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Originally published in Economy and society, 35 (1). Pp. 91-112 © 2006 Taylor & Francis Group.

You may cite this version as:
Rothstein, Henry; Huber, Michael; Gaskell, George (2006). A theory of risk colonization : the spiralling regulatory logics of societal and institutional risk [online]. London: LSE Research Online.
Available at: http://eprints.lse.ac.uk/2675
Available in LSE Research Online: August 2007

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Published in *Economy and Society*, Vol. 35 (1). February 2006: 91-112

A Theory of Risk Colonisation: The spiralling regulatory logics of societal and institutional risk[1]

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Abstract

Explanations of the growing importance of risk to regulation identify three processes; the need to respond to newly created and discovered risks; the growth of regulatory frameworks and, the use of the risk instrument as an organising idea for decision-making in modernity. Synthesising these explanations, we propose a theory of risk colonisation. We introduce a distinction between societal and institutional risks, the former referring to threats to members of society and their environment, and the latter referring to threats to regulatory organisations and/or the legitimacy of rules and methods of regulation. We argue that pressures towards greater coherence, transparency and accountability of the regulation of societal risks can create institutional risks by exposing the inevitable limitations of regulation. In the first stage of risk colonisation, framing the objects of regulation as 'risks' serves as a useful instrument for reflexively managing the associated institutional threats. This can be followed, in a second stage, by a dynamic tension between the management of societal and institutional risks that results in spiralling feedback loops. The very process of regulating societal risks gives rise to institutional risks, the management of which sensitises regulators to take account of societal risks in different ways. We discuss links between this theory and the concept of governmentality and conclude with some speculations about the possible positive and negative consequences of risk colonisation.

Keywords: societal and institutional risk; regulation; governance; risk colonisation; governmentality.

1. Introduction

Until recently, the relationship between risk and regulation was broadly understood to refer to the organised control of environmental and human health and safety hazards through a range of legal instruments and management systems. Risk, however, is increasingly emerging as a key organising concept for regulatory regimes and extended

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governance systems within a wide range of policy domains and organisational settings (Beck 1992; Jasanoff 1999; Hood et al 2001; Moran 2002; Garland 2003; Smith 2004; Power 2004). In the UK, publicly listed companies are required to have risk management systems (ICAEW 1999), and in the public sector, the adoption of 'risk-based' approaches to regulation has become a central plank of the Labour Administration's third term, appearing in policy domains as diverse as the environment, financial services and housing (Cabinet Office 2002; De Goede 2004; Blair 2005; Black 2005; Hampton 2005; Hutter 2005). Risk is no longer the exclusive preserve of scientists and technocrats, but is fast becoming the *lingua franca* of business management and even of general public policy. Indeed, according to Power, not only are we living in a 'Risk Society', but we are now concerned with the 'risk management of everything' (2004).

'Risk' is conventionally conceived as a concern both with potential impact (both positive and negative) and the probability of impacts occurring (Gratt 1987). But beyond that, there is little agreement about what kinds of risks come within the ambit of governance or how they should do so. Such ambiguity may simply reflect the ontological and epistemological conflicts that have been extensively debated in the risk literature over the nature and measurement of risk (Douglas 1994; Adams 1995). Yet while the growing centrality of risk to contemporary society has been much commented upon, there still a need for systematic analysis of the way in which risk has become a central concern of regulation and governance more generally.

Risk has become embedded in regulation in two distinct ways. First, there has been a *quantitative* expansion across policy domains of the regulation of both traditional and novel risks to members of society and their environment, which we term *societal risks*. Increasingly, risk analysis and risk management methods are being employed within the regulation of an ever-widening range of societal risks from the management of contaminated land and stress in the workplace, to financial product misselling and the management of convicted criminals in the community.

Second, there has been a *qualitative* shift towards the management of *institutional risks*. By institutional risks, we mean risks to organisations (state or non-state) regulating and managing societal risks, and/or risks to the legitimacy of their associated rules and methods. Increasingly, the language and methods of risk analysis are being used to manage threats to both regulator and regulated organisations such as delivery failure, budget overruns, liabilities and loss of reputation. In other words, there has been a growing emphasis on the *risks of risk-management*. Some have referred to this simultaneous expansion as the 'duality of risk' (Huber 2002; Power 2004; Ciborra 2004)[3].

This paper starts with an examination of three contemporary approaches to understanding the growing centrality of risk for regulation. We go on to advance a synthesis of these approaches that accounts for the more general centrality of risk to regulation. Broadly, we argue that, under conditions of contemporary regulation,

[3] See also Power (2004) and Black (2005) who have respectively differentiated between primary and secondary risks, and internal and external risks.

characterised by heightened oversight and accountability, regulators are under greater pressure to account for their constrained ability to manage their regulatory objects. Constructing regulatory objects in terms of risk, however, provides a defensible procedural rationality for regulators to manage both their regulatory objects and their enhanced institutional threats. We argue that this reflexive aspect of risk governance can lead to a phenomenon of 'risk colonisation', whereby risk increasingly comes to define the object, methods and rationale of regulation. We go on to argue, however, that 'risk colonisation' can have a spiralling tendency where mismatches between the management of societal and institutional risk drive regulators to ever further activity. We argue that the logic of 'risk colonisation' presents a fundamental challenge for traditional conceptions of the methods, strategies and purposes of risk regulation and, in the wider perspective, for systems of governance.

