

Risk & Regulation

Magazine of the ESRC Centre for Analysis of Risk and Regulation

No 13 Summer 2007

Order out of Chaos

**ORGANIZED UNCERTAINTY
WEATHER FORECASTING IN VICTORIAN ENGLAND
MONITORING ADVERSE DRUG REACTIONS
INTERNATIONAL REGULATION OF INTERNET GAMING**

PLUS
CARR Conference: Organizing risk regulation
Meet the Gangmasters Licensing Authority
Financial reporting beyond the numbers

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RISK®ULATION: CARR REVIEW NO 13 SUMMER 2007

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Turning theory into practice

Director **Bridget Hutter** explains how recent events hosted by CARR ensure the outcomes of academic research and knowledge-building continue to benefit practitioners.

This issue of *Risk&Regulation* illustrates the breadth of CARR's interests and research and continues to advance the very real importance we attach to our interface with practice.

In various ways, each article demonstrates the different and complex facets of organizational risk management. A particular focus in this issue is the relationship between accounting and law, for example the spread of risk management ideas into corporate governance and the transformation of financial reporting beyond 'the numbers' to take into account broader societal concerns. According to Michael Power's forthcoming book, risk management has been elevated from the management toolkit to become a platform for organizational governance. It has moved from the province of marginal internal control departments to being a template for entire organizations.

An historical perspective argues for a greater emphasis on the role of individuals in organizational encounters with risk. It also underlines the importance of informal tacit understandings of risk and risk management, thus emphasizing an important finding of much risk regulation research in contemporary settings. The role played by individual actors and their interpretations of risks is also one theme of the history of reporting adverse events in pharmaceuticals and medicine. Many readers may be surprised that despite some major risk events involving pharmaceuticals in 1930s and 1960s, the realization of the need to report adverse drug reactions and the establishment of reporting systems is really very recent. Different national trajectories are identified, as is the growing demand for and creation of international level standards.

International risk regulation is of growing importance. Regulators increasingly have to look beyond national boundaries and engage in transnational investigations and negotiations. The recently created Gangmasters Licensing Authority quickly found that the problems they encounter often have their origins abroad, where suspect and often criminal tactics are used to supply the UK labour market. The growing popularity and exploitation of the internet creates other transnational risks. This is apparent in the case of internet gambling, which has evoked very different national responses – some liberal and some restrictive. The liberal regimes hope to maximise their exchequers but in doing so have been forced into transnational agreements regulating accessibility to these sites from more restrictive territories which seek to prohibit this form of gambling.

These issues are among those discussed at CARR's latest conference – 'Organizing risk regulation'. This event attracted a great deal of interest and proved to be a very exciting forum. The conference reflected our interests in risk regulation: not a technical consideration of risk and risk management tools, but how risk is encountered, managed and developed in organizations in both the private and the public sectors. Cross-cutting debates were held around key risk regulation issues:



- the political, legal and governance issues associated with risk regulation;
- the importance of reputational risk management for professionals, business organizations, regulators and politicians;
- claims of declining public trust in professional self regulation; in science and its new innovations, and in whether public and private organizations can properly anticipate and manage major risk and security events;
- the relationship between risk, regulation and accountability; and
- contemporary risk regulation approaches, notably risk based regulation and the 'precautionary principle'.

The conference had multidisciplinary and international panels involving academics and practitioners: politicians, managing directors, chief executive officers, regulators, and academics at all stages in their careers gave papers and exchanged their experiences and views at eleven lively sessions. The panels were comparative across domains; across institutional settings; across national contexts and cultures; and across historical perspectives.

Earlier in March we held an equally successful event as part of the week-long ESRC Festival of Social Science. Our public debate 'Assessing the costs and benefits of regulation' attracted a large audience, including both academic and practitioner representatives. Representatives from business and consumer organizations and from government debated the notions of better regulation and its relationship to costs and other less economic reference points. These debates and open forums are at the heart of what we do in CARR and are crucial conduits for our research effort. ■

Bridget Hutter
CARR Director

MEET THE REGULATOR



Gangmasters Licensing Authority (GLA)



The death of 23 Chinese cockle pickers in the Morecambe Bay tragedy of February 2004 was the catalyst for the Government supporting Jim Sheridan's Private Members Bill and the subsequent passing of the Gangmasters (Licensing)

Act 2004. This set up the Gangmasters Licensing Authority (GLA), which came into existence in April 2005. Its legislative powers have come into force progressively since, with the last one (related to shellfish gathering) operative from the 6th of April 2007. We spoke to **Mike Wilson**, its Chief Executive, about what the GLA does and how he sees the challenges ahead.

CARR: What does the GLA do?

MW: The aim of the GLA is to curb worker exploitation by getting labour providers in the regulated sectors to act legally – ie to treat their workers properly and to pay their taxes. The GLA-regulated sectors include agriculture, forestry, horticulture, food/drink/shellfish processing and packing as well as shellfish gathering. We achieve our aim in a number of ways. Most obviously, we operate a licensing scheme. But whilst the licensing scheme plays an important role in our regulatory approach, we also run intelligence, compliance, enforcement and communications capabilities. It is these that are the real teeth of the GLA, and can be more effective than licensing at changing the behaviour of labour providers.

CARR: How does exploitation manifest itself?

MW: Extreme abuse of workers – flouting minimum wage legislation, inflated illegal deductions for transport and housing, debt bondage, organized crime links, poor working/living conditions, low wages, poor health, safety and hygiene, illegal working/false ID, VAT, PAYE, Benefit Fraud etc and illegal sub-contracting. Not all these abuses are directly covered by the GLA Licensing Standards, but where we find

or suspect abuse we pass information on to other agencies. In overall terms our Licensing Standards are a proportionate range of measures that should be in place in any well-run business.

CARR: Regulators have been encouraged by the government's Hampton Review to risk-base their regulatory activities – how is the GLA responding to Hampton?

MW: All of the GLA processes have been designed with the Hampton principles in mind. For example, all applications are assessed against a risk profile to indicate which businesses are most likely to be acting illegally and should attract inspections. Compliance and enforcement activity are prioritised using risk ratings that are created and maintained in our intelligence database.

'... we also run intelligence, compliance, enforcement and communications capabilities ... these are the real teeth of the GLA, and can be more effective than licensing at changing the behaviour of labour providers.'

CARR: Have you come across any particular problems as a regulator?

MW: Two areas in particular have caused us some difficulty. Firstly, overseas labour providers. It became clear very early on that a substantial amount of worker exploitation takes place in the country of origin, long before workers arrive to work in the UK. This exploitation usually takes the form of deliberately misleading advice as to the hours and working conditions in the UK, a huge 'job finder's' fee and exorbitant and ill-defined handling and administrative charges that are a condition of employment. These costs are often tied to high-interest loans, creating a 'debt bonding' arrangement. Secondly, shellfish. The shellfish gathering industry presents a

severe regulatory challenge by virtue of its seasonality, its geographic dispersal and movement between areas, the remoteness of a lot of its activities and the relative lack of a formal structure. The GLA has designed a regulatory approach that should be effective for shellfish gathering. It becomes illegal to act as a gangmaster in the shellfish industry after the 6th of April 2007, and we will then see how well our process works.

'All this shows the enormity of the challenge we face but the GLA is using all means available to find illegal operators and prosecute them.'

CARR: What has the GLA achieved so far?

MW: Our Strategic Assessment paints a picture of the complexities of the labour supply chain, reviews the reasons for exploitation and fraud and identifies and prioritises how we can most effectively act to curb exploitation. There are particular challenges to a regulator in these sectors of the economy. Any labour provider supplying workers to or within the UK in the GLA sectors needs a licence. The international nature of the labour supply chain adds to our task. Many workers (whether legal or illegal) are reluctant to tell the GLA about exploitation and some do not regard themselves as exploited. Some are exploited in their country of origin, some in the UK. We are trying to provide as many means as possible to directly or indirectly report possible exploitation – taking account of the foreign language requirement. Worker leaflets are available in Polish, Lithuanian, Latvian, Portuguese, Slovak, Bulgarian and Rumanian.

Labour provision is highly competitive, but with relentless pressure to reduce costs, there are strong temptations for illegal labour providers to remain illegal and licensed labour providers to act illegally. Our checks can only be a snapshot at any one time, but with intelligence-led checks we can often know what we are looking for before we arrive. It is a difficult (but not impossible) task to unmask duplicate accounts, false documentation, illegal sub-contracting and the collusion of labour users with labour providers. All this shows the enormity of the challenge we face but the GLA is using all means available to find illegal operators and prosecute them.

Our recent operations have already demonstrated that our approach can work effectively. Last month 'Operation Scallion' in the Vale of Evesham led to the revocation of the licenses of all seven labour providers who supplied a major food company. News of this spread quickly throughout the regulated sector with other labour providers, labour users and supermarkets taking a keen interest. This is great news as a deterrent to others.

Currently the GLA is preparing four prosecution cases involving multiple businesses, investigating 14 others and monitoring a further 50 cases. This shows that an organization of 50 people can punch above its weight and the Chairman, myself and all the staff are keen to make a difference and end what is referred to as 'Modern Slavery' in the sectors we regulate.

For further information: www.gla.gov.uk



CARR IMPACT

Will Jennings discussed his research on Olympic costs and risk management for London 2012 on the 'London Inside Out' special on BBC1 and ITN 'News at Ten' in February. He also was quoted, along with **Michael Power**, in an article 'Why do costs over-run?' on the BBC News Online website in March.

