What then of the strategic use of European science to capture and colonise the Codex? Are we witnessing the de-politicisation of the Codex Commission and the establishment of a hegemonic rational discourse of science? Alternatively, is this trend just one further strategic European effort to assert its context-based evidential bases above US market liberalism and scientific rationality? The intertwined, yet not fully integrated, structures of governance within the global trade market make it very difficult to determine what form of science and what form of executive political action is taking place.

The strategic use of science perhaps has its most important manifestation within the global context of risk governance. However, this is not to say that re-scientification and the use of science to dominate political debate is not also present at more local levels. Above all, national authorities within the European Union have often been forced to deploy scientific rationality, not simply since they embody empirical truths, but rather since they are a convenient tool to set aside inconvenient interests that may block trade in particular products; a trend most apparent within the early efforts to establish new scientific structures for food regulation in France (Noiville 2008). By the same token, however, they may also be used to create or maintain barriers to trade. Thus, French authorities were also quick to seize upon science and the notion of scientific uncertainty to justify their continuing refusal to lift their ban on British beef following the BSE crisis (Besançon and Borraz 2008).

So, what is the real danger posed by re-scientification of the spread of instrumental rationalism through global structures of risk governance? Is it perhaps seen most clearly in the tortuous re-alignment of once hierarchical structures of political control of foodstuffs in Poland to suit the demands of

the integrated European market for clear distinctions between risk assessment and risk management (Surdej and Zurek 2008), where it is felt that a scientific rationality with no sensitivity towards human social and ethical concerns will simply sweep away all of our more refined notions that goods are also the sum effect of their socially-embedded modes of production? Alternatively, is it that an ever expanding global executive function it itself poses a danger to the integrity of the evidential scientific knowledge base for decision-making, proving itself all too willing to use and misuse science in a strategic manner that obscures an underlying confusion of scientific, ethical and social rationalities?

Clearly, the solution to both such dangers is a re-politicisation of the risk governance regime, which makes use of the legitimating quality of ethical and social values within the deliberatively constitutive debate on the nature of risk and the status of scientific uncertainty. The integrity of science itself can surely only be assured where transparent frameworks of discourse recognise the contested nature of risk governance allowing political and ethical concerns to be given explicit expression rather than be hidden within or behind instrumentalist scientific rationalities. At the same time, however, participation, allowing for the expression of social and ethical values can help to place truly universal scientific rationality in its necessarily embedded social context, enabling the establishment of equilibrium between competing and contested discourses.

However, at a practical level of risk regulation we can again see that equilibrium is far more easily established in practice than in theory. The problem is not simply one that participation tends only to occur at national level and cannot easily be accommodated within the bureaucratic and legal rationalities that characterise the essential interlinking institutions of risk governance within the global trade regime. The structures of the Codex Alimentarius Commission are thus not easily opened up to diffuse public

debate and instead can only be made accessible to stakeholders, with all the fears of regulatory capture that such a constellation gives rise to. By the same token, however, the legal rationality of, say, WTO panels is of necessity closed to direct public interest participation: law decides issues in isolation. Rather, the problem is a far deeper one of a failure to identify the criteria that allow for the reconciliation of ‘incommensurate rationalities’. The dicta of Max Weber still hang heavily over our modern efforts to establish a universal decision-making that gains its authority from the willingness of all parties to the process to recognise the quality of the final decision.

In the absence of one overarching rationality that allows the process of contestation to be brought to its natural conclusion through the exclusion of all competing rationalities from the final decision, the tendency remains one of bad structuring and possible misuse of participation. Thus, GMO debates in both the Netherlands and the UK reveal that participation is not viewed as a means to enhance the *quality* of debate and the decision by means of mutual re-adjustment of the evidential bases for scientific uncertainty, but is instead reduced down to its lowest common denominator: with the UK Government viewing participation as a means to educate the public in scientific rationalities (Lee 2008) and the Dutch Government treating participation as a simple exercise in democratic legitimation and trust enhancement, final decisions were still to be taken apparently within the rationality criteria of science and the market leaving the indelible impression that all social and ethical criteria raised in debate were simply extraneous to the final decision-making process (Somsen 2008).