2. The growing importance of risk to regulation: three approaches

We now outline three broad theories or frameworks explaining the growing importance of risk for regulation in recent years. This 'fuzzy set' of theories brings together a range of literatures that often overlap, but which foreground or privilege different aspects of the relationship between risk and regulation. The first approach foregrounds the role of newly created or discovered hazards in stimulating risk regulation. The second approach, conversely, foregrounds institutional dimensions of regulation in stimulating a focus on risk. The third approach, meanwhile, foregrounds the concept of risk itself as an organising concept for decision-making under modernity.

2.1. The risk society is a regulatory society

The first approach views the growth of risk regulation as a functional response to newly created and discovered societal risks. Scientific and technological advances have solved many of the problems that confronted traditional societies, at least in the developed West. New risks constantly appear, however, as negative externalities of such progress, which, in turn, demand regulatory responses. New risks can appear within traditional sectors such as food or energy production, as well as within less traditionally conceived categories of risk such as threats to privacy associated with the internet. Changes to the methods and organisation of production and services can also create risks, from the BSE and foot-and-mouth crises in the UK to the shift towards private pension schemes. Moreover, research and innovation has also enabled greater understanding, detection and control of previously unidentified or unmeasured risks. Just as the discovery of microbiological hazards prompted the introduction of food hygiene legislation a century ago, so today new knowledge and detection techniques have led to a widening range of targets and possibilities for regulatory intervention, such as controlling exposure to trace chemicals, satellite tracking of criminals in the community, or natural hazard mitigation.

Regulatory intervention to manage the negative externalities of technological and social progress is nothing new. The foundations for pollution control in the UK, for example, were laid in the 1863 Alkali Act. Some argue, however, that the risks of late modernity are different in type and scale from those of previous eras and are beyond the control of societal mechanisms. In the *Risk Society* Beck controversially argues, for example, that

the logic of capitalist development in late modernity threatens to undermine itself by replacing class relationships with risk relationships as the key factor in societal conflict and change (Beck 1992; see also Giddens 1991). Others argue that, at the very least, the pace and character of scientific and technological change challenge traditional models of risk regulation by necessitating action that goes beyond the boundaries of the nation-state and involves new types of actors, bureaucracies and distributive outcomes. From this general perspective, the growth of risk regulation is a functional response to objective risks that confront modern society. The risk society is, therefore, necessarily a regulatory society.

2.2. The regulatory society is a risk society

The second approach focuses less on societal risks as driving the growing centrality of risk to regulation, but instead foregrounds the changing scope and character of state and non-state regulatory frameworks. From this institutionalist perspective, risk regulation is not an unmediated response to risks that are self-evident, such as discussed above. Instead, risk regulation is dependent on the agency of human actors and, more importantly, institutions to discover, categorise and act upon risk. In particular, this approach focuses on the development of regulatory frameworks, and suggests at least two ways in which contemporary regulatory trends themselves have led to the growing centrality of risk to regulation.

First, the centrality of risk can be related to the rise of the so-called 'regulatory state' in the latter half of the twentieth century. This development is broadly argued to be the consequence of a shift in policy emphasis from macro-economic stabilisation and redistributive welfare policies towards the improvement of economic efficiency (Majone 1994, 77-80; Loughlin and Scott, 1997). That shift has seen the state reduce its role as a direct provider but increase its role as a regulator, with the creation of a panoply of national and international regulatory frameworks, institutions and mechanisms to correct for various forms of market failure, including societal risks arising as negative externalities of production and services.

The creation of regulatory frameworks to manage societal risks provides opportunities for well-known shaping pressures to further expand or define the boundaries of risk regulation (see Hood et al, 2001). Economic and political accounts of regulation, for example, show how different actors can drive the expansion of the regulation of societal risks. ‘Chicago School’ theorists have argued that powerful organised producers shape regulation in their own interests (e.g. Peltzman 1976; Wilson 1980), while others, such as Breyer, have pointed to the role of lobbies and the political climate in expanding risk regulation (Breyer 1982; Vogel 2003). Majone, in a similar vein, argues that the expansion of EU risk regulation has offered the European Commission the opportunity for high policy impacts at relatively low cost (Majone 2003).

Furthermore, the expansion of risk regulation is sustained by its knowledge-generating nature, in so far as regulatory goal setting and compliance activities are highly information-intensive. Traditional government departments have often proved ill-suited

to such knowledge generating activities.[4] Regulatory growth, however, has been accompanied by the establishment of regulatory agencies and funding streams that have provided opportunities for sustained 'regulatory scientific' activities that can generate new knowledges about the world and facilitate knowledge transfer from sources outside of traditional bureaucratic structures, such as less powerful interest groups and lay publics (e.g. Rothstein et al 1999; Funtowicz and Ravetz 1993). Such knowledge-generating activities create further opportunities for regulatory expansion. Regulation, from that viewpoint, is a solution in search of risk problems.

The rise of the regulatory state has also contributed to a growing focus on risk in a second distinct way. Regulatory regimes operate within a range of institutional constraints that limit their capacity to manage their regulatory objects and to satisfy all demands placed upon them. For example, regulatory decision-making and implementation is characterised *inter alia* by constrained resources, competing priorities, cognitive uncertainties, bounded rationalities, conflicting interests, ungovernable actors, and unintended consequences. Problem issues rarely map easily onto regulatory frameworks, and even where they do, regulatory success is dependent on the effectiveness and coherence of often institutionally complex regulatory regimes. Regulators, therefore, have only a limited capacity to control societal risks. The difficulty in satisfying conflicting demands on regulation, therefore, creates *institutional risks* that can threaten the legitimacy of regulatory organisations and their practices.

