

BI Centre for Risk & Insurance Research

Societal risks and risk society:
a cross-disciplinary and cross-stakeholder
dialogue perspective

Samrisk networking project
(funded by the Research Council of Norway)

Opening seminar, April 24&25 2009

BI NORWEGIAN SCHOOL
OF MANAGEMENT

Today's programme

- 13.30+ Welcome (Prof. Johannes Brinkmann, BI Oslo, Assoc. Prof. Jens O. Zinn, University of Melbourne)
- 13.45+ Introduction: Risk in an Interdisciplinary Perspective (Jens O. Zinn)
- 14.30+ Risk and Regulation (Prof. Bridget Hutter, LSE, London)
- 15.15+ Risk and the Insurance Industry (Assoc. Prof. Aaron Doyle, Carleton University Ottawa and BI)
- 16.00 *Coffee break*
- 16.30+ Discussion – Risk from Interdisciplinary Perspectives - Differences and Similarities. (Short remarks by the coordinators of future seminars)
- 19.00 Informal dinner and gathering, on campus
- Cancelled: Ethics of Risk (Prof. Klaus Peter Rippe, Karlsruhe and Zurich)

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Tomorrow's programme

- 08.15+ Paper presentations and discussion (4 papers, 20 min presentation, 10 minutes discussion)
- 10.15+ *Coffee break*
- 10.30+ Bjørg Ofstad, Samrisk programme, Research Council of Norway: Possibilities of funding for follow up projects and for project paper publication (possibility for questions and discussion).
- 11.15+ Prof. Britt-Marie Drottz-Sjøberg, NTNU, introductory remarks to a round table discussion 'What have we learned?' - Planning for further activities
- 12.30+ *Lunch* (and end of network meeting)

Hopes& expectations

- Academic networking: Who is who? Getting to know actual and potential collaborators
- Keynote presentations, paper presentations, discussing priorities for our networking project and its four future seminars
- Identifying joint pilot projects and/or joint papers, with or without external funding

Risk in Interdisciplinary Perspective

Jens O. Zinn, jzinn@unimelb.edu.au
University of Melbourne, Australia

Overview

- General remarks
- A brief history
- Core issues

Introduction

A shared understanding of risk? Risk as ...

- *danger, harm, threat or disaster*
- *decision-making or attribution of decisions*
- *statistic-probabilistic calculation*
- *socio-cultural construction (as part of power games, values, blame allocation etc.)*

Introduction

Risk research

- How to deal with undesired events ...
 - *we are facing (natural disasters)*
 - *as a result from our attempts to control an in principle uncertain future (side-effects of industrialisation)*
 - *as possible outcomes of our decisions*
- Disaster research versus risk research
 - *How to deal with specific risks/disasters*
 - *How to deal with an uncertain future*

Introduction

- A brief history of risk research:
 - *Science approaches*
 - *Behavioural economics / cognitive psychology*
 - *Risk perception / psychometric paradigm*
 - *Societal approaches (cultural, risk society, governmentality, systems theory)*

Zinn, J.O. & Taylor-Gooby, P. 2006: Risk as an Interdisciplinary Research Area, in: Taylor-Gooby, P. & Zinn, J. O.: *Risk in Social Science*, OUP, 20-53

A short history of risk research

The limits of objective prognoses of risk acceptability (Starr, 1969)

- Prognosis of public acceptance of new risks
- Quantitative measure (deaths per produced energy)
- Nuclear power better death-energy ratio
- Public should welcome the new technology (revealed preferences)
- *Irrational* rejection of the technology by large parts of the public.

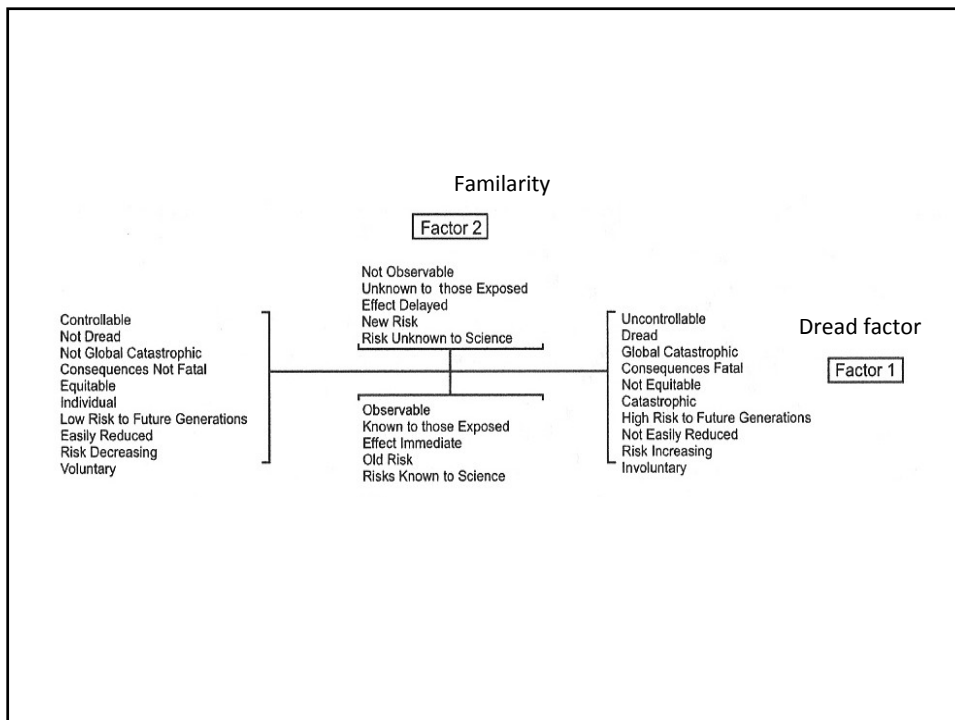
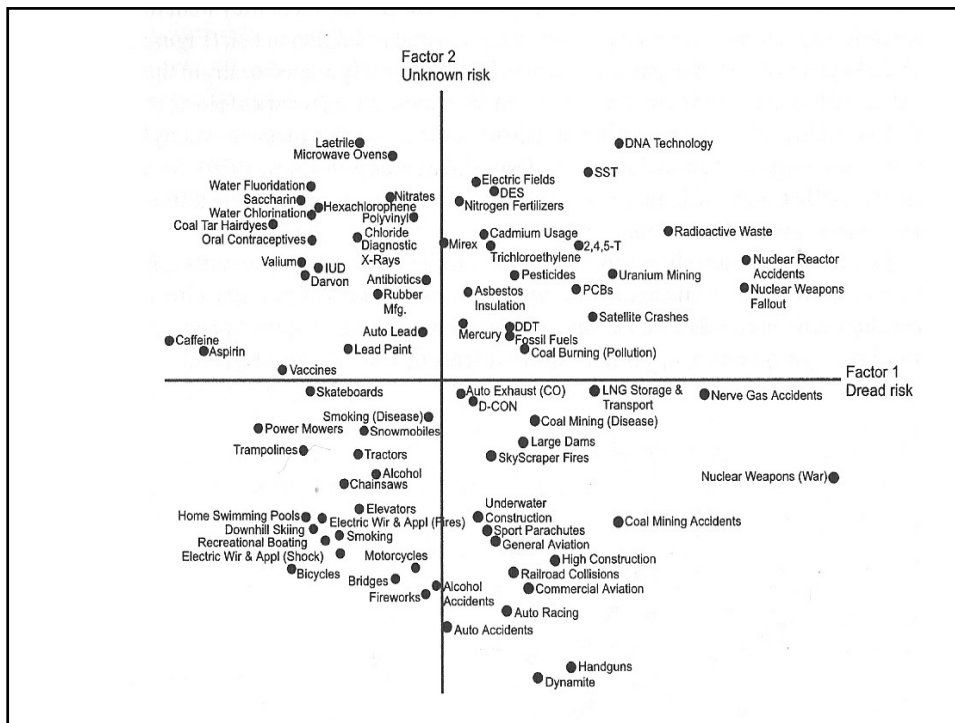
A short history of risk research