Bridget Hutter spoke at an IPPR event 'Risk, Responsibility and Regulation', with Pat McFadden MP, Parliamentary Secretary, Cabinet Office and Rick Haythornthwaite, Chairman of the Better Regulation Commission, in January.

The Public Accounts Committee has called for a 'new public service bargain', drawing extensively on the recent work by **Christopher Hood** and **Martin Lodge**.

Bridget Hutter was quoted in *Third Sector* magazine regarding the Fundraising Standards Board in March.

Michael Power spoke at the National Audit Office in December.

Bridget Hutter and **Julia Black** met with Lianne Dalziel, the New Zealand Minister for Commerce and Small Business (and Women's Affairs) to discuss CARR's research.

The editorial from last issue of *Risk&Regulation* was quoted in the Guardian's *Public* magazine in January, and reproduced in *StrategicRISK* in February

CARR VISITORS

CARR has recently hosted two visiting PhD students. **Svenne Junker** is from the Stockholm School of Economics and the research centre Score. Svenne specialises in Organisation Theory and was conducting a four-month field study at the London-based European Medicines Agency.

Katarina Buhr is from the Department of Business Studies, Uppsala University, Sweden. Her research deals with the development of an EU climate change policy for the aviation industry from a new institutional perspective. She was part of a research team studying transnational governance and was at CARR until the end of February.

We also had a brief visit from **Joni Young**, Associate Dean for Research at the Anderson School of Management at the University of New Mexico. Professor Young was visiting as a joint guest of CARR and the LSE Accounting Department and led a student workshop in addition to her presentation at the CARR Conference.

ACADEMICS ABROAD

Will Jennings presented a paper 'Measuring performance in a noisy world: Public sector performance and time series analysis', at a joint ESRC/Netherlands Institute of Government workshop *Analysing Performance Indicators* at Erasmus University, Rotterdam in March.

Michael Power was Visiting Professor at Wissenschaftszentrum Berlin in February and presented a paper 'Organizations and Auditability: a theory' at WZB in February and at the University of Lund, Sweden in March.

Martin Lodge presented a paper, 'Regulation and european politics', at the *West European Politics 30th Anniversary Conference* at EUI Florence in January.

Peter Miller delivered a plenary lecture on 'Sustaining Calculation' at the *Calculating Sustainability* conference at the University of Ca' Foscari, Venice in March.

STAFF NEWS



CARR warmly welcomes **Caroline Fionda** as our new Assistant Administrator.



Our new ESRC Postdoctoral Research Fellows have also arrived. **David Demortain** joins CARR with an extensive background in sociological research. He will be extending his knowledge with projects examining the sociology of regulation and risk management with a focus on European institutions and policy-making.



Jakob Vestergaard's research interests include international political economies, financial risk and regulation, science and innovation policy and the epistemology of economics. We are delighted to have them both join us.

We bid a fond farewell to **Robert Kaye**, who is leaving CARR to take up a position with the Conservative Party.

Clive Jones left CARR to take up a position with the Better Regulation Executive at the Cabinet Office.



Robert's duties as *Risk&Regulation* editor have been inherited by **Will Jennings**.

Epistemology and risk management

Nicholas Taleb and **Avital Pilpel** discuss the perils of using known unknowns to predict the consequences of catastrophic events.

The need for epistemology

Risk management is a serious business. Accordingly, the production of a risk 'measure' must be subjected to the question 'how do you know what you claim to know' – in other words, epistemology. Claims regarding risk cannot be made without any rigorously established supervision of their validity. There is a need for skeptical inquiries concerning how a risk measure was obtained and how an opinion was formed. The fields of economics, finance, and insurance (in spite of their reliance on mathematics) have so far produced unreliable risk measures – particularly with the highly quantitative Modern Portfolio Theory. Very little check has been made on the theoretical and practical fitness of the assertions by the researchers and practitioners. Further, the discipline of statistics, with its confirmatory orientation, falls severely prey to the problem of induction – where proof of one level of probability is assumed to be proof of another.

Now, if the field of risk studies and quantitative risk management lacks adequate supervision, the field of mainstream epistemology itself provides no help for a decision maker under uncertainty (we tried!). Firstly, it is too theoretical, focusing on paradoxes of no practical use for decision makers – published material appears to focus on complications of what constitutes 'Justified True Belief'. These are largely 'rigorous' but inconsequential for us. Secondly, traditionally the field deals more with whether some claim is true and justified rather than whether its disproval *has some impact and consequence*: how hurt am I if I am wrong? We might be able to tolerate a 1 per cent error rate in some circumstances but not when the rare event, as we will see, dominates the statistical properties. The problem of induction is: how can we logically make claims about the unseen based on the seen? This is illustrated in philosophy with the exception of the 'black swan'; which surprises those who (on the basis of past experience) thought that all swans were white. This might be inconsequential in logic: that is, the colour of a bird may not change much of our lives. But in risk management we need to deal with 'black swans' that have consequences. Further, a search of the literature in the

philosophy and history of probability shows the depressing fact that the large impact event is absent from the discussions – the focus is on casino-style games that do not apply to real life situations.

This paper will discuss two epistemological problems with risk management – and present a possible simple solution to them, all linked to minimize reliance on inductive claims about rare events.

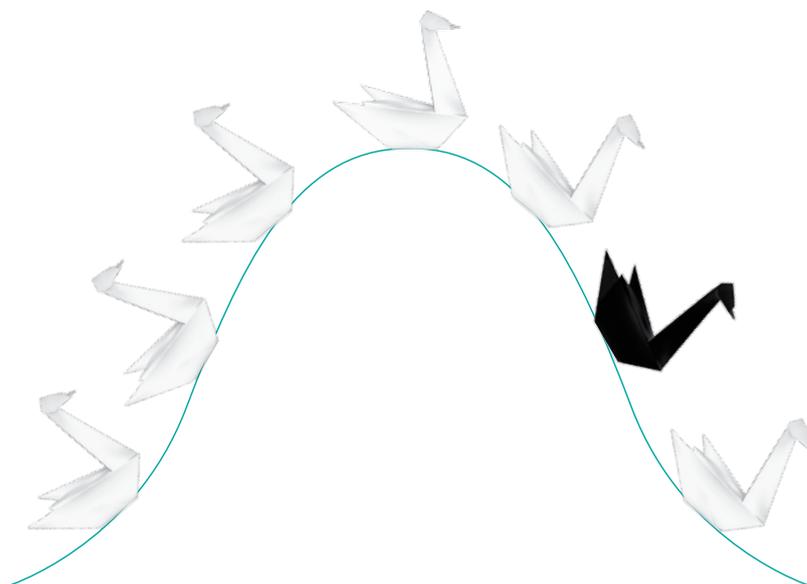
The First Epistemological Problem: induction and small probability

In the summer of 1982, US banks had a bad month. They lost more dollars than they ever made and would have been bankrupt had their portfolios been marked to market, or left without assistance from the United States Federal Reserve. Losses came from loans to 'growing' international markets. Because its lending was domestic, the industry called Savings and Loan was spared ... until about a decade later, when the business disappeared. This required a government sponsored bailout in the hundreds of billions of dollars (with the formation of the Resolution Trust Corporation). One single downturn in the early 1990s cost more than every penny previously made in the history of real estate lending in the US. Let's consider an English example: after years of comfortable insurance fees, many of the 'Names' of Lloyd of London became suddenly insolvent after what appeared to be a great business (investment in asbestos manufacture) was simply the equivalent of sitting on a stochastic time bomb.

Thus, probabilities by themselves do not matter. They can be very small, but their results are not. What matters in life is the equation *probability × consequence*. This point might appear to be simple, but its consequences are not.

Suppose that you are deriving probabilities of future occurrences from the data, assuming that the past is representative of the future. An event can be an earthquake, a market crash, a spurt in inflation, hurricane damage in an area, a flood, crops destroyed by a disease, people affected in an epidemic, destruction caused by terrorism, etc. Note the following: the severity of the event, will be in almost all cases inversely proportional to its frequency: the ten-year flood will be more frequent than

'We understand so little about catastrophic events, yet these are the events that we talk about the most casually.'





'our empirical knowledge about the potential contribution – or role – of rare events ... is inversely proportional to their impact.'

the 100 year flood – and the 100 year flood will be more devastating.

Now, say that you estimate that an event happens every 1,000 days. You will need a lot more data than 1,000 days to ascertain its frequency, say 3,000 days. Now, what if the event happens once every 5,000 days? The estimation of this probability requires some larger number, 15,000 or more. The smaller the probability, the more observations you need, and the greater the estimation error for a set number of observations. Therefore, to estimate a rare event you need a sample that is larger and larger in inverse proportion to the occurrence of the event.

We summarize: If small probability events carry large impacts, and (at the same time) these small probability events are more difficult to compute from past data itself, then: *our empirical knowledge about the potential contribution – or role – of rare events (probability × consequence) is inversely proportional to their impact.*

We understand so little about catastrophic events, yet these are the events that we talk about the most casually. In risk management terms, the bigger the event, the less we have a clue.

Probability distributions

This problem has been seemingly dealt with using the notion of 'off-the-shelf' probability distribution. A probability distribution is a model that assigns probabilities to the unseen based on some a priori representation – something pre-prepared for us and conveniently taught in a statistics class.