Concluding Remarks

In the effort to re-establish the credibility of risk governance following the BSE crisis, many institutional and procedural reforms, encompassing greater independence for the scientific knowledge-base and greater public

participation within decision-making, have at the very least helped policy-makers, the public and academics in their efforts to enhance the quality and legitimacy of decision-making on risk and uncertain risk. However, each reform also reveals the complexity of the regulatory problem to be addressed as the gap between scientific rationality and trust has proven to be difficult to address in practice.

However, in the continuing effort to bridge demands for safety and for trust we can now begin to sketch out the vital elements within an effective global risk governance regime. The conceptualisation of participation helps us also to identify in which cases and under which conditions participation should be allowed. Above all, participation must serve to improve the quality of decision-making and be recognised as a vital substantive element within the knowledge base for decisions on scientific uncertainty. The substantive rationale of participation pleads for some form of participation by stakeholders in science-making itself so that knowledge can be transferred to the risk assessors, which will lead to better scientific opinions. Using a theatre metaphor, Stephan Hilgartner suggests that both transparency and participation should not be about dissolving the difference between onstage and backstage of science- (and decision-)making but more about creating public spheres in which differences in opinion can be ventilated and viewpoints can be exchanged and discussed between all relevant parties (Hilgartner 2000). Other authors suggest that expert bodies should open up to scientific uncertainty and reveal the uncertainties at stake, which would avoid the situation wherein the risk managers hide behind science and experts. This would imply that scientific bodies should not only include experts on the relevant issues of uncertain risks, but also experts who are tolerant towards uncertainty so that they may 'neutralise' the production of plausibility proofs with the help of uncertainty language whilst they can also help to frame and phrase scientific opinions so as to make them

understandable for a lay public. Further suggestions for reform relate to the proceduralisation of the precautionary principle and the stimulation of more independent research carried out by public scientific bodies themselves (Van Asselt, Vos and Rooijackers 2008).

Linking these empirical reform suggestions back to the structural theories of administrative constitutionalism and reflexive proceduralism, future global risk governance should seek to establish its own constitution, which not only secures the vital independence and transparency of scientific advice, but also guarantees public participation, whether by stakeholders or a wider public, to ensure that scientific rationality, even as it is used to discipline the potential irrationalities of political debate, is nonetheless not the sole criterion for risk decision-making. Instead, individual rules must be developed within the ambit of a procedural understanding of the precautionary principle, which recognises the case specific context of a definition of scientific uncertainty and which ensures rationalisation of public participation and a widening of the knowledge base upon which precaution is established. Rationality in this latter sense is inextricably linked with notions of transparency. Decision-making in situations of uncertain risk can and often must also be political in nature. The theatre metaphor teaches us that we should not strive for an opening up and shedding light on the 'backstage' activities of both scientific and political bodies, but instead that we create public areas of discussion. Hereby it is of utmost importance that when upholding the separation between what is happening on- and backstage, scientific and political bodies will not be secretive about their 'backstage' activities. Transparency about the arguments and science used, the values involved and the way they have been addressed as well as the procedure followed should guarantee that no capricious and arbitrary science-and decision-making takes place and show how science and non-market values have been balanced.

Notes

¹ See as regards the UK, BSE Inquiry Report, 2000, at <<http://www.bseinquiry.gov.uk/report/index.htm>> and as regards the EU, Medina Ortega Report, Inquiry Committee set up by the European Parliament (1997), A4-0020/97/A, PE 220.544/fin/A.

² See e.g. the contributions by H. Rothstein, J. Besancon and O. Borraz, A. Surdej and K. Zurek, B. Van der Meulen and E. Vos in Everson and Vos 2008.

³ Working Principles for Risk Analysis, Codex Alimentarius Commission – 14th Procedural Manual.

⁴ CEC, Commission of the European Communities, *Communication on the precautionary principle*, COM(2000) 1, 2 February 2000, Brussels.

⁵ See e.g. as regards the former e.g. Forrester and Hanekamp 2006: 1013–1019; Marchant and Mosman 2004. As regards the latter e.g. de Sadeleer 2005, 2006.

⁶ See Harremoës, Gee, MacGarvin, Stirling, Keys, Wynne and Guedes Vaz 2002. Stirling makes a threefold distinction for participatory engagement rationales: *normative democratic* ('because it is the right thing to do'); *substantive* ('because it leads to better decisions') and *instrumental* ('because it facilitates particular favoured decisions'). See Stirling 2003: 381–401.

⁷ See for a discussion of this case e.g. Prévost 2007: 67–101.

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