Cognitive psychologists and decision making research
(Tversky/Kahneman 1974)

- Systematic and significant deviations from best solutions (human mental limits)
- Evolutionary developed heuristics and biases in judgement
 - Availability
 - Representativeness
 - Cognitive dissonance
- Critique
 - Artificial decision making situations in lab-experiments (time pressure, little information)
 - In real life people have experiences and can ask others for advice

A short history of risk research

- Psychometric paradigm (Slovic 2000)
- Asking people directly with standardised questionnaires (expressed preferences)
- Systematic difference between experts' understanding of risk (objective) and lay-people's understanding of risk (subjective)
- Dread factor (lack of control, future generations)
- Familiarity factor (observability, known etc.)



A short history of risk research

- Psychometric paradigm (Slovic 2000)
 - National, regional and local differences
 - Socio-structural differences (gender, ethnicity, class/milieu, white male effect)
- Problems
 - Average estimations neglect individual differences
 - Static: neglects interactive and dynamic effects
 - Unclear connection of perception and action
- Insight
 - For most (lay)people risk is not just a combination of the size and the probability of a damage – has a social and subjective dimension as well

A short history of risk research

Expert-lay controversy

- General assumption of the superiority of professional expertise and inferiority of lay knowledge was questioned (Wynne 1982, 1987)
 - Epistemic cultures vs. local knowledge
 - Lay people evaluate the reliability of experts
 - Trust
 - Risk communication: Shift from teaching the public to participation of the public

A short history of risk research

Sociological approaches

- Socio-cultural construction of risk (socio-cultural approach)
 - Responses to risk depend on social positioning of groups
 - Social identity of a group determines risk perception
- Limits of modern/rational control of risks (risk society)
 - Success of modernization produces new risks and uncertainties
 - New strategies are required to deal with risks and the unknown unknowns
 - Need for legitimacy

A short history of risk research

Sociological approaches

- Dominance of liberal styles of governance and regulation (governmentality)
 - Risk technologies (statistic-probabilistic calculation)
 - Knowledge production and governing the self
- Growing complexity (systems theory)
 - Dealing with systematic social contradictions

Core issues: real and constructed

- Risks are at the same time real and socially constructed.
- Scientific risk calculations are about probabilities not certainties.
- Social risk constructions assume that risks are real.
- How risks become real in a social process? (e.g. late acceptance of climate change)

Core issues: trust

- Decreasing trust in decision makers and experts.
- Trust required for successful implementation of decisions
- Participation versus better expert-knowledge and performance
- From unconditional to conditional trust (Giddens etc.)
- What trust level is right?

Core issues: regulating complexity

- Shift from direct regulation to *meta-regulation*
- Setting the boundaries for self-regulation
- Effects and limits of meta-regulation
 - Limits of auditing (measurement of quality)
 - Artificial impression of control
 - Perverse effects of overregulation (e.g. NHS)
- Finding the right mixture

Core issues: individual experiences

- People respond to risk on the basis of their individual experiences
- Social class, social milieus, and lifestyles influence responses to risk
- What approaches are needed to reach the differentiated public of individualised societies?

Core issues: inequalities and equity

- Conflicts about the allocation of risks
- Unjust affectedness by risks
 - local (Katrina/New Orleans)
 - global level (developmental countries & climate change)
- How to deal with unequal allocation of risk and uncertainty on a local and global level?

Core issues: values

- Societal negotiation of values
- Competing values from protection against risk to risk-taking.
- How much prevention is desirable or even endangers other social values? (e.g. impact of insurance industry)
- How can we come to reasonable decisions in societies with different interests and values?

Core issues: legitimacy

- Decisions which affect the quality of life require justification.
- In particular precaution is a source to provide risky decisions with legitimacy.
- Which kind of law can provide legal certainty for today's decisions?

Core issues: new risks

- New risks result from changing societies in changing environments.
- Delayed adaptation to environmental change (Australian bushfires)
- How can new risks be recognized and dealt with before they cause damage?

Core issues: systemic risks

- Often risks are not isolated phenomena.
- They are complex and are linked to and produce side-effects in many social areas.
- How can we prepare for the unforeseen interaction effects of complex risks?

Living with uncertainty



Thank you



Risk and governance: some observations on change

Interdisciplinary perspectives on societal risk
Norwegian School of Management BI, Oslo
24th April 2009

Bridget Hutter
Chair Risk Regulation, LSE
Director, ESRC Centre for Analysis of Risk
and Regulation, LSE

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Science and 'technologies of the future'

- Genetically Modified Crops
- Stem cell
- Nanotechnology
- Nuclear power

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Beck (2006) We live in a world where we are 'increasingly occupied with debating, preventing and managing risks'

Luhmann's (1993) distinguishes between risks and dangers – risk is associated with 'potential' losses as opposed to the actual losses involved with dangers.

Giddens (1999: 3) sees a growing preoccupation with the future. He argues that there is no longer a belief in fate but an 'aspiration to control' the future.

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Regulation as state efforts to regulate economic activities

State intervention through law. Often referred to as the 'command and control' regulation, involving the 'command' of the law and the legal authority of the state.

- Kagan's (1978) classic formulation of regulation: the use of the law to constrain and organize economic activity

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Risk Regulation Regimes

‘...government interference with market or social processes to control potential adverse consequences to health’. Hood et al, 2001

- Rules/laws
- Institutions
- Systems
- Continuity over time
- Relatively bounded
- Multiple dimensions

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Risk Management

- Risk management: **the process** whereby decisions are made to accept a known or assessed risk and/or the implementation of actions to reduce the consequences or probability of occurrence.
- Note that **a compromise** is made considering increased cost, schedule requirements and effectiveness of redesign or retraining, installation of warning and safety devices and procedural changes.....
- (Royal Society 1983)

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‘..substantial disagreement remains over what is risky, how risky it is and what to do about it’.

- ‘better measurement opens more possibilities, more research brings more ignorance to the light of day’
Douglas and Wildavsky (1982: 64).

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Decision to regulate

"We read almost daily about chemicals that threaten our air, our water, our lives - asbestos, benzene, PCBs, EDB, Agent Orange, Alar and many others. We hear charges and countercharges: callous industry, greedy lawyers, lives unnecessarily lost, billions of dollars wasted in a pointless search for perfect safety....."

How should government deal with such problems?
Which substances should we regulate? In what order?
To what extent? Who should decide and how?
(Breyer, 1993, *Breaking the Vicious Circle*)

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Risk based regulation

Risk based philosophy

- A belief in the manageability of risks
- Adoption of anticipatory and proactive regulatory strategies

A systematic approach to control

- Employment of technical risk- based tools
- Calculative
- Integrated/holistic conceptions of problems and solutions

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Regulation beyond the state

Economic sector regulators

Example: industry or trade organizations
companies themselves
consultancy businesses

Civil sphere

Example: non-governmental organizations (NGOs),
charities, trusts and advocacy groups

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Risk Society?