The rise of the regulatory state has served to amplify old, and define new, categories of institutional risk because it has been accompanied by enhanced scrutiny and control of regulatory behaviour. In 'unregulated' contexts, for example, decision-making can be conducted under the cloak of administrative procedures and justified by elected politicians with recourse to political manifestos. But the rise of the regulatory state, and in particular, the rise of 'independent' regulatory agencies has forced regulators to set and justify aims and trade-offs in more public arenas, thus heightening the salience of institutional risks associated with their regulatory activity.

For example, regulators are under growing pressure to justify their actions as bureaucratically rational and defensible in the face of political, executive and judicial scrutiny. Recent years have seen both the public and private sectors caught up in an ever tightening grip of audit and target cultures, creating new criteria for organisational success and failure (Power 1997). As Hood and colleagues observe, regulation *inside* government – the regulation of regulators – has expanded so rapidly that there is now a veritable army of 'waste-watchers, quality police and sleaze-busters' auditing and inspecting the activities of public sector organisations (Hood et al 1999, 207). Moreover, regulators increasingly need to consider how to defend decisions to the European Court of Justice and the World Trade Organisation (Vogel 2003, 567).

At the same time, increasing external transparency and accountability have exposed organisational behaviour in the public and private sectors to wider audiences of spectators and quasi-controllers. Examples include corporate reporting, freedom of information requirements, and the dissemination of information through the internet,

[4] For example, the organisation, conventions and traditions of traditional government departments, and the pressures of electoral cycles can hamper the development of necessary expertise and create policy commitment problems.

NGOs and the mass media. The food domain has been a particular site for a range of experiments in 'open' and 'participative' regulatory decision-making (see Rothstein 2004; Gaskell et al 2001). Regulators are, therefore, under greater additional pressure to justify their actions to diverse publics and interest groups who often have diverse risk perceptions and tolerances that fail to align with bureaucratic rationales. As Douglas (1994) has observed, public anxiety about risk appears to be inversely related to the degree of control of societal risks, or to put it another way, as life becomes safer so do the public find other risks to worry about.

The move from a 'tell me' to a 'show me' world has variously been argued to be the consequence of high profile policy failures such as the collapse of private pension schemes, the BSE crisis, and of a more generalised distrust of government. Perhaps more fundamentally, the shift may have its origins in the need to compensate for inherent accountability and transparency deficits created by the outsourcing of the state's policy functions to non-majoritarian regulatory institutions (Lodge 2003). Whatever the origin, greater transparency and accountability has enhanced institutional risks for regulatory systems by transforming behaviours and outcomes that previously went unrecorded or were considered acceptable within bounded organisational settings, into recorded successes and failures that are held to account by wider audiences with often conflicting judgement criteria. Counter-intuitively, 'good' governance can be a source of risk itself. From these points of view, the regulatory society is a risk (generating) society.

2.3. Risk as an organising idea for decision-making in modernity

So far, we have discussed approaches that explain the growing centrality of risk to regulation in terms of the expanding range of societal risks that are regulated and the institutional risks associated with regulating societal risks. But what is it about risk that makes it successful as a subject and instrument for regulation? The third approach focuses on the idea of risk as an organising concept for the management of uncertainty.

Risk is increasingly conceived not merely as the means to describe the objects of regulation and associated institutional threats but also as a method for organising regulatory activity. Regulatory activity can often appear to be irrational, with institutional factors such as path dependencies, interest group pressures and organisational cultures determining levels of regulatory intervention (Hood et al 2001). In recent years, however, there has been greater focus on enhancing regulatory efficiency, by setting priorities and allocating scarce resources according to risk (e.g. Williamson 1981; Flyvbjerg 2003).

At its simplest, risk-based governance is about prioritising activities according to the impact and probability of societal risks, whether for standard-setting or compliance purposes. In the UK, risk-based regulation has been established for many years in a few specific policy domains such as local road safety, occupational health and safety and the nuclear industry. Currently, however, risk-based governance is being more broadly promoted across policy domains as part of the 'Modernising Government' agenda, as a way of maximising the benefits of regulation while minimising the burdens on regulatees by offering 'targeted' and 'proportionate' interventions (Hampton 2005; UK

Cabinet Office 1999, Black 2005). By taking account of probability as well as potential damage, risk-based regulation has been promoted as an economically rational decision-making instrument for managing the difficult trade-offs between competing priorities that are inherent in any regulatory activity. The probabilistic approach, for example, is argued to help find a way of 'balancing the benefits of positive risk taking against our risk aversion to the costs that may follow' (Kemshall 2003, 6).

The growing focus on risk, however, may equally be understood as the latest incarnation of the well-known strategy of 'protocolization' adopted by bureaucracies when faced with challenges to their activities and legitimacy (Hood and Rothstein 2001). It is commonly argued, for example, that numerical and calculative rationales can augment the legitimacy of decision-making, irrespective of their methodological validity (e.g. Porter 1995; Rose 1999, 197 ff). From that point of view, risk assessment can be seen as a way of formalizing organizational operations in order to provide bureaucratically rational 'due diligence' defences in the face of increased accountability pressures. Studies of judicial review of risk regulation in the US, for example, suggest that while the courts tend to uphold regulatory agency decisions if regulators have followed their own risk assessment guidelines, the courts generally dismiss substantive criticism of the content of risk assessments as beyond their competence (Applegate 2001).