In other words, you can now confidently extrapolate from the seen to the unseen: you observe a variety of events and make inferences to those you haven't seen, under some mathematical structure. But distributions have problems. They are self-referential.

The Second Epistemological Problem: the problem of self-reference

People using these probability distributions tend to forget that the distributions are not directly observable, which makes any risk calculation suspicious since it hinges on some presupposed knowledge. How do we know if we have enough data? If the data distribution is, say, the traditional bell curve then we may be able to say that we have sufficient data – for instance the *bell curve itself* tells us how much data we need. However, if the distribution is not from such a well-bred family, then we may not have enough data. How do we know which distribution we have on our hands? Well, *from the data itself*.

We can state the problem of self-reference in the following way: If one needs data to obtain a probability distribution to gauge knowledge about the future behavior of the distribution from its past results, and if, at the same time, one needs a probability distribution to gauge data sufficiency and whether or not it is predictive of the future, then we are facing a severe regress loop. This is a problem of self reference akin to that of Epimenides the Cretan stating whether the Cretans are liars or not liars. Indeed, it is too uncomfortably close to the Epimenides situation, since a probability distribution is used to assess the degree of truth – but cannot reflect on *its own* degree of truth and validity. And, unlike many problems of self reference, ones related to risk assessment have severe consequences.

Conclusion

We should not stop businesses from taking risks – just know that those which do not expose themselves to rare events are more robust, from an epistemological standpoint.

We can separate businesses using this epistemological robustness. In a business virtuous to the rare event, what the past did not reveal is almost certainly going to be good for you. For example, when you look at past biotech revenues, you do not see the emerging superblockbuster in them, and owing to the potential for a cure for a disease,

there is a small probability that the sales in that industry may turn out to be monstrous, far larger than expected. On the other hand, consider businesses negatively exposed to rare events. The track record you see is likely to overestimate the probabilities. Recall the 1982 blowup of banks: the banks appeared to the naïve observer to be more profitable than they were. Look at reinsurance companies: according to the data, reinsurers have lost money on underwriting over the past couple of decades, but it actually could have been far worse because the past twenty years did not have a big catastrophe, and all you need is one catastrophic event per century to kiss the business good-bye.

The solution is to take the *risks you know better* more aggressively than others; to use skepticism to rank knowledge about risks. Epistemology can easily allow us to rank situations based on their robustness to consequential estimation error.

An active solution is also easy: we can either avoid taking a certain category of risks, because we do not understand them, or we can use financial contracts to cap our exposure to large losses from the rare event, some form of 'black swan insurance' – if available.

Nassim Nicholas Taleb, is an applied statistician, veteran derivatives trader, and quantitative risk manager. He specializes in rare events and their impact across disciplines. He is the author of *The Black Swan: The Impact of the Highly Improbable* (2007) and *Foiled by Randomness* (2001).



Avital Pilpel is a post-doctorate researcher and lecturer at the University of Haifa's philosophy department, specializing in the philosophy of science. He received his PhD at Columbia University, his dissertation being on the role of (rational) belief change in scientific explanations. His work deals mostly with the application of decision theory to medical, economic, and scientific situations.

Putting the individual into organizational encounters with risk

Weather forecasting in Victorian England provides Sarah Dry with the perfect historical illustration of how institutionalized risk assessment interacts with personal judgment.

There was no one 'Big Bang' out of which our contemporary fears and expectations of risk were born. Indeed, whether it is possible (or even desirable) to write a unified history of risk is an open question. A grand history of risk, as yet unwritten, could include the history of probability, insurance, statistics, engineering, public health, and environmentalism, among much else besides. Origins for these various histories could be plausibly located in the 17th, 18th, 19th or 20th centuries. It is only very recently that the products of these multiple histories have come to be included under the general rubric of risk, itself now an irrepressibly expansive term.

The search for the origins of today's engagement with risk is like any self-appraisal – we seek what we hope to find. The self-interestedness of this (or any) backwards view notwithstanding, an historical approach can contribute to current risk studies. More specifically, such a method can help integrate studies of organizational and individual approaches to risk, combining the psychological and moral aspects of how individuals make sense of risk with the networked features of techno-scientific systems

for controlling and perceiving risk. One potential dividend would be to eliminate the lingering deficit-model of individual approaches to risk that emphasizes the irrationality of personal evaluations of risk. On the other hand, some organizational studies account poorly for the ways in which risks are managed and understood by the people who are engaged with them.

Despite the challenge of locating singular origin myths for such a pervasive phenomena as risk, one moment of high drama in the history of organizational encounters with risk is to be found in mid-19th century Britain. In this mid-Victorian moment, new forms of governance converged with new kinds of science and technology to produce a period of high self-consciousness about the entangled relationship between organizational structures and hazard. In other words, the Victorians themselves understood that organizations make risk at the same time that they patrol it. In particular, government interventions into safety were seen at this moment as being equally necessary and dangerous. Much energy and attention was given to the question of where, precisely, the limits of appropriate government intervention should be set. Too much and the nation risked losing the entrepreneurial and self-helping spirit that had made it great. Too little and the novel horrors of industrialization – urban poverty and disease and industrial accidents involving the railway, factories, mines and steamships – could cripple the nation.

This self-consciousness about safety manifested in seemingly contradictory ways. On the one hand, new government offices directed towards public safety proliferated, with the Railway Department (1841), the Board of Health (1848), the Marine Department (1850), and the Meteorological Department (1854) founded in short order, along with a series of inspectorates directed to health and safety in factories, prisons, burial grounds, and mines.

In the 1960s, historians seeking the origins of the welfare state accordingly found it in this proliferation of government administration. Similarly, contemporary historians may see the glimmers of today's regulatory profusion in this mushrooming of government offices. But such institutional growth can be misleading. The extent to which such inspectorates or offices were successful in combating the dangers of industrialization has been debated by historians who emphasize the difference between the passage of a piece of legislation and compliance with it. Furthermore, the new government offices were all characterized by extremely minimal staffing and funding. The Railway Department and the Meteorological Department were both staffed by fewer than five men until the late 19th century.

'... new forms of governance converged with new kinds of science and technology to produce a period of high self-consciousness about the entangled relationship between organizational structures and hazard.'

This would seem to suggest a lack of will in relation to centralized government control of unruly entities, be they railway cars, cyclones or prisoners. But further investigation of such offices, established in what was known as the high water period of laissez faire spirit, reveals that budgetary and staffing stinginess was a positively cultivated feature of such offices, welcomed by the very men who were inevitably over-worked and underpaid as a result. The efficiency of such central offices was a key aspect of their viability. By taking advantage of a central geography (ie Whitehall) and a set of networked technologies that included the postal system, the railway and telegraph, as well as, in many instances, the administrative and technological network that constituted the Admiralty, government offices were able to govern with minimal expense, and (just as importantly) with minimal intervention into the lives and judgments of British citizens. A





necessary component of the administrative efficiency of such offices was understood to be the existence of the autonomous citizen who would continue to act independently even in light of governmental intervention. Rather than requiring the disciplining of peripheral actors, the centralized networks that emanated from the new offices in Whitehall often cultivated and relied upon the autonomy of those it sought to govern. This paradox can best be understood by examples drawn from the early histories of the Railway and Meteorological Departments.

From its very beginning in the late 1830s, passenger railway service was plagued by accidents that maimed and killed travellers in alarming numbers. The Railway Inspectorate was founded to provide central accounting of the extent of this phenomenon, with the aim of thus reducing it by bringing the pressure of public opinion to bear on the railway companies. The Department itself was understood to be a component in a larger regulatory system that relied upon public opinion to exert reforming force on the companies. Inspectors were given little to no legal authority to compel railway companies to provide evidence or even indication of accidents on their lines. Instead, these inspectors relied on the local coroner's inquest to provide them with the needed information. Railway inspectors attended such inquests to listen to the questioning of witnesses in order to gather information for their own reports on the causes of accidents. Because they were Royal Engineers with a technical knowledge of the railway system that local jury members did not possess, the inspectors themselves frequently questioned witnesses and were themselves questioned.

The inquest benefited from the inspector's expertise and the inspector benefited from the existence of a local institution whose authority to intervene in matters of accidental death, including those on the railway, was (unlike his own) long-established and unquestioned. This mutually beneficial arrangement was openly acknowledged by the inspectors in parliamentary committees on the Railway Department but it was never formally included in the operations

of the office. It relied upon the existence of an institution which was itself predicated on the free and autonomous judgement of local men, whose individual contributions collectively constituted justice. Rather than compelling their participation, the Railway Department benefited from the tacit arrangement and the mutually beneficial exchange.

The Meteorological Department was founded to gather standardized observations of weather, and such anomalous occurrences as cyclones and storms, with the goal of making sea voyages faster and safer. In order to be successful, many such observations were needed from all over the world and they needed to be comparable. Accordingly, carefully designed and calibrated instruments were distributed to Admiralty ships on which sailors were ordered to register their readings several times a day. It was hoped that eventually this data would enable the universal laws of the weather to be uncovered.

At the same time that the Meteorological Department was using an extensive network to gather observations, its head, Admiral Robert FitzRoy, began to issue weather forecasts to coastal observers from his central office. Such forecasts, though welcomed by many, made others nervous because they were often inaccurate and potentially exposed the government department to grave liability if ships were lost at sea after a day forecast to be fair turned foul.