‘..risk regimes vary substantially across policy domains in a way that the generalist tone of risk society type analysis obscures and cannot explain’

(Hood et al, 2001: 171).

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- Hutter 2005:
- Variation within countries; between countries; and across domains.
- NAO 2008
- Broad acceptance of risk based regulation but significant challenges

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<http://www.lse.ac.uk/collections/CARR/>

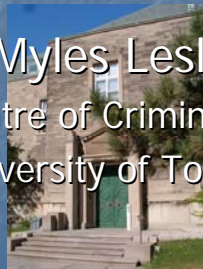
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Death Lessons: Organizational Culture and Public Safety

Myles Leslie

Centre of Criminology
University of Toronto



Organizational Culture & Public Safety



*We speak for the dead
to protect the living*

- 104 interviews
- 88 hours of participant observation
- Documentary analysis

Organizational Culture & Public Safety



*We speak for the dead
to protect the living*

The OCC is

- Bi-cultural
- A public safety specialist

Organizational Culture & Public Safety



*We speak for the dead
to protect the living*



Organizational Culture



Swidler 2001



Weick 1995



Hutter and Power 2005

Vaughan 2005

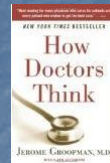


Clinical Medical Culture



Bosk 1979; Bloor 1990

Groopman 2007

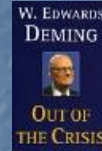


Timmermans and Berg 2003

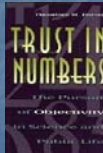


Public Institutional Culture

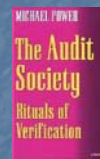
Demming 2000 [1982]



Lane 2000



Porter 1995; Power 1996



Public Institutional Culture

Authority

External and neutral

Decision Making

Hierarchical

Analysis

Precisely segmenting, deliberative

Action

Universal Optimization



Clinical Medical Culture

Authority

Local and involved

Decision Making

Collegial

Analysis

Synthesizing complexity, urgent

Action

Individual functionality



*We speak for the dead
to protect the living*



Public Safety Specialist

"It's an honour to be asked to do these things. I'm assisting in the roles that are part of history."



Public Safety Specialist

79: I can remember one young man that was killed. He worked in a garbage place that dealt with these big bins, dumpsters. And they had this practice of tilting the bin up on its side, and pulling it into a bigger bin so that the truck could carry two bins to a location as opposed to making two runs...

...So I didn't think this was a particularly safe practice, but I didn't know whether this was done widely or whether it was being done in the proper way; so we held an inquest on that particular issue.

...our motivation for having the inquest was to clear the air...and to clarify the details around the practice.



Public Safety Specialist

An atypical prototype



Public Safety Specialist?



Public Safety Specialist?



Hospital Safety Specialist





Renal Failure

Personal Notes:

A full discussion took place with the chief of emergency, who was very concerned about these events.

These issues will be discussed with the physicians involved to prevent these circumstances from occurring again in the future.



Renal Failure

44: At the end of the day I truly believe in people's right to make a mistake. We've all been there – I did emerg for [more than 10 years] – and it's always easy for the armchair quarterbacks to come in and tell you what you should have done.

Q: So what value do you add to the process? Coming in from the outside. Isn't this just something best handled internally?

44: You're probably right. This is a mistake, it's not a systematic problem, not something for recommendations. ...



Renal Failure



Central Line

75:...So I wrote to the Chief of Staff of the hospital where this happened, and said: "Would you please investigate this resident and find out whether this is one of many incidents, or whether it is the only time anything's happened. And secondly, I'd like to know: How do you train residents to do central lines?"...

And, boy, did I get a good response! I mean, the first thing was: No, he was excellent. He was really a good resident. This is very unfortunate. He'd made a mistake.

Second was: They decided they'd set up a formal training program in the ICU for residents. They sort of said they had [such a training program] before, but I don't know that they did. But they definitely did by the time they finished talking to me.



Central Line



Incompatible Cultures?

9: Part of the problem with the Coroner's Office is the rigidity.
They're very rigid...

And there are no solutions to a lot of the situations that they deal with. But they try to impose structure on systems that don't lend themselves to structure...

But, unless you work in a situation where you have to deal with people who have a little bit of madness [laughs] it's difficult to [know where that point is]...



Incompatible Cultures?

9: ...that's the problem: [the OCC is] a hindsight-looking organization.

There are certainly certain systems in the hospital that do lend themselves to quality control, you know, like, checking drugs. I mean, mechanical things that you can put computer programs in. You can, you know, use structure to do [that].

But when human factors come into it, you're right, it's a lot more difficult to impose structure.



Which Death Lesson?





Nanotechnology and uncertainty: is there room at the bottom for Corporate Social Responsibility?

Chris Groves

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Overview

- Two themes underlying research
 - The ethics and politics of uncertainty (Marris 2006)
 - Uncertainty and regulation of emerging technologies – suitability of different regulatory tools
- Current DEFRA-sponsored project at BRASS
 - Voluntary regulation and CSR as potential responses to rapid development of nanotechnologies
 - Centres on series of interviews with industry actors.
- In this presentation
 - (Very) short overview of conceptual background on ethics and uncertainty
 - How uncertainty surrounds the social significance of nanotechnologies
 - The UK regulatory context
 - Initial findings from empirical research

1. **Marris, P. (1996)**. *The politics of uncertainty: attachment in private and public life*. London; New York: Routledge.

Thinking about responsibility and technology

- The need for a technological ethics based on **future-oriented responsibility** – Hans Jonas, *The Imperative of Responsibility*
 - '[w]hat will happen to that being if I do not take care of him? The more obscure the answer, the more clearly delineated is the responsibility' (Jonas 1984, 285)
 - Consider the *timeprint* of our actions (Adam and Groves 2007, 115-17)
- Technological interventions create a context of radical uncertainties
 - Jonas can therefore be read as a prophet of precaution
 - But his argument can be construed as an invocation of *care* (Groves 2009)

1. Jonas, H. (1984). *The imperative of responsibility : in search of an ethics for the technological age*, Chicago ; London, University of Chicago Press.
2. Adam, B. and C. Groves (2007). *Future Matters: Action, Knowledge, Ethics*, Leiden, Brill
3. Groves, C. (2009). "Future ethics: risk, care and non-reciprocal responsibility." *Journal of Global Ethics* 5(1): 17-31

Thinking about responsibility and technology

- How can action be reconnected with knowledge – can we use “knowledge of uncertainty” as a basis for action?
 1. Definitions of uncertainty on a continuum (e.g. Funtowicz & Ravetz 1990; Walker, Harremoes et al. 2003)
 2. Definitions of qualitatively distinct dimensions of uncertainty (e.g. Wynne 1992)
- Concerns about uncertainty **go beyond debates about “risk”** (Beck), and shift **“upstream”**
 - Begin to concern substantive issues of social good and flourishing
 - The “contract” between science and society – trust and transparency as key criteria

- Funtowicz, S. O. and J. R. Ravetz (1990). *Uncertainty and Quality In Science for Policy*, Dordrecht, Kluwer.
- Walker, W. E., P. Harremoës, et al. (2003). "Defining uncertainty: a conceptual basis for uncertainty management in model-based decision support." *Integrated Assessment* 4(1): 5-17
- Wynne, B. (1992). "Uncertainty and Environmental Learning - Reconciling Science and Policy in the Preventive Paradigm." *Global Environmental Change-Human and Policy Dimensions* 2(2): 111-127.