For Power, the centrality of risk to regulation is a further iteration of the 'Audit Explosion', representing rituals of verification and legitimation with little and sometimes even dysfunctional substantive impacts (Power, 2004). Some studies, for example, suggest that the methodological challenges confronting risk assessment can reinforce its procedural rather than its substantive utility. Critics have long pointed out the ways in which scientific uncertainties and a wide range of unexamined social and policy judgements often go unacknowledged in science-based decision-making, such as in food, drug and environmental regulation (e.g. Jasanoff 1990; Wagner 1995). In policy domains where there is even less predictive knowledge, such as the management of convicted criminals in the community, the invocation of risk assessment may simply provide an institutional cover-story while doing little to protect the public. As Porter (1995) has observed, recourse to numerical rationales to justify decision-making is more often a sign of weak rather than strong institutions.

Within social-theory, the use of risk as a decision-making instrument has been interpreted as the latest expression of modernity's drive towards (societal) rationalisation. From a Foucauldian perspective, the risk instrument is a constitutive practice of neo-liberal governmentality that structures and legitimates the control of institutions and individuals at arms length (Rose and Miller 1992; O'Malley 2000; Lemke 2001). From this perspective, risk-thinking - embodying as it does, an economically rational decision-making calculus – extends neo-liberal notions of rationality into ever more domains of economic, political and social life. In the public sector, for example, risk acts as a neo-liberal counterweight to bureaucratic creep and inefficiency and mitigates tendencies within government to risk aversion. And within widening domains of social life the risk instrument renders events susceptible to economic thinking. For instance, Ericson et al (2000, 2003) use the example of private insurance to show how the vocabulary of risk plays a key role in the contemporary

transformation of the welfare state by reproducing and extending the neo-liberal focus on individualised responsibility. They argue that the risk instrument provides a veneer of neutrality for mechanisms of societal differentiation that exclude the vulnerable and the poor, and prompts further demands for neo-liberal solutions beyond the state.

Luhmann (1993, 1998) suggests, however, that the particular success of risk in extending its realm over ever more areas of life is explained by the tendency of modern societies to experience their future in terms of decisional uncertainties. The focus of this argument is not on whether there has been a change in 'actual risks' confronting society but rather on whether there has been a change in the way in which events are framed and managed as risks.

According to Luhmann, risk has come to represent a broader phenomenon than it did in its modest beginnings as a technical decision tool, emerging with overseas trading and insurance in the 14th century and the development of probability theory in the 18th century (Clark 1999; Luhmann 1993, Ch.1). He argues, instead, that the particular appeal of risk is that it can accommodate or legitimate the inevitable failures of 'rational' decision-making. Risk, he argues, provides a solution, however temporary, to a key quandary of rationalisation. The problem he identifies is that rationalisation has to confront the problem of failure because there will always be limits to our knowledge, events are fundamentally unpredictable and we have only limited ability to effect change. Simon (1957) has similarly described this problem in other contexts as 'bounded rationality'. The concept of risk, however, compensates for the inherent uncertainties of decision-making by transforming decision-making into a probabilistic assessment of success and failure. The dilemma of imperfect decision-making is, therefore, resolved, because potential failures are absorbed by the explicit anticipation of failure inherent in the use of the risk concept.

For Luhmann, therefore, the success of risk grows from its paradoxical constitution. Characterising issues, events and problems as risks makes them controllable in so far as total control is considered impossible. As Mary Douglas and Aaron Wildavsky comment (1982, 1), 'Can we know the risk we face now or in the future? No, we cannot; but yes, we have to act as if we do.' From that perspective, risk provides an organising concept for societal decision-making under uncertainty and is a key characteristic of modernity. For example, as regulatory systems attempt to control events that have formerly been beyond control, the process of decision-making transforms those events into risks as a way of rationally managing the limits of regulation. Consequently, both old and new problems in ever more areas of organised life start to be constructed in terms of probabilities and damage. In idealised terms, risk is the necessary accompaniment of the transformation of a society of pawns, directed at the whim of the gods, into a society of actors managing their own destiny.

3. The spiralling logics of societal and institutional risk management

In the last section we reviewed three different explanations for the growth of risk as a regulatory concern; on these foundations we now develop an account of the 'colonisation of regulation by risk'. We argue that the growing centrality of risk to

regulation in the post-war years is less to do with a growth of societal risks, but is rather a consequence of the growth of regulatory frameworks to regulate societal risks and the need to manage the associated institutional risks of risk regulation. These two types of risk are rarely distinguished in discussions of risk regulation. We contend, however, that drawing an analytical distinction between societal risk and institutional risk and understanding their dynamic relationship, can help explain more generally the growing centrality of risk to regulation and governance systems.

3.1. From societal risk to institutional risk

If the organised management of societal risks inherently entails institutional risks, it is perhaps surprising that the centrality of risk to regulation is a recent phenomenon and its use is not more widespread. We argue, however, that the phenomenon is dependent on the appetite of regulatory systems for internal and external control, scrutiny and accountability, or, in other words, the extent to which regulation is itself subject to 'regulation'. As regulators are put under increasing pressure to account for their decisions and actions, risk becomes an attractive concept for rationalising the practical limits of what regulation can achieve, and rendering given degrees of regulatory failure acceptable.