In parallel with the issuing of forecasts and the gathering of meteorological data, FitzRoy also distributed free barometers to poor fishing communities that could not otherwise afford them. These fishermen and barometers were not, however, meant to form part of the registration scheme to which the Meteorological Department was formally dedicated. Instead, the barometers were intended solely to help the fishermen make better decisions about when to go to sea. Since his forecasts had received so much criticism, FitzRoy saw the barometers as potentially limiting his liability by making the fishermen better at making their own judgements. Just as in the case of the Railway

Department, where local traditions upheld by local individuals served the interests of the central office in a tacit arrangement, in the case of barometers for fishermen, instruments of central government (literally, the barometers) were seen to further local autonomy. In this circumstance, the self-helping spirit of the fishermen and the synoptic ambitions of the Meteorological Department were not contradictory but mutually constitutive.

'... the centralized networks that emanated from the new offices in Whitehall often cultivated and relied upon the autonomy of those it sought to govern.'

These two condensed case studies help to indicate how the history of organizational encounters with risk can include the history of how individuals help to constitute such encounters, often by remaining independent of the very organization in question. By bringing together individual and organizational approaches to risk, this historical perspective can also help resolve another persistent tension in risk studies, that between normative and descriptive models of risk. As these episodes demonstrate, organizations such as the Meteorological and Railway Departments may rely on certain informal methods of risk management while simultaneously pursuing (or being seen to pursue) alternate, formally articulated approaches. This reliance on informal methods is no less a significant component of risk management for remaining unofficial, nor is it necessarily tacit. Taken together, the differing public values accorded to individual judgements and institutional frameworks help to generate a total cultural encounter with risk. The distance afforded by an historical perspective may help scholars of contemporary risk to generate a more total picture of how risks are made and managed.

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Monitoring adverse drug reactions: An odyssey of organizing

David Demortain describes how the international regime for reporting adverse drug reactions was built from the bottom up, and considers the difficulties this creates for the agencies that often shoulder the blame.

Ensuring that medicines placed on the market do not cause adverse health events is a challenge of a particular kind. In recent years, the worldwide withdrawals of Lipobay™ and Vioxx™ have led to close scrutiny and interrogations of the work of health authorities: could there be a possibility to organize 'pharmacovigilance' – the systematic collection and evaluation of adverse drug reaction reports from doctors and other health professionals – in a more efficient way?

Regulatory agencies in charge of pharmaceutical control, such as the UK Medicines and Healthcare products Regulatory Agency (MHRA), generally take the blame when it appears that serious adverse drug reactions were not spotted early enough or when pharmaceutical companies decide unilaterally to withdraw products from the market. However, contemporary drug scandals and obsessions of accountability create a misleading view of

what drug safety is about. The 'organized' facet of pharmacovigilance – the setting up of independent regulatory agencies with responsibility for pharmaceutical control – is just the tip of the iceberg. A quick look at the history of pharmacovigilance shows that it has been organized in a decentralized and incremental way by medical experts, to improve the performance of what they characterized as an essential public health function.

Drugs can cure – can they kill?

It is nowadays evident that medicines cause adverse reactions. It is also widely recognized that these effects remain unknown until the product has been put into use. However, systematically monitoring, collecting and accessing this evidence is only a recent phenomena.

Until the 1960s, medical dictionaries had no word for naming adverse drug reactions – these were not supposed to exist in a world that valued (and still values) the discovery of new medicines above the appropriate therapeutic use of those that already exist. It is only after the sulphanilamide scandal in the US in the 1930s and, even more decisively, the thalidomide affair in 1960 that it was understood to be normal and inevitable that medicines cause adverse health events.

Subsequent high profile adverse drug reactions led to further methodological discoveries. The first of these was that the knowledge of the effects of a medicine is inevitably bounded by the limited range of patients on which it is tested. By the 1970s it was also realized that the data collected is not sufficient to assess the frequency of reactions. Reporting rates are, and remain, very low. The identification of an adverse reaction is also highly dependent on the knowledge and interpretation of the doctor of the affected patient.

Successive drug scandals thus anchored the belief that no system could ever ensure all drug effects are known. The world of pharmacovigilance is highly conscious

that uncertainty is congenital to drug use. Interestingly, given this awareness, the word 'uncertainty' is not part of the standard vocabulary of drug safety experts. They are focussed on averting it, through the continuous experimentation and improvement of instruments for the collection and evaluation of drug reaction signals.

Organizing pharmacovigilance

Pharmacovigilance is a collaborative process: doctors write down their observations and a patient's history on a report. Agency-based evaluators – doctors, toxicologists or pharmacists – then review the data and encode the case in a database. The resulting record is the basis for a collegial evaluation by medical experts, who forward their conclusions to a regulatory authority, which transforms them into a modified marketing authorization and summary of product characteristics.

Medical experts started organizing this monitoring system for drug effects shortly after the thalidomide ordeal. It became clear that the extent to which thalidomide was prescribed could have been much reduced had a correlation been made earlier between the suspicions of an Australian and a German doctor. This gave weight to the belief that suspicions of drug adverse events arising from doctors' daily practice should be collected and sent to a common central office, for 'signals' of serious and rare reactions to be detected as early as possible.

In 1961, a voluntary agreement was established between the American Medical Association, the American pharmaceutical industry and the US Food and Drug Administration to organize a voluntary notification scheme. In 1962, the World Health Organisation encouraged prominent hospital doctors to organize notification schemes in their countries. In 1966, it established an international drug monitoring centre in Sweden to collect reports from each country and perform quantitative analysis on the broader sets of data.

Each country's scheme has not fundamentally changed since its creation and remains fairly simple in terms of the technologies used. Over time, the reporting of individual adverse health events has been streamlined and automated thanks to the establishment of standardized formats, operating procedures and vocabulary



by an international commission of medical experts. Networks of agents entitled to send reports have been enlarged (from just doctors to include nurses, hospital and community pharmacists and possibly patients) and methodologies to link an event to a drug and to calculate its frequency have been refined.

However, pharmacovigilance has taken different forms depending on the criteria that local or national medical communities applied to the execution of this activity. The UK school of post-marketing surveillance, inspired by epidemiology, judged its system according to its ability to assess the incidence and prevalence of adverse reactions. The French school has mostly been driven by the satisfaction of one key criteria, which is the ability to make precise causality assessments, even on single cases.

These choices were directly reflected in the collaborative protocols used by agents to organize pharmacovigilance. France has established a network of regional centres, with the specific ambition to stay as close as possible to doctors. The UK adopted a form of centralised pharmacovigilance instead, whereby signals are directly sent to a central office – originally the Committee for the Safety of Drugs, now the post-licensing division of the MHRA. The agency prides itself on having one of the most comprehensive databases of adverse events and of being able to run statistical calculations on them daily.

In the French case, particular care has been put into the design of protocols that guide the evaluation of signals in the regional centres. A decision tree guides that evaluation and attributes a score to each drug depending on the answers to specific and systematic questions (eg Was the suspected product reintroduced? Has the adverse event occurred again after re-introduction?). The entire inputting process is closely monitored; junior doctors review the data sent in by regional doctors and are overseen by a senior medical officer.

Conversely, in the UK, it is the procedures and criteria used to extract the key health impact data from the central database that has become particularly sophisticated. A protocol organizes which data outcomes are to be considered by the doctors at the MHRA. In the case of significant health impacts, a whole procedure indicates who, when and how to organize the liaison with the drug's parent company, the depth of the risk/benefit assessment and the extent to which the relevant European Union authority should be involved.

This circular process, starting with the discovery of new events and ending with the development and testing of the new protocols, is a constant one. It takes place as members of the medical community – as a professional and academic

group – test, develop and organize (through their practice, research and publication) techniques to avert uncertainty.

Can the organizing get organized?

There is a great deal of momentum in this process. The MHRA and other comparable agencies keep collecting series of reports, encoding them into databases, running quantitative analysis programmes and organizing 'signal detection' meetings. Further to that, much of what now constitutes official pharmacovigilance regulations is a transposition of practices and techniques slowly shaped by the medical community into the realm of law.

Can agencies do better than a professional group in developing these pragmatics of uncertainty, thereby responding to the criticism they get when adverse effects emerge? The potential difficulty lies in the power of agencies to spread organizational norms – common criteria and collaborative protocols – beyond the agency and across professional communities.

At the time when pharmacovigilance schemes were first established, agencies did not exist. They were created much later in the 1990s. The motives behind their creation typically include the necessity to authorize drugs more efficiently – ie to lower marketing times to encourage innovation and make patients benefit more quickly from new products. It was hoped that market regulation would be made more effective due to better resourced and higher quality expertise. Setting up independent agencies was also seen as a way to ensure accountability and transparency in regulation. In a nutshell, the creation of agencies to oversee pharmaceutical markets was motivated by improving marketing authorization and the setting of product standards, much more than the gathering of information on adverse effects. The parallel organization of pharmacovigilance was unexpected.

When agencies were created, national scientific committees of medical experts set up to evaluate signals were simply integrated into the new organization. But the development of independent regulatory agencies at national and European levels introduced competition into data collection as each country has asserted its need to develop a database. This has created a reluctance to share data and a duplication of analytical efforts. For example, the European Medicines Evaluation Agency has created its own central database, duplicating the efforts made by the Uppsala Monitoring Centre (Sweden) to become the international centre of reference.