Nanotech and novelty

- Nanotechnology: still emerging, without social consolidation
- Is there a single thing called “nanotechnology”?
- Uniqueness often claimed for technology because of capacity to manipulate “building blocks of matter” (Amato 1999)
- Current commercial and near-to-commercial applications tend to be *passive* nanomaterials, e.g.
 - Nanoparticles of metal oxides (titanium dioxide, zinc oxide etc.)
 - Nanostructures (carbon nanotubes, quantum dots etc.)

1. Amato, I. (1999). *Nanotechnology: shaping the world atom by atom*. Washington DC, National Science and Technology Council Committee on Technology

Nanotech and novelty

- Future evolution: shift from passive to active ?
- This future is shrouded in uncertainties, but **so is the present**, mainly due to novel properties of nanomaterials
 - Sometimes enhanced properties possessed by bulk equivalents
 - Sometimes opposed properties to those of bulk version
- Whichever, novel properties **often cannot be predicted** from consideration of bulk versions

Concerns: public and regulators

- *Public*: negative views expressed in terms of **mistrust**, based on past experience (Kearnes and Wynne 2007). Some areas of concern:
 1. Future disruptive technical possibilities (e.g. human enhancement), and their significance for “core social values”
 2. Near and longer-term economic and political impacts, such as a “nanodivide” (ETC Group 2005, Hunt 2006)
 3. Near and longer term hazards (worker and consumer health, environmental impacts) of first generation nanomaterials

1. **Kearnes, M. and B. Wynne (2007)**. “On nanotechnology and ambivalence: the politics of enthusiasm.” *Nanoethics* 1: 131-142.
2. **ETC Group (2005)**. *Nanotech’s “Second Nature” patents: implications for the Global South*. http://www.etcgroup.org/upload/publication/pdf_file/54
3. **Hunt, G. (2006)**. The global ethics of nanotechnology. In: *Nanotechnology: risk, ethics and law*. G. Hunt and M. D. Mehta, eds. London, Earthscan: 183-95.

Concerns: public and regulators

- *Regulators* also concerned over this last point, and whether:
 1. Existing regulations will cover nanomaterials adequately
 2. What hazards will novel properties of passive (and later, active) nanomaterials create? E.g.
 - Could nanotubes cause mesothelioma-like symptoms (Donaldson, Poland et al. 2008)?
 - Could nanosilver pollution destroy soil microbes? (Chen and Schluesener 2008)
 - Might nanomaterials render toxic pollutants more bioavailable (Sutherland, Bailey, et al. 2008)?
- Are research goals too focused on acute rather than chronic/long-term exposure scenarios?
- **All** these questions gain force from the **novel and sometimes unpredictable** properties of nanomaterials

1. **Donaldson, K., C. A. Poland, et al. (2008)**. “Carbon nanotubes introduced into the abdominal cavity of mice show asbestos-like pathogenicity in a pilot study.” *Nature Nanotechnology*.
2. **Chen, X. and H. J. Schluesener (2008)**. “Nanosilver: A nanoparticle in medical application.” *Toxicology Letters* 176: 1-12.
3. **Sutherland, W. J., M. J. Bailey, et al. (2008)**. “Future novel threats and opportunities facing UK biodiversity identified by horizon scanning.” *Journal of Applied Ecology* 45(3): 821-833.

The UK regulatory context

- Government expressed willingness to “take into account” public concerns about nano
 - “Health, safety, environmental and (more general) consumer rights, as well as property rights and scientific freedom, are the crucial legal values at stake.” (Dorbeck-Jung 2007, 264)
- Two-pronged approach, in line with EU policy
 - **Incremental adaptation** of existing regulatory frameworks, informed by the precautionary principle
 - **Voluntary** risk management and public engagement activities by researchers and industry.

1. **Bärbel R. Dorbeck-Jung, 2007**, “What can prudent public regulators learn from the United Kingdom government’s nanotechnological regulatory activities?“, *NanoEthics* (2007) 1:257–270

The UK regulatory context

- First example of latter strategy: DEFRA’s Voluntary Reporting Scheme
 - Not successful to date – only 11 submissions over two years
- Next step: avoid having to wait for data by encouraging **active responsibility (“care”)**
 - Encourage minimisation of short- and long-term risks
 - Promote **upstream** communication with the public about opportunities, risks and scientific uncertainties
 - Facilitate discussions between industry, NGOs and the public on economic and social impacts

DEFRA/BRASS CSR Project

- Due to complete by June 2009
- Goals:
 - to determine how far CSR initiatives have penetrated nanotechnologies sector in the UK.
 - Examine how far CSR measures address aforementioned areas of concern and uncertainty, particularly **temporally extended care**
- Two components:
 - Quantitative/qualitative **content analysis** of online CSR reporting from **78 companies** (codes of conduct, company policies, annual reports)
 - **15-20 semi-structured interviews** with company representatives
- Analysis: based on **six material CSR criteria**:

Material criteria		
<i>Environmental Impacts</i>	<i>Access (e.g. IP sharing)</i>	<i>Liability</i>
<i>Human health</i>	<i>Stakeholder engagement</i>	<i>Risk Management</i>

Online CSR Analysis

- **44 out of 78** companies provided documents – either
 - Codes of conduct
 - Policy statements
 - Annual reports
- **Very few** documents produced by either **micro** companies or **SMEs**
 - 86% of micros, for example, failed to provide at least one of the three categories of document
 - Most nanotech companies in UK are micro/SMEs
- All large and multinational companies surveyed provided one or more documents

Online CSR reporting analysis: key findings

- In relation to trust and transparency, a couple of points from the literature on CSR (e.g. Gunningham 1995)
 - **Reporting** is a key component of a comprehensive corporate social responsibility strategy
 - **External auditing** of reports is necessary to make them trustworthy
- **Very low** level of reporting on nanotechnology activities (12% of documents), and cursory discussion at best
 - Consistent with small body of existing research on nano and CSR (e.g. Helland, Scheringer et al. 2008)

1. **Gunningham, N. (1995)**. "Environment, self-regulation and the chemical industry: assessing Responsible Care." *Law and Policy* 17(1): 57-109.
2. **Helland, A., M. Scheringer, et al. (2008)**. "Risk assessment of engineered nanomaterials: A survey of industrial approaches." *Environmental Science and Technology* 42(2): 640-646.

Online CSR reporting analysis: key findings

- For non-nanotech related statements, four findings are important:
 - **Little third-party auditing** of CSR policies and reports
 - Very little evidence of **stakeholder engagement** among smaller companies
 - **Inequality of access** not addressed (except to some extent by Big Pharma)
 - Little evidence of **long-term risk management approaches** in smaller companies; some large and many multinational companies have general systems and tools in place

Interviews – some initial findings

- Companies very aware of existing mandatory regulations, but serious problems impede **voluntary** measures
- Costs
 - Communication and long-term risk management province of multinationals, especially pharma
 - LCA and long-term risk management particularly problematic

Contrasting opinions...

"We live it, we don't need to be told it"

"An opportunity to show we are a forward leader, and we are actually thinking about this."

"Companies don't know where to start".

Interviews – some initial findings

- Attitudes concerning **trust**
 - Can trust be established "downstream"?
 - No efforts to address significant public concerns about **access and inequality** issues
- Problems of coordination
 - How to achieve **benefits without waste**
 - Should government produce **an approved CSR framework**, leading to legislation?