One starting point for this argument is to consider cases where controls or accountability pressures on the regulation of societal risks are relaxed or non-existent, such as is often the case in the early stages of regulation or slack self-regulatory regimes. Under such conditions, regulatory behaviours and even failures present relatively low institutional risks in the absence of mechanisms for challenge or even observation. There are, therefore, few incentives to proceduralise risk assessment and management activities. Instead such activities tend to be *ad hoc* and methodologically diverse and determined by contingent organisational pressures and ways of working.

One example is provided by the UK regime for controlling chemical ingredients that leach from plastics food packaging materials into food. Plastics manufacturers established a voluntary, commercially-run and opaque self-regulatory regime in the early 1950s (see Rothstein 2003a). State regulators refused to endorse the regime when asked by manufacturers, however, because controls were lax and posed considerable institutional risks for regulators. Regulators resolved this problem, however, not by introducing a statutory regime, but by turning a blind-eye to the voluntary regime. Regulators thus minimised their own institutional risks, but as a consequence, slack controls persisted for decades and hundreds of chemical ingredients were approved without challenge on the basis of scant or no evidence. The situation only changed when systematic and legally defensible risk assessment procedures were introduced under new statutory harmonised European regulation in the 1980s.

The plastics case is suggestive of how the proceduralisation of risk assessment is related to the form of regulatory regime. As regulation becomes subject to greater scrutiny by, for example, the executive, judiciary, organised interests or the public, then it might be expected that organisational behaviours and failures are turned into potential liabilities. Regulators, therefore, need to find a way of accounting for, and justifying, performance in order to minimise institutional risks. Unlike politicians, who can justify decision-

making by recourse to political programmes, manifesto pledges or parliamentary votes, regulators are constrained to justify decision-making by recourse to bureaucratic rationalisations that are tightly constrained by a panoply of regulatory frameworks and due process criteria. Constructing regulatory problems as risk problems offers a solution to regulators by providing a procedural rationality for managing societal risks in ways that meet bureaucratic and legal demands for processes that are rationally consistent, organised and defensible. This reflexive aspect of risk governance, therefore, provides a formal procedural method for simultaneously managing societal as well as institutional risks.

This evolutionary process has been observed most acutely in the US, where challenge to regulatory agencies within the adversarial US legal system prompted the elaboration of legally 'defensible' quantitative risk assessment and management techniques in a wide range of regulatory regimes from radiation protection to food and drug safety (Vogel 2003, 567). For example, the US National Research Council's elaboration of risk assessment and management procedures in its 1983 landmark 'redbook' publication (NRC 1983), was at least in part an attempt to resolve the difficulties experienced by the Environmental Protection Agency in justifying decision-making since its establishment as a regulatory agency in 1970.

Historically, the UK regulatory culture has been very different from the US with less reliance on quantitative risk assessment, at least in part because decision-making took place in closed institutional settings, was less subject to legal challenge and review, and because there was no tradition of independent regulatory agencies (Brickman et al 1985). With the rise of independent regulatory agencies in the UK, however, quantitative risk assessment is becoming increasingly adopted. The UK Financial Services Authority, for example, has developed sophisticated quantitative risk assessment and management techniques for allocating regulatory resources in the regulation of financial services, as a way of defensibly determining acceptable levels of non-compliance (Black 2005).[5]

The effectiveness of proceduralising risk assessment and management within decision-making as a way of managing institutional risk, however, is dependent on a range of factors. For example, inaccurate societal risk assessments may do little to manage institutional risks. One instance was the 'hedge funds' crisis of 1998, which was precipitated by extreme events occurring within weeks of each other that were calculated to happen only once in tens of millions of years (Mackenzie 2003). Another case is the use of risk assessment procedures by the UK probation service, which, in the late 1990s, was under pressure to justify its management of convicted paedophiles released into the community from prison (Hood and Rothstein 2001). In that case, the risk assessment protocols provided a procedural rationality for decision-making but did little to improve public protection because they were unable to predict recidivism rates much better than a tossed coin.

[5] Indeed, more generally, De Goede (2004: 213) argues that in the finance domain, complex risk management facilitates financial risk-taking by insulating financial decision-making against failure.

In addition to such methodological challenges, the success of risk assessment and management in managing institutional risk also depends on alignment with other factors shaping decision-making. For example, as regulatory frameworks have become established, accumulating case law, legal duties and spending targets have placed duties on regulators that can conflict with the management of societal risks. Regulators can find themselves, therefore, perversely allocating scarce resources in managing institutional risks at the expense of societal risks. One example would be food safety inspectors meeting performance targets for sampling rates by undertaking cheap and easy tests for watered down milk rather than expensive and complex tests for microbiological safety.

Even if risk-based approaches are relatively successful in managing institutional risks originating within the government and the judiciary, regulators can still be exposed to institutional risks from external sources. For example, if organised interest groups and the public do not share the bureaucratic rationality of risk-based approaches, they may challenge the rules and methods of decision-making and even the legitimacy of regulators. One example is train safety, where regulators are put under pressure to allocate more resources to prevent infrequent multiple-fatality accidents that attract high levels of media interest and lobbying activity by victims groups, than to prevent individual fatality accidents that attract less media interest but involve more deaths overall. This is one example of how institutional risk outcomes can shape normative conflicts on the weighting of high-probability/low-consequence events against low-probability/high-consequence events.