Another issue affecting the development of effective agencies is the difficulty of recruiting. Specialists of pharmacovigilance have remained in hospitals and universities instead of joining agencies. Contrarily to the evaluation of marketing dossiers and of clinical trials, the evaluation of adverse drug reactions is not a highly valued medical exercise and few high profile scientists or doctors are attracted by the opportunity to work as a drug regulator.

The pace of standard-setting at the international level was also accelerated as a result of the densification of the government regulatory community. An International Conference for Harmonisation was created to harmonize guidelines related to pharmaceutical control. Originally focussed on harmonizing standards related to the testing of drugs before they get marketed, the process quickly colonized pharmacovigilance. A standard for the planning of pharmacovigilance activities by companies was thus created in this arena, despite the lack of experimentation with the tool by medical researchers and other pharmacovigilance specialists.

Pharmacovigilance teaches us a point about the relation between organization and risk. This relation may take an organized form, reflecting a deliberate attempt to create formal structures to improve accountability and enforcement. On the other hand, it is also a process of organizing activities that are dependent on a chain of heterogeneous actors. This process is incremental and decentralized; it is led by the very actors that undertake the concrete day-to-day operations.

Pharmaceutical regulatory agencies attract criticism and provide a much needed focal point, particularly for politicians and the public at large. But, in a sense, they are made responsible for the performance of systems whose development they only partly control. The actual tackling of adverse health events depends on professional groups developing norms and technologies that can be effectively adopted by agencies. Paradoxically then, supporting the research in pharmacovigilance that is done by scientists and doctors outside agency walls (eg through funding) could very well enable agencies to better fulfil their mission.

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Innovative regulatory responses to the problem of internet gaming

Colin Scott surveys the international landscape of internet gaming, and wonders whether the UK is taking the best approach to regulating the issue.

Achieving compliance with regulatory objectives is challenging enough within domestic regimes where behavioural responses are difficult to predict. But, where that regime involves cross-border business activities, the complex relationships between regulators, businesses and consumers may conspire to frustrate the intentions of the policy makers. A key case is that of internet gaming – punters paying to go head-to-head with a computerized random number generator via the world wide web. Many countries prohibit or severely restrict access to internet gaming even though they are more accepting of other forms of gambling. Key policy considerations include moral concerns about gambling, anxieties about ‘problem gambling’ and overindebtedness, links to organized crime and the desire to protect monopolistic state lotteries from competition. Such anxieties are heightened where punters are not required to subject themselves to the potentially inhibiting public dimension of more traditional gaming. On the other side of the equation is a recognition that gambling occurs anyway, whether lawfully permitted or not, and a response that suggests it is better to permit it and regulate the activity, with the additional prospect of collecting

some significant tax revenues. A key part of this latter set of arguments relates to the near impossibility of preventing determined punters from engaging in internet gaming.

The difficulty faced by the prohibiting countries is that the providers can and do readily establish their activities and servers in any jurisdiction which permits internet gaming and then offers their services to anyone in the world. Amongst the governments which attempt to prohibit internet gaming are most of the states and the federal government of the United States. The more permissive governments now include the United Kingdom (by virtue of the liberalizing provisions of the Gambling Act 2006). A third case is that of Australia, which permits the establishment of internet gaming operations within its jurisdiction, but prohibits the provision of such services to those within the territory. Attempts to regulate internet gaming are interesting not only for the remarkable divergence of policies, but also for the innovative approaches to enforcing those policies.

A key aspect of the regulatory approach in US jurisdictions has been the deployment of criminal law sanctions. Occasionally, firms offering internet gambling services to US residents from overseas, but which have a presence in a US state, have been prosecuted. This approach has directly addressed relatively few of the service providers, but has provided the platform for a more nuanced enforcement strategy under which key gatekeepers are targeted. Gatekeepers are typically non-state actors who, because of their intermediary role, have the capacity but not necessarily the incentive to disrupt the activity targeted by the regulatory authorities. In the case of internet gaming the banks which offer credit card facilities to gaming providers and their customers are key intermediaries. New York State authorities pursued the banks aggressively, threatening legal action against them for aiding the commission of internet gaming-related offences, unless they agreed to use their capacity to block transactions which are labelled within their systems (for commercial reasons) as involving the internet and gaming. Most of the banks serving consumers in New York State agreed to follow the line suggested by the state Attorney General. This action does not completely preclude residents of New York State from engaging in internet gaming, but it makes it more difficult as they have to transact with a payment intermediary outside the jurisdiction (for example in Canada), adding a layer of complexity and inhibiting the capacity for spontaneous gaming. State enforcement activities were bolstered by the

passage of federal legislation in the US in 2006 explicitly criminalizing the acceptance of financial instruments by providers of internet gaming and requiring the creation of regulations under which financial intermediaries are obliged to prohibit or block all such transactions. In Australia a voluntary approach targets not the financial intermediaries but another group of gatekeepers, the internet service providers, who may be requested to block access to internet gaming sites.

A new strategy from the US federal authorities emerged last year when authorities engaged in a series of high profile arrests of directors of off-shore internet gambling operations, notably involved in sports betting but affecting also internet gaming. The opportunistic arrest of the in-transit chief executive of the UK-based internet gambling company Betonsports in Texas in July 2006 is reported to have triggered the company's withdrawal from the US online market and the chief executive's dismissal. Other high profile arrests have followed and had significant adverse effects on confidence in the sector and share prices generally.

In the UK the Treasury-driven policy is to lure to its jurisdiction online gaming operations which are currently located in more liberal regulatory and tax environments in locations such as Gibraltar and Antigua. Firms are likely to balance the reputational advantages of locating and being licensed within a tight regulatory regime against the costs of such regulation and the additional tax liabilities. The Treasury is believed to be planning a lower tax rate for internet gaming than currently exists for more traditional gambling operations. It is likely that UK regulators will take similar steps to those of Australian authorities to comply with American requests to prohibit access to UK-based internet gaming sites from the US. Operating under this constraint, it is unclear whether the UK government can capitalize financially and economically on its liberal regime.

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This article reflects on developments which have occurred since publication of Professor Scott's chapter 'Between the Old and the New: Innovation in the Regulation of Internet Gaming' in the collaborative CARR book edited by Julia Black, Martin Lodge and Mark Thatcher Regulatory Innovation: A Comparative Analysis (Edward Elgar, 2005).



Reporting beyond the numbers:

The re-negotiation of financial reporting paradigms in the British Company Law Review

With the recent publication of the Companies Act 2006, the dust has finally begun to settle on a decade of heated debate about the nature of 'enlightened' directors' duties to shareholders. Under the 2006 Act, directors must now consider wider stakeholder groups (employees, customers, suppliers and others) as well as the business' impact on the community and environment when promoting overall long-term company success. This departure from the exclusive shareholder focus in British company law has significant implications for the transformation of external company reporting beyond 'the financials' of the annual accounts and reports.

The British Company Law Review began at a time of transformation, when ideas of corporate governance and public private partnership supplanted the strong market ethos of the old 'Thatcherism'. Memories of past financial scandals – Maxwell, Bank of Credit and Commerce International, and Barings – and the worldwide impact of Enron and WorldCom fuelled the reform. With the changing role of business in society, the status quo in corporate financial reporting could no longer be maintained.

Debates over the introduction of a mandatory Operating and Financial Review to the annual reports of British listed companies and the outcries after its sudden abolishment reveal the highly contested nature of accounting regulation today. In Operating and Financial Reviews, directors would *inter alia* report on underlying financial, as well as non-financial and strategic aspects of the business. The requirements' closer interpretation opens up new spaces for debate in accounting regulation.

The case of the mandatory Operating and Financial Review demonstrates how a wide range of domains beyond accounting take an interest in 'accounting issues' when these become a matter for public regulation. It also reveals a re-negotiation of the boundaries between what accounting reports 'can' and 'should' do, as competing groups define and advance their interests under the umbrella of 'accounting' as part of the legislative process. As a result, the contemporary view of accounting

as a social practice is increasingly replacing its understanding as a purely technical matter of 'getting the numbers right'. Formal regulation of accounting is being redefined as a mechanism of social control, in which regulatory roles and functions are dispersed among a wide array of state and non-state actors.

For over a decade, representatives of the accounting and legal professions, business, policymakers, and other stakeholders (mainly non-government organizations, think-tanks and trade unions) have been engaged in shaping and negotiating the essential nature of statutory external company reporting. Their motivations are manifold.

The accounting profession is in favour of provision of non-financial and future-oriented information in mandatory Operating and Financial Reviews to expand information disclosed in financial statements, and to increase its decision-usefulness for investors and other users. Policymakers link non-financial and future-oriented reporting to their concerns with the international competitiveness of the British economy. In the eyes of non-government organizations, think-tanks, and trade unions, the Operating and Financial Review provides a mechanism requiring companies to report on their 'triple bottom line' – financial, social and environmental performance. Most businesses tend to contest a mandatory Operating and Financial Review due to concerns about regulatory burdens and formal requirements for provision of sensitive commercial information. Because of this, they prefer a voluntary approach. However, the relative influence of the different constituents has varied at different stages of the company law review, as has their ability to influence conceptions of accounting in the lawmaking process.