"We need to avoid overexposure, facing the public"

(Tentative) Summary

- For nanotech, can CSR further Jonas's conception of technological ethics – taking care of our timeprint?
- Well attested problems affecting CSR uptake (e.g. Gunningham 1995) among smaller companies apply here too
 - Costs in particular
 - Long-term risk management for nano particularly tricky
- Issues of public trust and transparency particularly hard to address, without firmer government lead
- Persistent doubts remain in industry about value of upstream engagement

1. **Gunningham, N. (1995).** "Environment, self-regulation and the chemical industry: assessing Responsible Care." *Law and Policy* 17(1): 57-109.



The Centre for Business Relationships
Accountability, Sustainability & Society

Nanotechnology and uncertainty: is there room at the bottom for Corporate Social Responsibility?

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Responding to risk: contingency and continuity management after the 2007 floods

Dr. Martina McGuinness
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Responding to risk

“In the risk society, the past loses the power to determine the present. Its place is taken by the future... We become active today in order to prevent, alleviate or take precautions against the problems and crises of tomorrow and the day after tomorrow – or not to do so.”

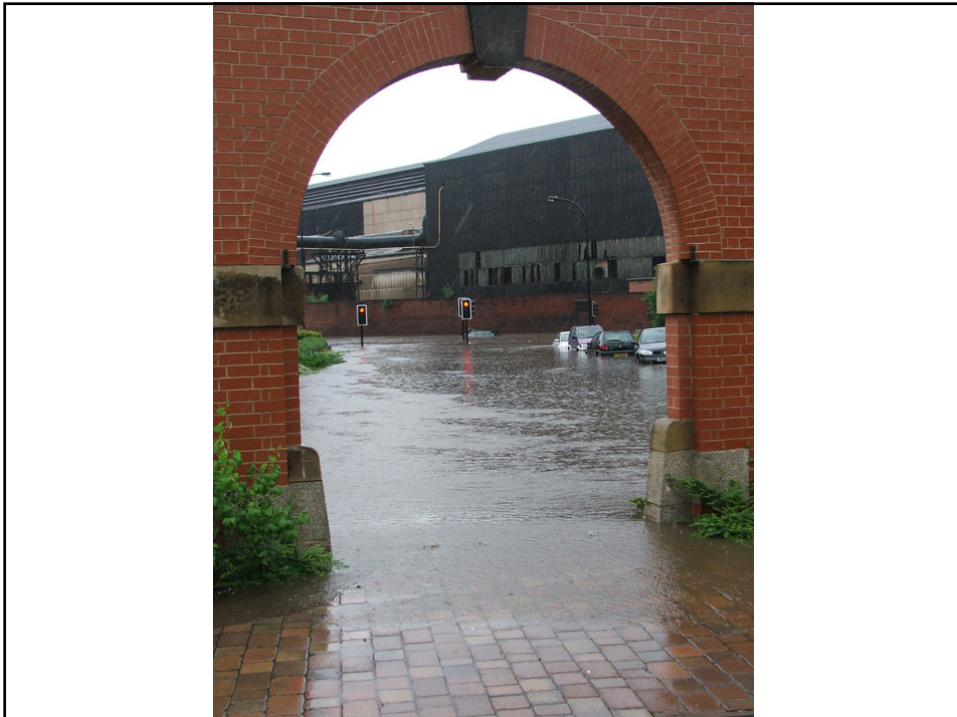
(Beck, 1992)

“The floods of last year [2007] caused the country’s largest peacetime emergency since World War II. The impact of climate change means that the probability of events on a similar scale happening in future is increasing”

(The Pitt Review, 2007)

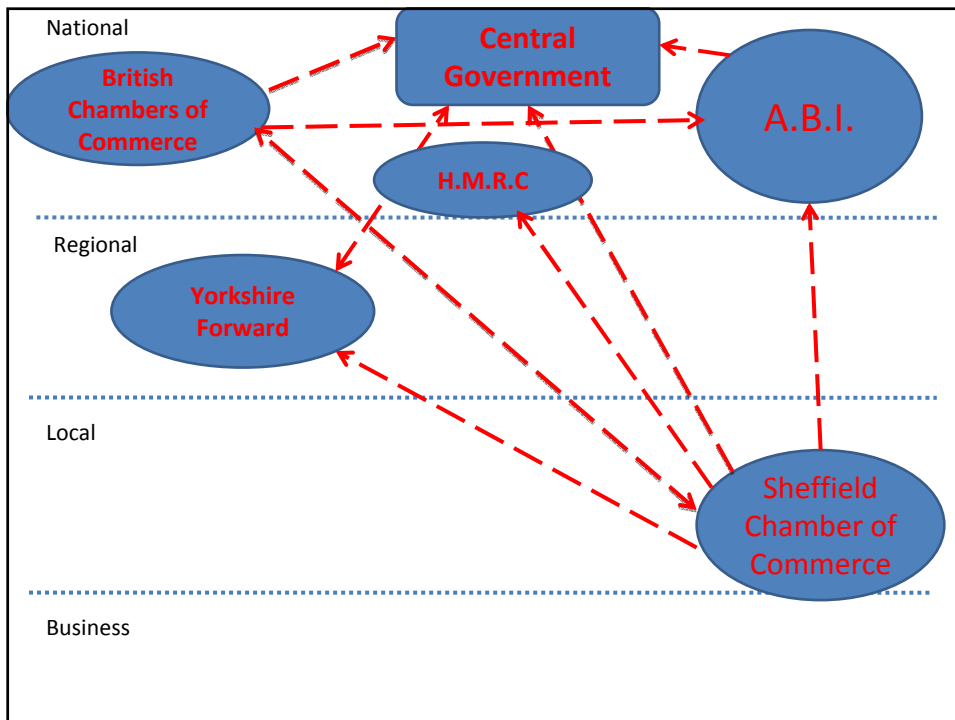
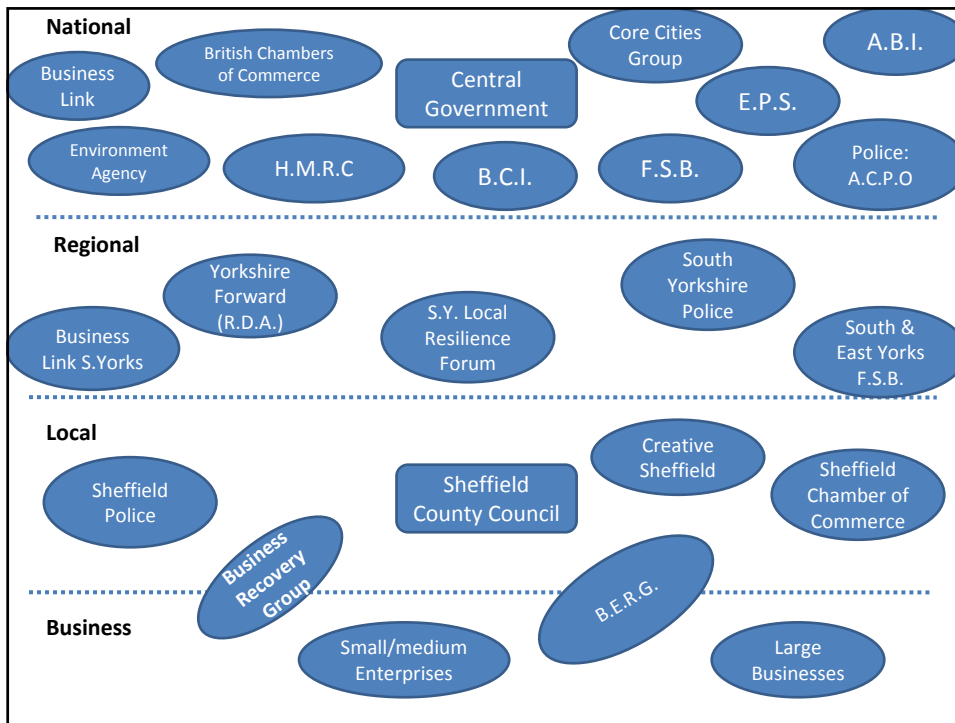
Sheffield Floods, June 2007