In general, we argue that the tendency for the inadequate management of societal risks to produce or amplify institutional risks creates the conditions for the rise of explicit institutional risk management. We might expect to see, for example, the evolution of instruments to take into account a diverse set of institutional risks, such as reputational risks, legal liabilities or risks of failing to meet performance targets. Such instruments can take the form of *ad hoc* or iterative procedures that attempt to limit blame, for example, by co-opting stakeholders into decision-making processes to manage procedural legitimacy, or by prioritising regulatory interventions according to reputational concerns. The systematic embedding of ‘risk communication’ in regulation is another example, which can be used to persuade the public of the integrity of regulatory decisions, in addition to helping the public make ‘informed’ choices about risk.

But residual failures can necessitate the introduction of more systematised institutional risk assessment and management methods as organisations seek to defend the legitimacy of decision-making procedures. The Financial Services Authority, for example, now routinely assesses the risks of failing to meet political targets such as market and public confidence, along with financial risks. The UK’s Health and Safety Executive factors what it terms as ‘societal concerns’ into its risk assessment and management systems. ‘Societal concerns’ are taken to be public concerns generated around issues such as train safety or children’s activity centres, which regulators consider to be adequately managed but generate such public anxiety that they create reputational and legitimacy problems for regulators. The elaboration of formalised metrics for measuring ‘societal concerns’ is being advocated for use in resource

allocation decisions within a growing range of policy domains such as the environment and food safety (e.g. Environment Agency 2004b). In such cases, risk-based decision-making starts to elide important distinctions between societal and institutional risks.

In summary then, the growing centrality of risk to regulation can be driven by the institutional risks of regulatory control and is characterised by the development of systematic and sophisticated reflexive use of the risk instrument as a defensible means for justifying the regulation of societal risks. Framing the objects of regulation as risk-decision problems provides a way of managing the institutional externalities of regulatory decision-making. Institutional risks, however, can become a category for control in their own right, if they cannot be reflexively handled by the management of societal risk. In such cases, we can see parallel developments in the explicit systematisation of procedures and protocols for managing institutional risks. The relationship between risk and regulation can, therefore, evolve from isolated, case-by-case assessments of societal risks to progressively more systematic risk assessments of institutional risks.

This process could be described as the first step in the *colonisation of regulation by risk*; borrowing the term ‘colonisation’ from the organisational studies literature where it is used to describe external pressures for change that penetrate into the ‘genetic codes’ of organizations and transform their core outlook and workings (Laughlin 1991). In our thesis, the mechanism driving risk colonisation is the need for regulatory systems to account for their own limitations, and as such regulation becomes conceived and managed as an object of risk management, as much as risk becomes conceived and managed as an object of regulation.

3.2 From institutional risk to societal risk

Identifying the category of institutional risk is not new. Power, for example, has observed the close linkages between societal and institutional risk management, arguing that institutional risks are a form of secondary risk (Power, 2004). Our contention, however, is that not only do the residual failures of societal risk management stimulate institutional risk management, but also that the reverse is also true; the concentration on institutional risk management can shape the perception and management of societal risks. That latter process can happen in a number of different ways.

A greater concentration on institutional risk can sensitise regulators to different dimensions of, and even new, societal risks for which they could be held accountable. This can have positive benefits if it leads to better management of societal risks. For example, awareness of institutional risk can lead to more research, greater professionalisation, more robust evidence based decision-making and associated regulation. Institutional risk could be seen as having a challenge function because it can force regulators to reflect on assumptions and consider aspects of regulatory problems that were previously overlooked. Crises can thus play an important role in forcing greater attention on the management of societal risks. Improvements to drug safety testing after the thalidomide disaster provide one such example. Another example is the UK government’s initiative, prompted by widespread public anxiety, to evaluate the risks of GM agriculture, which identified unexpected environmental risks associated

with conventional agriculture. This positive aspect of colonisation should not be ignored.

Conversely, greater concentration on institutional risk can have adverse impacts on the management of societal risks. In contexts where the management of societal and institutional risks are not aligned, there may be organisational pressures to prioritise the management of institutional risks at the expense of societal risks. Blame-avoidance behaviour at the expense of delivering core business is a well-documented organisational rationality, from the cancellation of school trips because of litigation fears to the rise of defensive medicine, such as increased rates of caesarean sections. In some cases, regulators may focus on managing the institutional risks of not meeting performance targets or fulfilling legal duties at the expense of efficiently managing societal risks. In other cases, regulators may focus on managing the institutional risks posed by external audiences again at the expense of managing societal risks. Restrictions on rail traffic following crashes or television exposés may stave off pressures from the media or campaigning groups, but they may also lead to an overall increase in injuries and fatalities because of shifts to road transport. This negative side of colonisation has gained some attention in the risk-and-regulation literature recently (e.g. Power 2004; Hood 2002).