Despite the Labour Government's objective of a 'stakeholder economy', the independent Company Law Review Steering Group excluded from the debate a 'pluralist approach' that would ensure equal legal accountability to a wide range of stakeholders. This pushed aspects of environmental and corporate social responsibility that were discordant with 'enlightened shareholder value' off the agenda.

After the Enron and WorldCom scandals of 2001/2002, the focus shifted from promoting the international competitiveness of the British economy to controlling corporate behaviour and preventing malfeasance. Increased accountability and transparency went high on the agenda for improved audit effectiveness and corporate governance. At the time, the Department of Trade and Industry had assumed responsibility and prioritized introduction of 'Operating and Financial Review Regulations' (2005) ahead of the remainder of the Company Law Review. In late 2005, tensions between businesses and the promoters of a mandatory Operating and Financial Review culminated in the Government's unexpected political decision to abolish the Operating and Financial Review altogether.

In the new Companies Act 2006, the wide-ranging ideas of the Operating and Financial Review are reduced to an 'Enhanced Business Review', mainly resulting from the European Commission's 'Accounts Modernisation Directive' (2003). However, under increased public pressure the legislators agreed to last-minute changes that re-introduced limited requirements for listed companies to report on future key trends, environmental and employee matters, and social and community issues. More interestingly, there are still numerous voluntary initiatives of the accounting profession, think-tanks, other non-government organizations, and businesses to keep the Operating and Financial Review's spirit alive despite the loss of governmental support.

The rise and fall of the mandatory Operating and Financial Review within the debate indicates the extent to which a decade of law reform established new perceptions about the role of accounting. With a shift towards a culture of 'enlightened shareholder value', reporting and transparency became a remedy to a wide range of societal concerns. Accounting regulation is no longer just about 'getting the numbers right'.

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Organizing risk regulation: Current dilemmas, future directions

22-23 March 2007

Securing against threats, vulnerabilities and uncertainty? Towards the organization of risk management and regulation

The agents of risk have not changed dramatically in the past millennia or so – whether they provoke natural disasters (from the St. Elisabeth Flood in the Netherlands in 1421 to Hurricane Katrina in the United States in 2005), infectious disease (from the Black Death in Europe in the 14th century to SARS in South East Asia in 2003), economic failures (from the Wall Street Crash of 1929 to the Enron affair in 2001), or manmade disasters (from the Great Fire of London in 1666 to the Challenger disaster in 1986). Yet, at all times and in all cultures, humankind has sought to control and manage risks, threats and vulnerabilities, through social, political and economic organization.

In recent history, risk has risen to significant prominence on the public agenda, and prompted some to claim that we live in a 'risk society'. Within this context, an international gathering of leading academics, politicians, company directors, and industry professionals considered a range of current issues and controversies in risk management and regulation at CARR's March conference. The conference addressed topics as diverse as international terrorism, civil aviation, financial markets, public health and workplace safety.

Throughout the event, there was a particular focus upon the social and institutional character of risk management, and the increasingly de-centred and participatory nature of regulatory activities. The management and mitigation of risk is an activity that is performed under the scrutiny of the public eye and the 24 hour media cycle, and it intersects with declining levels of public trust in professions, institutions and elected representatives.

Conference panels addressed a number of important topics and themes for understanding the design and operation of risk regulation regimes. These drew upon theories and methodologies from political science, sociology, law, accounting, philosophy, history and social psychology, and on practitioner expertise from financial services, politics,

contingency planning, insurance, risk management and workplace safety.

For instance, Christopher Hood introduced the 'blame avoidance' perspective as an approach from political science for understanding the political selection of policies and institutions (for the purpose of risk management) and use of presentational strategies of blame avoidance by officeholders. The delegation of regulatory powers to independent agencies was therefore conceived as a function of the 'minimax' strategies of elected politicians. Indeed, this was noted as being a longstanding practice in political rule, with reference to the advice of Machiavelli that '... princes should delegate to others the enactment of unpopular measures and keep in their own hands the distribution of favours'. The 'negativity bias' (where politicians give more weight to negative, rather than positive, consequences) permeating the design of institutions and policies of risk regulation is juxtaposed with demands for the accountability, participation and transparency of regulatory institutions.

Indeed, other perspectives on the management of risk focused upon the role of 'reputation' – both in the practice of regulation and as an intangible organizational asset. The evolution and construction of reputation is critical given the increased visibility of regulation in the public sphere, which brings an organization both opportunities and risks. Dan Carpenter explained how the reputation of the Food and Drug Administration (FDA) in the United States had 'crystallized', through a process of contestation that reproduced and reinforced the image of the FDA as a 'gatekeeper'. The past successes of the FDA were reproduced through its reputation for standards of vigilance, stringency and rigor. Also, Michael Power identified the Brent Spar affair in 1995 as the catalyst event in firms' increased operational interest in management of reputational risks. The management and mitigation of risk is therefore confronted with multiple audiences in the arenas of social, political and institutional conflict. This is where reputations are constituted in symbols, myths, images and shared understandings of an organization, and where reputations are amplified through political debate or media coverage.

Beyond the construct of reputation, Javier Lezaun considered the principle of 'precaution' in regulation of the frontier science of human genome therapy. This queried the

'mouse-based' economy of experimental science. From the history of clinical trials and experiments, the limits of this standardization of medical science were noted as a model for immunological comparisons with humans. Instead, Lezaun argued, in frontier science of this kind the mouse-based model was tested on the patient – rather than the drug tested on the mouse.

There was also an interest in the methodological advantages (and possible disadvantages) of historical approaches to risk studies and accident inquiries. Terry Gourvish presented a comparative analysis of the history of railway safety in Britain that showed how some putatively novel twentieth century developments have Victorian precedents, while Sarah Dry discussed how an historian can bring individual and organizational encounters with risk into the same story.

The conference brought together a diverse set of academic and practitioner perspectives on risk regulation, yet found notable agreement on many of the critical questions about how risk is managed in modern societies, economies and organizations. It also provided evidence of the relevance of the cross-cutting CARR research themes in addressing current concerns about risk regulation.

In the review articles that follow, a number of CARR staff, associates and students provide their reflections upon the conference.

Reputation, security and trust

The conference opened with a claim from Bridget Hutter that we are witnessing a tremendous growth in systematic research on risk and regulation, and this was clearly evident during the sessions concerning reputation, security and trust.

Many speakers noted the apparent increase in concern amongst organizations regarding safeguarding or improving their reputations. Sharon Gilad suggested that a concern for reputation could promote adversarial relationships between financial regulators and firms, even when both publicly promoted 'light-touch', case-based dispute resolution. Despite the apparent motivating power of reputation, Susan Scott noted the ephemeral and abstract nature of the concept.

There was an interesting disagreement over the impact of increased concerns about reputation. Many attendees, including Christopher Hood, suggested that reputation was a negative rather than positive resource, being lost far more easily than it is won. However, Dan Carpenter argued that attempts by one party to besmirch an organization's reputation could cement more



positive views of the organization in the eyes of a different audience. Hence, the US FDA was criticized for 'drug lag' for delays in approving products for market, but for some this 'failure' highlighted the FDA's scientific probity.

Perhaps, unlike the emerging field of reputation management, 'security' has always been an important subject for scholarly investigation. In line with this, Bruce Mann suggested that we face relatively few 'totally new' threats to security, with pandemics, large-scale industrial accidents and terrorism all having marred much of the 19th and 20th centuries as well as our own. The real issue was how one could deal with risks when they 'crystallized'.

Discussions on 'trust' provided the greatest indication of continuing differences of approach amongst speakers. Bob Brecher forcefully criticized codes of ethics as a means of sustaining trust in professionals, suggesting that they keep discussions of morality off the agenda. Although few speakers went anywhere near as far as Dr Brecher in his suspicion of codification, some did suggest that a merely 'box-ticking' approach to professional competence would result in suboptimal outcomes.

Finally, Robert Kaye noted that whilst many professions were moving towards what he called 'regulated self-regulation', there was remarkably little explicit policy transfer between professions, with institutional changes often presented as *sui generis*. Thankfully, the conference indicated that research into risk and regulation has moved far beyond this closeted view, with many fascinating studies being undertaken into comparative approaches to reputation, security and trust.

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Knowledge, technology and expertise

Processes of rendering risks visible and manageable create not just zones of visibility but also zones of invisibility; as some risks are brought to the fore of managerial attention, other risks escape such visibility and manageability. Drawing attention to and investigating not just the risks that organizations focus upon, but also the risks that tend to evade formalized risk management procedures is a crucial task for risk regulation research. What is at stake is knowing to what extent such partitioning is involved in the creation and maintenance of new spaces where alternative accounts might emerge. This implies asking 'To what kind of visibility should society aspire and how quantifiable or auditable should that visibility be?' Joni Young, Andrew Barry and Peter Miller all provided fascinating empirical analyses and theoretical reflections in this important research area.

While not arguing that financial reporting should or could incorporate all possible risks for the widest possible group of users, Joni Young drew attendees attention to the exclusion of possible alternative accounts of corporate 'performance'. Professor Young explored the recent engagement of accounting standard setters with notions of



risk. In accounting standards, the risks that matter are those that originate outside organizational boundaries and *impinge* upon the organization in the form of burdens, exposures and adversaries. Conceptualizing risk in these ways means that the risks that accounting standards render visible and manageable are those that threaten the economic well-being of the organization. What tends to be neglected in this context is a whole array of risks which the company might be creating for parties other than its shareholders. And yet, *where* and *how* this boundary is drawn is subject to little critical debate. Studying *how* accounting standard-setting draws the boundary between risks that companies must report and those that are excluded is particularly important, Professor Young argued, because accounting is a 'performative' practice that shapes companies as much as it represents them.