- 24-25 June Sheffield experienced twice the average monthly rainfall
- 25 June rivers burst their banks
- 1,000 businesses flooded
- Previous major flooding experience 1864



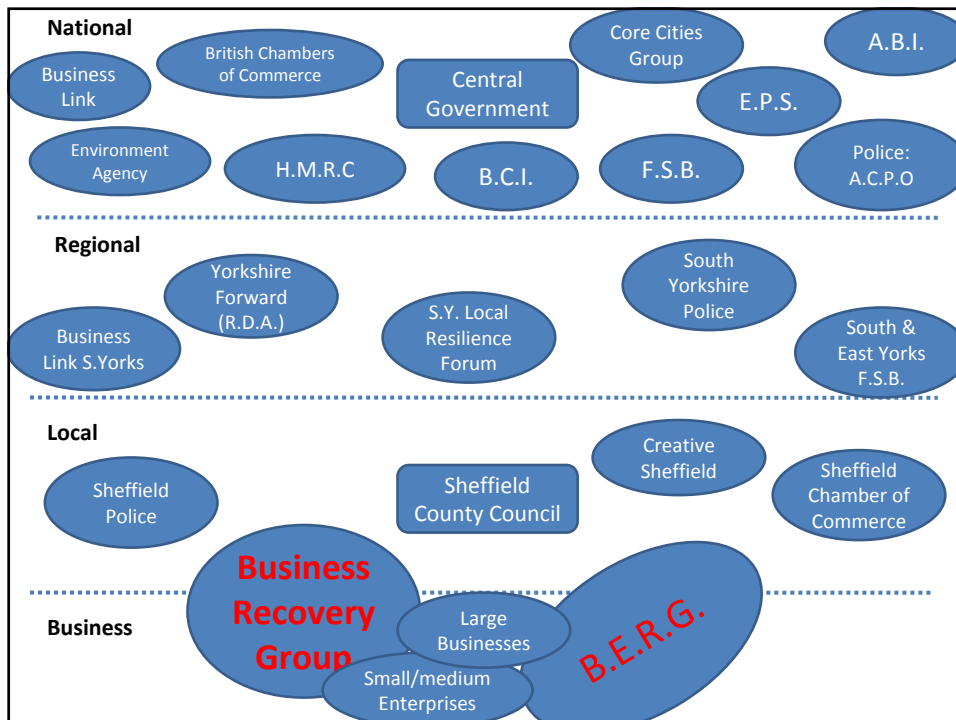






“lobbying for the insurance industry to not just hike up the insurance premiums by 25% - which is what they were doing. Lobbying HMRC to ensure people could pay their taxes late without any penalties. Lobbying the government to put some money into the region, which they did through Yorkshire Forward. Because of course the British Chambers of Commerce is the whole UK network, so it’s more powerful than just Sheffield Chamber.”

Interviewee from Sheffield Chamber of Commerce



Business Recovery Group

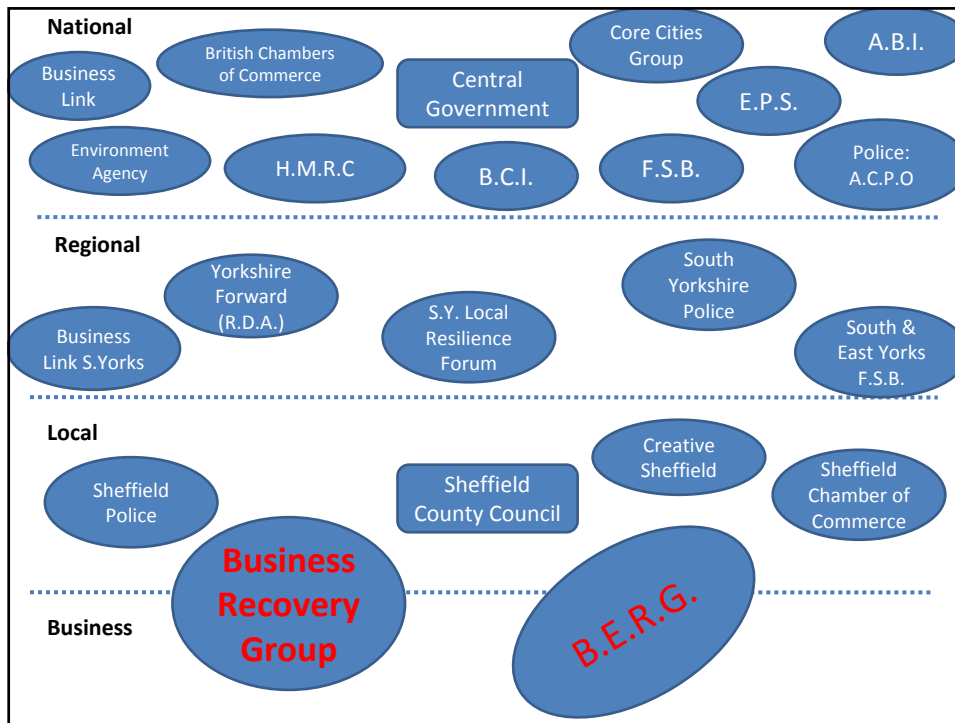
- Established 25 June 2007
- Includes local and regional stakeholders
- Emergency response to the flood
- Active engagement by local business
- Short term
- “it just fizzled to an end”

Business Recovery Group

- Established 25 June 2007
- Includes local and regional stakeholders
- Emergency response to the flood
- Active engagement by local business
- Short term
- “it just fizzled to an end”

Business Emergency Resilience Group

- Established August 2008
- Includes local, regional and business stakeholders
- Preparedness for future events
- Poor engagement by local business
- Medium - longer term
- “BERG helps us to tick that box”



Future directions of research

- Why is it difficult to get SMEs to become engaged with BERG and continuity management activities?
- Why is the level of engagement different between SMEs and larger businesses?
- What are the emerging networks of structures of contingency and continuity planning in a governance framework?
- How do insights gaining into these issues contribute to theories of risk society and advanced modernity?