These positive and negative impacts of institutional risk on the management of societal risk sit at either ends of a spectrum, but it is likely that most cases will sit somewhere in the middle. The factors determining how balances are struck between the management of societal and institutional risks in this third set of cases deserves further research. One possibility relates to a subtle and under-researched aspect of the relationship between societal and institutional risk. Just as the lay public perceptions of risk are held to be shaped by a range of factors associated with the risk, such as its 'dread' and 'familiarity' characteristics, it might be speculated that regulator perceptions of risk are similarly shaped by institutional factors. Regulator perceptions of societal risks may be amplified, for example, if those societal risks pose significant institutional risks, such as reputational problems, or may be attenuated if the associated institutional risks are low (e.g. Rothstein 2003b). It could be hypothesised that factors that modulate institutional risk perceptions by regulators could have an important impact on the attention that they give to societal risks. Indeed, it may even be that regulators misperceive institutional risks. A recent study found, for example, that caesarean sections in the UK have increased by 28% because of litigation fears by doctors, even though the number of legal claims against the NHS has dropped (Revill 2004).

3.3 Risk colonisation

Somewhat speculatively, we propose that the dynamic relationship between societal and institutional risks leads to a third, spiralling aspect of colonisation. From a systems perspective, regulatory regimes can be understood as control systems that are designed to achieve particular societal goals. The more coherent the regulatory regime in terms of goal setting, interventions and monitoring of planned social change, the greater will be the awareness of the limitations of regulatory intervention. It might be expected, therefore, that as regulatory regimes become subject to greater scrutiny and accountability, either internally or externally, risk becomes an important concept for

managing both the objects of regulation and the limits of regulatory activity itself. Under some of the circumstances described above, however, the process of regulating societal risks can give rise to institutional risks, the management of which sensitises regulators to take account of societal risks in different ways, which may in turn lead to the identification of new institutional risks. This spiralling aspect of risk colonisation then, involves dynamic feedback loops between societal and institutional risk.

From this perspective, it might be speculated that the colonisation of regulatory decision-making by risk can evolve in a number of different directions. First, it might be expected that problems brought within the realm of regulation become increasingly conceived as risk as an attempt to manage the negative institutional externalities of decision-making. The management of paedophiles in the community in the UK, for example, was transformed from a social welfare problem into a risk management problem when the introduction of a sex offenders register in 1997 increased the accountability of the police and probation services for their management of potential recidivism (Hood and Rothstein 2001; Kemshall 2003). Similarly, in recent years, the conception of food allergens has been slowly transforming from a consumer health issue managed through medical care, into a food safety risk issue, managed through food safety systems, as food businesses have become aware of their potential legal liabilities (Rothstein 2005).

Second, the process of colonisation can shift problems elsewhere, creating new risks that have to be taken up by other actors and institutional settings. The introduction of risk assessment into flood insurance regimes, for example, has resulted in the management of unacceptably high flood risks by price hikes or insurance exclusion, and in so doing has shifted institutional risks from insurers onto housing markets and individuals (Sayers et al 2002). Similar issues are arising with genetic screening.[6] Risk from this perspective, generates new risks.

Third, attempts at reconciling the management of societal and institutional risk can lead to ever more diverse risk management strategies as incompatible understandings and perspectives are brought to bear. For example, in Germany, as nuclear energy became subject to civilian rather than military control, optimistic risk assessments were subject to scrutiny and challenge by a growing number of actors. The German government attempted to resolve the situation by referring decision-making to the courts, but that only enhanced the problems because additional layers of legal conflict were grafted onto the scientific conflicts (Huber 1998). A more recent example is the enquiry into GM food in the UK, where the processes of bringing stakeholders into decision-making processes established new areas of concern, such as ethical and moral issues, which then themselves created new dimensions for regulation that needed further reconciliation and resolution (Gaskell 2004). Indeed, the tendency towards plurality could mean that while risk forms a *lingua franca* for decision-making, the actual practices of risk assessment and management may be tending towards a Tower of Babel.

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[6] Ericson and Doyle (2004) also show in detail how the maintenance of insurance coverage for terrorism in the aftermath of 9/11 was made possible by reconfiguring the roles and responsibilities of governments, insurance markets and clients.

4. Implications and conclusions

In this paper, we have reviewed three broad approaches that attempt to explain the growing centrality of risk to regulation. The first approach considered how the dynamics of the risk society can stimulate regulation; the second foregrounded institutional aspects of regulation in stimulating a focus not just on societal risk, but also institutional risk as regulation itself becomes subject to regulation; and the third approach focused on the attraction of the risk concept for rationalising the limits of regulatory success. We argue that these are helpful accounts of the growing centrality of risk to regulation, but we see them as partial explanations. Instead, we synthesise those approaches to develop a theory of risk colonisation, which proposes a testable mechanism for the observed growing centrality of risk to regulation.

We argue that the growing importance of risk for regulation unfolds in two dimensions; that is with respect to the control of both societal and institutional risks. These two dimensions are linked by increasing pressures towards 'good governance' from within the state and civil society, which, in trying to improve the coherence of regulatory interventions through increased scrutiny and accountability reveals the inevitable limitations of regulatory interventions. The consequent need to justify the limitations of regulatory intervention turns attention to the concept of risk, which simultaneously characterises the objects of regulation and reflexively manages the negative institutional externalities of the limits of regulatory action. Risk then, in effect, is a necessary feature of the regulatory state as an instrument of systems-maintenance where regulation is conceived as a system for social control.

This first step in the colonisation of risk, however, is further stimulated by misalignments between the processes of managing societal and institutional risk. Misalignments can occur, for example, because of methodological challenges, institutional constraints or normative conflicts. We then argue that those misalignments can create spiralling relationships between the management of societal and institutional risks. These processes may explain the rise of what is termed 'integrated risk management', which attempts to encompass more risks, satisfy more stakeholders and make possible more tradeoffs.