The more controversial character of accountability was discussed by Andrew Barry in his presentation on the social and environmental impact assessment (SEIA) of a large infrastructure project. When constructing a 1,760km oil pipeline from the Caspian Sea to the Mediterranean Sea, BP used SEIAs to make the project transparent (and thus legitimate) to the eyes of various organizational publics. Dr Barry explained, however, that though the knowledge, technology and expertise deployed in EISAs made a set of *social* and *environmental* issues visible, governable and contestable, crucial *political* and *economic* issues were excluded from these zones of visibility and contestation. Risk management in the form of EISAs thus created an artificial separation between social and environmental issues on one hand, and political and economic issues on the other. Dr Barry argued that tracing the interrelations between such artificially separated domains is an important task when

Sixth Annual Research Student Conference 20-21 September 2007, LSE

The ESRC Centre for Analysis of Risk and Regulation (CARR) welcomes expressions of interest for its *Sixth Annual Research Student Conference*. The conference is intended as a forum for intense and constructive discussion and debate between research students whose projects focus on a topic within CARR's agenda.

We welcome expressions of interest in attending the conference and proposals for papers to be considered for presentation. Information on how to do this is on the CARR website (www.lse.ac.uk/collections/CARR).

Applications to present must be received by **Friday 8 June**.
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There is no charge for attending the conference.

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researching how risks are managed, as every account given in the name of transparency can be used by 'publics' as a point of access to engage with what counts as evidence.

Peter Miller stated that underlying such paradoxes is the hybrid character of the techniques through which accountability is promoted. The management of uncertainty tends to take place through technologies that cut across domains of government and professional expertise and which are able to process heterogeneous and unstable realities to produce 'facts' that are stable enough to be managed and accounted for. One such hybrid is accounting – a set of heterogeneous techniques and practices which tend to continuously hybridize themselves: by borrowing from other disciplines on the one hand, and by providing numeric accounts of the most disparate realities (which are thus made to 'count') on the other. Accounting is not only a hybrid producing hybrids, but also a practice and a discipline constantly asked to make other hybrids visible and to sort out their complexities through quantification and monetarization.

Outside the technical domain of accounting, a less-hierarchical, less-formalized approach to risk management can also make possible lateral information flows and coordination across the boundaries of organizations, firms and groups of experts. For example, the use of technology roadmapping in the microprocessor industry has created an information-sharing framework that operates internationally across very different kinds of organizations, from large-scale semiconductor firms and suppliers, to government agencies and university laboratories. The use of hybrids therefore locates risk management at the boundaries of practices and organizations in a constant state of innovation and reinvention.

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Performance, accountability and information

Performance, accountability and information are a triumvirate of challenges for contemporary risk regulators. It is not sufficient to 'do regulation'; regulators must explain and justify their behaviour to multiple audiences. This challenge featured in a number of papers and presentations at the conference.

A recurring theme was how accountability is affected by the existence of a 'blame culture' – a point examined in depth by Christopher Hood. As members of the panel on the dilemma of risk-based approaches stressed, blame is one of the drivers of risk-based regulation. In order to

avoid blame for regulatory failure, regulators seek to 'pre-justify' the gaps in regulatory regimes, and may even orient their activities around threats to the organization from failure. At the same time, however, adopting a risk-based approach does not absolve regulators of accountability for poor performance – it simply moves the issues to culpability for the choice of risk model and the choice of priorities.

In a discussion on the role of reputation in risk management, Michael Power outlined the dangers of turning necessarily limited information into performance indicators and tools for risk management. For Professor Power, the link between accountability and performance lay in the fact that what increasingly matters for regulators is how they are seen – ie their reputation amongst stakeholders. Reputations, however, may be over-subjective. Performance indicators based on reputation can become self-reinforcing and divorced from objective success.

For instance, Dan Carpenter described the history and reputation of the US Food and Drug Administration and suggested that simultaneous attacks on the FDA from pharmaceutical companies, who saw the organization as overly burdensome, and from legislators, who saw it as supine, actually enhanced the credibility of the organization. The attacks demonstrated both its independence and its objectivity. Moreover, the FDA's reputation affected how the organization's performance would be perceived. Performance, therefore, should not be seen narrowly as an organization carrying out its regulatory activity, but as a wider process in which organizations manage stakeholder relationships, build a reputation and create their own narrative.

The link between accountability and performance was raised in a panel on the challenges facing professions. Speakers examined how regulatory bodies operating in the professions increasingly focus themselves towards accountability to the public. The traditional model of self-regulation created not only problems of image, but seemed to have contributed to genuine problems of performance.

In a panel on historicising risk, presenters sought to make a link between the regulators of Victorian Britain and today. Terry Gourvish examined the uses to which historical experience can be put in contemporary regulation. Sarah Dry in turn argued that history can be more valuable than simply providing data, but can give an insight into contemporary problems: her study of the early Meteorological Office foreshadowed the difficulties of modern risk communication. Indeed, regulators may (like the emerging chief risk officers examined in Michael Power's presentation) be accountable for far more than they can hope to control.

Robert Kaye is a former ESRC Research Officer at CARR

Assessing the costs and benefits of regulation: a discussion

Tuesday 13 March 2007, 2pm-4pm, LSE



CARR has been experiencing increasing success with its open forums, and the debate held in March as part of the ESRC Festival of Social Science was further evidence that we are consistently and effectively engaging with practitioners, academics and the informed public.

Over 120 people attended the *Assessing the costs and benefits of regulation* discussion held on 13 March at LSE. Audience members and panelists offered varied and intersecting opinions on the nature of regulation, its costs, its benefits, and its place in modern society.

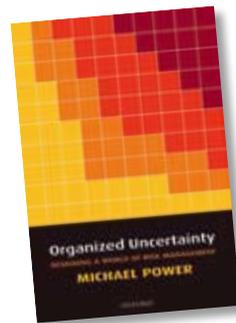
Representatives from the National Consumer Council, the Confederation of British Industry, the Institute of Directors, the Better Regulation Executive and the Pensions Regulator were joined by members of the audience in considering how and why debates about regulation constantly focus on the burdens and impedances regulatory regimes bring, at the same time as politicians, businesses and consumers demand greater accountability and protection from risk.

Professor Bridget Hutter, Director of CARR, chaired a lively discussion on this key paradox at the two-hour event.

CARR BOOKS

Rational designs for organizing uncertainty

Michael Power examines how risk has become the focus of organizational planning and reporting.



There is no shortage of books and articles on risk management. From practical handbooks of how to manage risk to advanced treatises on how to calculate it, from scholarly debates on the 'risk society' to standards and norms issued by governmental and non-governmental bodies, from discussions of risk motivated by democratic values to prescriptions for adding economic value. This explosion of risk discourse and its implication for practices and administrative processes needs to be explained. For example, organizational committees dedicated to risk did not exist ten years ago; now they have become a mandatory feature of organizational life. Why?

The standard explanation for the emergence of these committees is that this is a rational response to risk. Yet, while this may be true in specific instances, it is not generally convincing for the phenomenon as a whole. How and why has risk become such a pre-eminent part of organizational and managerial language? What has allowed management practices of very different kinds to be re-organized in the name of risk? The changing nature of dangers and opportunities in the world is, at best, only one part of the answer. *Organized Uncertainty* argues that risk and its management has become a lens through which rationalized organizational designs, and related forms of accountability, have been imagined and promoted. This re-envisioning of organizational processes around the idea of risk

has arisen from a number of different but related pressures for change which emerged in the mid-1990s and which continue to evolve in 2007.

Risk management has been elevated from the technical and analytical foundations established in the 1960s to the stage of organizational governance. Governance, in turn, is being reinvented in terms of capabilities for effective risk management, capabilities which are defined by rational system designs embodied in a multiplicity of standards and guidelines. Corporations, public sector bodies, governments, regulators and non-governmental organizations have been mobilized to improve risk handling by the stimulus of scandals and catastrophic events. But the organization of these responses often has an institutional form and logic.

Risk management as a mode of organizing and governing has its roots in the transformation of internal control into enterprise-wide risk management. In addition, the appearance of new categories of risk object, such as operational and reputational risk, and new roles, such as 'Chief Risk Officer', have expanded the reach and significance of risk management issues within organizations of all kinds. However, while the mobilization and marketing of risk management appeals to values of enterprise and opportunity, *Organized Uncertainty* argues that the underlying logic of recent developments is more defensive and legalistic in nature. Indeed, the explosion of rational designs and standards for risk management can be regarded as the continuation of the growth of audit; these designs provide legitimized templates for organizations to represent and account for themselves as being well-controlled and governed.

This new risk management speaks more to neo-liberal themes of discipline and responsibility than it does to entrepreneurialism, perhaps most evident in the expansion of costly risk and control bureaucracy following the Sarbanes-Oxley legislation in the United States. Practitioners, regulators and policy makers need to look below the many surface celebrations of rational risk management to understand how and why organizations have a tendency to grow defensively oriented micro-structures, audit trails and systems.

Michael Power is a CARR Research Theme Director and Professor of Accounting at LSE.

Organized Uncertainty: Designing a World of Risk Management is published by Oxford University Press in May 2007.