Societal security and risks - SAMRISK

Björg Ofstad
Special Adviser, Programme coordinator
Department for Society and Public Policy

SAMRISK objective

The primary objective of the SAMRISK programme is to:

- enhance knowledge about threats, hazards or vulnerability,
- prevent undesirable events, and
- strengthen crisis management

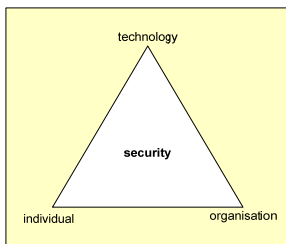
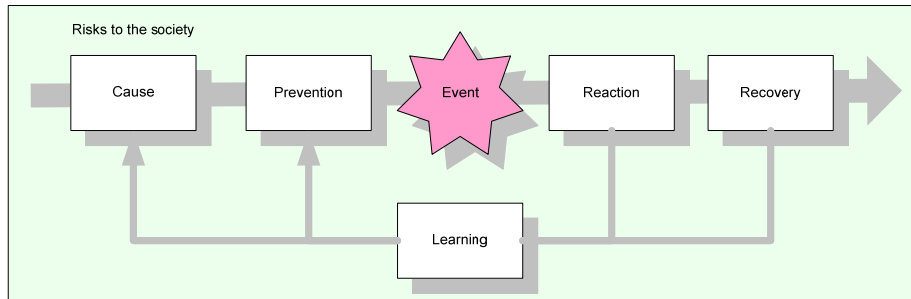
in order to help to better maintain security and crisis preparedness across sectors and spheres of activity, while at the same time safeguarding fundamental human rights and the protection of privacy

In this context, three key targets for research have been defined:

1. *Building knowledge*
2. *Building networks*
3. *Helping Norwegian research institutions to qualify for international cooperation*

Projects must include international aspects

SAMRISK programme



- 8 research projects, 2-4 years
- 5 research networks, 1-2 years
- Annual Conferences
- Informs about EU Security Prg

SAMRISK projects

- **ACCILEARN – Accident investigation and learning effects within emergency organisations and across societal sectors**
International Research Institute of Stavanger AS (IRIS)
- **AdaptCRVA – Adapting Community Risk and Vulnerability Analyses for Climate Change**
SINTEF Building Research
- **CISS – Critical infrastructures, public sector reorganisation and societal safety**
Norw. Univ. of Technology, Social Science Research
- **DECRIIS – Risk and Decision System for Critical Infrastructures**
SINTEF Technology and society
- **HUMLOGNET – Humanitarian Logistics Networks**
Norwegian School of Management, BI
- **JURIS – Justice in the Risk Society**
Faculty of law, University of Oslo
- **Principles, methods and models for determining the right level of investment in societal safety and security**
International Research Institute of Stavanger AS (IRIS)
- **SORISK – The Social Determination of Risk: Critical Infrastructure and Mass Transportation Protection in the Norwegian Civil Aviation Sector**
Institute of Peace Research Oslo, PRIO

SAMRISK – more money?

- SAMRISK is financed by Min. of Justice and the Police, Dir. for Civil Protection and Emergency Planning (DSB), NORAD, Min. of Transport, Min. of Education and Research
- Only small money left for
 - Annual Conferences
 - Journal, special issue, or book
 - State-of-the-art of research in law on security issues
 - Information about opportunities for financing through EU FP, Security Programme, SSH, Environment etc, COST

Research Council supports publications

Call for proposals every year (February) – 2-3 mill NOK,
50-200 000 NOK per project

Researchers at Norwegian Universities, University Colleges and Research Institutions and Publishing Houses can apply

Support is given to the first time publication of scientific publications in Social Sciences and Humanities

Support may be granted for:

- *Printing and publisher costs* for a scientific book or article to be published nationally or internationally
- International publishing of PhD thesis adapted for publishing and accepted by a well known publishing house
- Publishing a number of articles that have a *unified* form and are of high scientific quality. Biographies must have an introductory chapter that explains how the articles are connected and make out a unity.
- Support is *not restricted* to publishing from projects financed by the Research Council
- Salary for the writing the book or articles, travel cost or costs for research will *not* be supported

For more information: www.rcn.no

Research Programme VERDIKT Core Competence and Value Creation in ICT 2005-2014 – 500 mill NOK

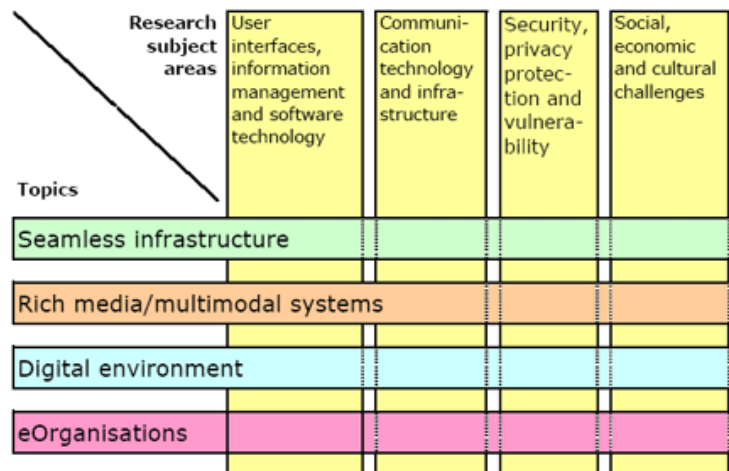
VERDIKT's vision is that Norwegian ICT research will put Norway at the forefront of the development and application of knowledge to enhance interaction, innovation and value creation in the ICT-based network community.

- The primary objective of the programme is to generate and apply **new technology and knowledge** in the area of ICT-based innovation and interaction in the networked community.

This objective will be achieved by:

- Strengthening **fundamental and interdisciplinary** competence development in ICT in areas of particular importance to the future development of trade and industry and society at large
- Promoting **innovation and value creation** in the Norwegian ICT sector, as well as innovative use of ICT in trade and industry and society at large
- Helping Norwegian ICT researchers to strengthen their contacts with **leading international** research communities and to achieve a high international standard of scientific merit
- Ensuring that competence and experience are **transferred between** basic research communities and the ICT sector, trade and industry and society at large

Research Programme VERDIKT www.rcn.no/verdikt



The topics may change during the VERDIKT programme lifetime

EUs FP7 – 10 Themes

Themes:

1. Health
2. Food, Agriculture and Biotechnology
3. **Information and Communication Technologies**
4. **Nanosciences, nanotechnologies, materials and production technologies**
5. Energy
6. **Environment** – natural hazards, environmental technologies for the sustainable management and conservation of the natural and man-made environment
7. **Transport** – protection, improving safety and security
8. **Socio-economic Sciences and Humanities**
9. **Security**
10. **Space**

EU Security Research

Security mission areas:

- Security and the citizen
- Security of infrastructures and utilities
- Border security
- Restoring security in case of crises

Cross cutting areas:

- Security system integration and interoperability
- Security and society
- Security research co-ordination and structuring

Security Programme 3rd call 30 July 09

- **10.6 Security and society – Draft topics**
- **Collaborative Project / Coordination and Support Action**
- **6.1 Citizens and security**
- Signs of 'early warning' to detect trends and weak signals in social polarisation, radicalisation development and segregation
- Develop models and tools to detect and evaluate risks of terrorism and crime
- Reduction of the risk for cognitive biases in intelligence analysis
- **6.3 Foresight, scenarios and security as an evolving concept**
- Developing a reference framework for the European security culture: the perception of threats and the trust in public authorities and the police and the perception of security as a service
- Foresighting the contribution of security research to meet the future EU roles
- Research on rigorous methodologies for assessment of security investments and trade-off between security and other societal objectives (e.g. privacy and social cohesion)

Security Programme 3rd call 30 July 09

- **10.6 Security and society (cont.)**
- **6.4 Security economics**
- Cost-benefit analysis of the present and future security measures in Europe
- **6.5 Ethics and justice**
- Review existing codes of conduct, best practises, etc. as to the ethical use of security technologies and the corresponding legal requirements - make recommendations where shortfalls exist
- Use of smart surveillance systems, data protection, integrity and sharing information within privacy rules