We offer a number of speculations about the possible consequences of risk colonisation. We expect that as more events come to be subject to regulatory control, so will risk discourses become more prevalent and extend into a wider range of social domains. Indeed, the growing interest in governance systems that capitalise on extended networks of state and non-state control systems, rather than centralised state command and control, may provide an important vector of transmission. An important positive consequence could be more effective mitigation of real societal risks, supported by a growing cadre of risk professionals. People further away from traditional regulatory regimes but brought into the realm of governance, would find that their traditional activities are now framed as risks and that they are now 'risk managers'. Interestingly, while for Beck it is the lack of control that makes everyone a risk manager, in risk colonisation theory it is precisely the opposite – increased control increases the salience of risk.

Conversely, the elision of societal and institutional risk may facilitate an unwitting or intentional emphasis on the management of institutional risks at the expense of attending to societal risks. Protecting the institution can become the over-riding goal. Examples include rigid adherence to methodologically problematic quantitative risk assessment as a bureaucratically and legally defensible decision-making strategy, or incorporating media salience into risk models as a way of bureaucratically rationalising decisions aimed at relieving regulatory headaches. The ways in which institutional risk management deflects organisations from their 'core business' have been highlighted by Power (1997) and O'Neill (2002).

A seemingly inevitable outcome of the logic of colonisation is for increased contestation of the boundaries between the limits of the possible and system failure. When, to quote Rumsfeld, 'stuff happens', at what point does the attribution of appropriate action end and the attribution of failure and blame begin? In principle, the concept of risk absorbs the limits of possible action and failure, but, as already observed, in practice the use of the concept is limited by a range of challenges that can re-open issues of knowledge, competence, acceptability and blame. This aspect of risk colonisation suggests that it may be hard to avoid the often bemoaned 'compensation society' without addressing expanding systems of control and accountability as a root cause (Huber and Amodu 2005).

The theory of risk colonisation asserts a dynamic coupling of societal and institutional risks. In so doing, it provides a new explanatory model of contemporary regulatory development that is suggestive of a research agenda for studying the hitherto separated fields of risk and of regulation. The model points to the importance of researching the factors that shape the coupling of societal and institutional risks in order to assess the extent to which contemporary regulatory processes approximate the risk colonization model in practice, as well as to account for mismatches. From that perspective, it would be important to investigate the correlation between the emergence of risk concepts within regulation and the degree of regulatory scrutiny, accountability and control within regulatory regimes. Different regime rules, architectures, interest configurations and cultures across regimes can be expected to generate varied levels of information on regulatory performance that feed through the system in different ways and prompt different kinds of responses. If, for example, information on regulatory performance is not routinely gathered, regime complexity attenuates signals of regulatory failure, or blame is not readily attached to failure, then it might be expected that the process of risk colonisation will be slow. Moreover, it would be interesting to explore the factors shaping the profile of, and relationship between, institutional risks across regulatory regimes, for example, by disaggregating institutional risks into those faced by regulators (regulatory risks) and regulatees (business or regulatee risks). Relatedly, international comparative work would be valuable in correlating the emergence of risk concepts with national institutional settings.

More generally, it would also be important to consider the emergence of risk concepts within extended governance systems. Governance systems may act as vectors of transmission for risk beyond traditional regulatory regimes, but it may also be that institutional fragmentation, plural rationalities and looser accountability structures act as countervailing forces. Governmentality scholars may find this a fertile empirical domain

to explore the evolution and dynamics of, in their terms, disciplinary power, by foregrounding the institutional mechanisms that stimulate pervasive risk practices.

This theory of risk colonisation is an attempt to explain what we take to be some of the conceptual consequences of attempts to regulate risk. Risk colonisation productively captures the role of risk in shaping the evolution, characteristics and dynamics of the regulatory state, or at least models of the regulatory state that place an emphasis on internal and external scrutiny and accountability. Such a theory can be judged by the extent to which it presents a simplified, yet convincing picture of a social reality. Another criterion for the assessment of a theory is the extent to which it offers an empirical heuristic and/or a heuristic for actors in the policy process. By heuristic we mean offering an interesting way forward, a new way of looking at issues currently of interest or concern. In this context we offer some suggestions. The empirical heuristic is the value of the colonisation theory as a framework for further research into, for example, comparative analysis of the growth and form of risk regulation in different countries and in different sectors of society; and the relations between organisational risk management and trust. The policy heuristic is not a quick solution to a current problem, but rather a sensitising device. Those who enter the waters of risk management may find that the ripples extend far and wide and may well change the shape of the pool itself.

Acknowledgements

We would like to thank Robert Baldwin, Julia Black, Martin Lodge, Joan O'Mahony, Yuval Millo, Michael Power and Michael Spackman and the anonymous referees for their helpful and encouraging comments on earlier versions of this paper. We also benefited from discussions of earlier versions of this paper with CARR research students, the Kings Centre for Risk Management (London), and at conferences hosted by EASST / 4S (Paris, 2004) and the ESRC Social Contexts and Responses to Risk Network (Canterbury, 2005). The support of the Economic and Social Research Council (ESRC) and AON is gratefully acknowledged. The work was part of the programme of the ESRC Centre for Analysis of Risk and Regulation.

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