Organized Uncertainty: designing a world of risk management

Michael Power
Oxford University Press 2007



Global Governance and the Role of Non-State Actors

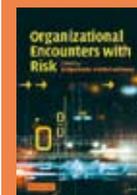
Gunnar Folke Schuppert (Ed)
Nomos, 2006.



Regulatory Innovation: A comparative perspective

Julia Black, Martin Lodge and
Mark Thatcher (Eds)
Edward Elgar 2005

Now out in paperback



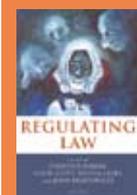
Organizational Encounters with Risk

Bridget Hutter and Michael
Power (Eds)
Cambridge University Press 2005



Controlling Modern Government: Variety, Commonality and Change

Christopher Hood, Oliver James,
B Guy Peters and Colin Scott
Edward Elgar 2004



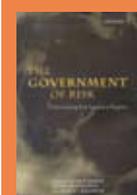
Regulating Law

Christine Parker, John
Braithwaite, Nicola Lacey and
Colin Scott
Oxford University Press 2004



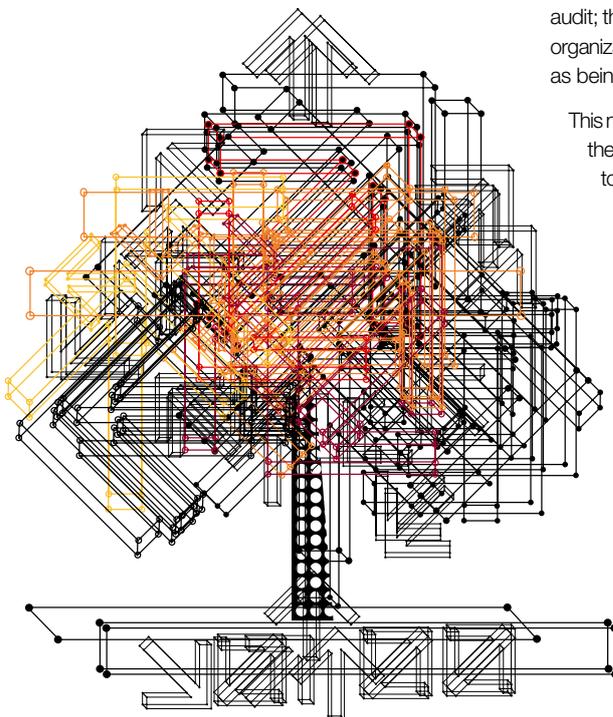
On Different Tracks: designing railway regulation in Britain and Germany

Martin Lodge
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The Government of Risk: understanding risk regulation regimes

Christopher Hood, Henry
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Oxford University Press 2001



PUBLICATIONS

From government to governance: External influences on business risk management

Bridget M Hutter and Clive J Jones. 2007. *Regulation & Governance*, 1 (1), 27-45.

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Corporate governance, reputation, and environmental risk

Michael Power. 2007. In *Environment and Planning C: Government and Policy*, 25 (1), 90-97.

The Invention of Operational Risk

Michael Power has been translated and reprinted in German as 'Die Erfindung operativer Risiken', in AM Mennicken and H Vollmer (hrsg.) *Zahlenwerk: Kalkulation, Organisation und Gesellschaft*, 2007; Translated and reprinted in Spanish as 'La Invenccion del Riesgo Operacional' in A Laviada Fernandez (ed.) *La gestion del riesgo operacional*. 2007.

Comparative public policy

Martin Lodge. 2006. In F Fischer, G Miller and M Sidney (eds.) *Handbook of Public Policy Analysis*, London, Taylor & Francis.

Telecommunications policy reform: Embedding regulatory capacity in the English-speaking Caribbean

Martin Lodge. 2007 (with Lindsay Stirton). In G Baker (eds.) *No Island is an Island: The Impact of Globalization on the Commonwealth Caribbean* London, Chatham House.

Mediating instruments and making markets: Capital budgeting, science and the economy

Peter Miller (with T O'Leary). Forthcoming, in *Accounting, Organizations and Society*.

Accounting, hybrids and the management of risk

Peter Miller (with L Kurunmäki and T O'Leary). Forthcoming, in *Accounting, Organizations and Society*.

From Sir Humphrey to Sir Nigel: What future for the public service bargain after Blairworld?

Christopher Hood and Martin Lodge. 2006. In *Political Quarterly*, 77 (3), 360-8.

The entrepreneurial university revisited: Conflicts and the importance of role separation

Jakob Vestergaard. 2007. In *Social Epistemology*, 21 (1) 41-54.

RECENT CARR DISCUSSION PAPERS

DP44 Testing Times: Exploring a Staged Response Hypothesis For Blame Management in Two Exam Fiasco Cases

Christopher Hood, Will Jennings and Brian Hogwood, with Craig Beeston, May 2007

DP39 At No Serious Risk?: Border Control and Asylum Policy in Britain, 1994-2004

Will Jennings, May 2007

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Sociology of regulation and risk management; regulation of economic life; corporate responses to state and non-state forms of regulation.

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Sociology of regulation and risk management; sociology of expertise and scientific advice.

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History of Victorian government science and safety; maritime and engineering accident management.

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British Academy Postdoctoral Fellow

Regulation of government by public opinion; blame avoidance; policy implementation.

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Self-regulation and ethics regulation; regulation inside parliaments and political institutions; regulatory bodies in the professions.

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Comparative regulation and public administration; government and politics of the EU and of Germany; railway regulation in Britain and Germany; regulatory reform in the Caribbean.

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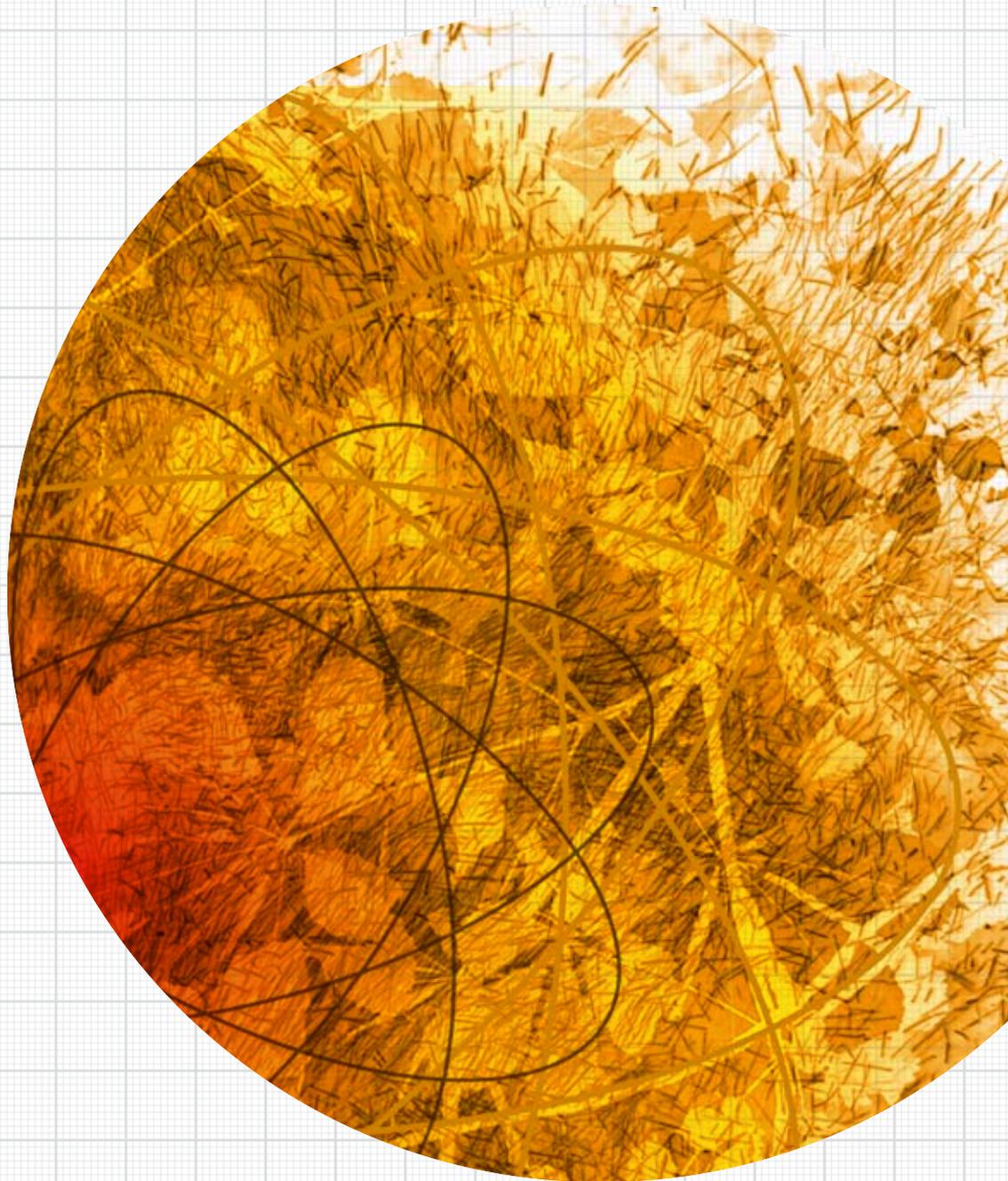
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