Other topics of interest? Security Programme 3rd call

Demonstration projects

- European-wide integrated border control system phase II
- Security of mass transportation phase II

Collaborative projects or Coordination and Support Action

- Information and knowledge management for the prevention of organised crime
- Planning, (re)design, and (re)engineering of urban areas to make them less vulnerable and more resilient to security threats
- Automatic detection and recognition of threats to critical assets in large unpredictable environment
- Interoperability of data, systems, tools and equipment
- Alert and communication, including use of media, towards the population in crises management

Network of Excellence

- Networking of researchers for a high level multi-organisational and cross-border collaboration

Society, Privacy and Ethics Important aspects

- Technology is an important tool in preventing, responding, managing and mitigating potential security threats to European societies, but it is only **part** of the effective response.
- It must be applied in **balanced combination** with organisational processes and human intervention
- **Cultural** background plays an essential role, and also in balancing security as a **societal value** against other values.
- **Research into political, social and human issues** is required to complement the technology oriented research.
- End user must be included in all project teams –
- Gender issues important

3rd call 209 mill Euros – 60% for demonstration projects

Deadline for proposals Nov.-Dec. 2009

Evaluation criteria applicable to Collaborative project proposals (IP or STREP)

S/T QUALITY "Scientific and/or technological excellence (relevant to the topics addressed by the call)"	IMPLEMENTATION "Quality and efficiency of the implementation and the management"	IMPACT "Potential impact through the development, dissemination and use of project results"
<ul style="list-style-type: none"> • Soundness of concept, and quality of objectives • Progress beyond the state-of-the-art • Quality and effectiveness of the S/T methodology and associated work plan 	<ul style="list-style-type: none"> • Appropriateness of the management structure and procedures • Quality and relevant experience of the individual participants • Quality of the consortium as a whole (including complementarity, balance) • Appropriateness of the allocation and justification of the resources to be committed (budget, staff, equipment) 	<ul style="list-style-type: none"> • Contribution, at the European and/or international level, to the expected impacts listed in the work programme under relevant topic/activity • Appropriateness of measures for the dissemination and/or exploitation of project results, and management of intellectual property.

More information

- **Research Council of Norway**
 - www.rcn.no – Apply for funding
 - www.rcn.no/samrisk
- **EU Security research websites**
 - <http://ec.europa.eu/enterprise/security>
 - http://cordis.europa.eu/fp7/cooperation/security_en.htm
- **Helpdesk** entr-security-research@ec.europa.eu
- **ESRIF** <http://www.esrif.eu>
- **European Security Research Conference SRC'09 – Stockholm 29-30 September**
 - <http://www.src09.se/>

Abstracts, Samrisk seminar april 2009, BI

Some comments on sociological theories of risk and uncertainty¹

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March 30, 2009, Revised April 3, 2009

Introductory aim of the proposed presentation is a review of sociological accounts of risk and uncertainty as presented in six substantive (rather than methodological) chapters of a recent collection “Social theories of risk and uncertainty. An Introduction” edited by Zinn (2008). The topics considered by original authors concern “risk society” in connection with modernization (Zinn, 2008b), “governmentality” and risk (O’Malley, 2008), connection between “risk” and systems theory (Japp and Kusche, 2008), as well as “edgework” (Lyng, 2008) and “culture and risk” (Tulloch, 2008). An attempt will be made of revealing the structure of those substantive accounts (in as much as they represent sociological theorizing) in relation to earlier, implicit specimen of sociological theorizing on risks and uncertainties, with a view of outlining what type of empirical content the reviewed theories are capable of describing and explaining (that is w.r.t their expressiveness), and whether they are efficacious as to knowledge representation regarding risk and uncertainty in substantive domains. Two examples of implicit traditions of sociological analyses of risks and uncertainties will be taken into consideration: exploitation and parasitism at the macrosocietal level (e.g. Andreski, 1964, 1966) and deviance at the microsocietal level (e.g. Andreski, 1968, and Hirschi and Selvin, 1996).

In the second part of the presentation questions will be asked how the reviewed sociological accounts of risk and uncertainty, complemented by two methodological chapters by the editor of the aforementioned book, relate to the notions and analytical implications of the concepts of risk and uncertainty as understood in statistics and (at elementary level) in artificial intelligence, with emphasis on fundamental differences between “intensive” and “extensive” representation of uncertainty (see e.g. Pearl 1988, 2000).

In the third, concluding part of the presentation I would intend to consider connections between the semantic aspects of the concepts of risk and uncertainty, as already formalized in disciplines such as statistics, engineering and artificial intelligence, and the sociological understanding of these terms. In the interest of terminological and semantic consilience, and in the light of the conclusions reached in the previous parts of the presentation, I shall examine the question whether adoption of those formalizations has been attempted by sociologists to a sufficient degree. Ideally, a comprehensive sociology of uncertainty and risk should be able to contribute to primarily non-sociological studies by introducing (and elaborating on) specific societal aspects which might have been neglected otherwise. On the other hand one can argue, by means of examples, that academic sociologists would benefit from a better adaptation to the already existing body of methods used to deal with risk

¹ Submitted abstract of a contributed presentation to an interdisciplinary workshop titled “Societal risks and risk society”, convened by Jens O. Zinn (jzinn@unimelb.edu.au) at Center for Risk and Insurance Research, Norwegian School of Management BI, Oslo (headed by Johannes Brinkmann, JB_project@bi.no). The workshop is first out of a series of planned workshops in connection with the study concerning “Societal security and risk”, supported by the Norwegian Research Council. Work reported here has received partial financial support within Marie Curie Senior Fellowship for Transfer of Knowledge financed by the European Commission..

and uncertainty outside of sociology, if they are to significantly contribute to practical technologies dealing with “issues in international coordination, man-made accidents, international threats to public health” or “terrorism”, which have been mentioned as relevant application domains relevant to workshop presentations.

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Title: Nanotechnology and uncertainty: is there room at the bottom for CSR?

Author: Chris Groves²

Abstract

The topic of responsible innovation (e.g. Guston 2006) is becoming increasingly discussed as a key element of management of technological for the short and long-term, and one way of rebuilding the “social contract” between science, technology and society. It has been argued that the furore over GM foods showed both that this contract was broken, and that traditional methods of risk analysis and management deepened widened the break rather than providing a means of healing it (e.g. Meyer, Folker et al. 2005; Kearnes, Grove-White et al. 2006).

Nanotechnologies are enabling technologies which rely on the manipulation of matter on the scale of billionths of a metre. It has been argued that scientific uncertainties surrounding nanotechnologies and the inability of regulatory agencies to keep up with industry developments mean that voluntary regulation will play a part in the development of nanotechnologies (Lee and Jose 2008). The development of technological applications based on nanoscale science is now increasingly seen as a potential test case for new models of regulation based on future-oriented responsibility, lifecycle risk management, and upstream public engagement.

This paper outlines the scientific and social uncertainties surrounding nanotechnologies using a taxonomy of uncertainty (Groves 2009b) which draws on recent work in Science and Technology Studies (e.g. Jasanoff 2005; Wynne 2005; Stirling 2007), alongside a normative analysis of *ex ante* or future-oriented responsibility as *non-reciprocal* or *care-based* (Jonas 1984; Birnbacher 2003; Groves 2009a). In this framework, risk identification, assessment and management is shown to be one element within broader strategies of uncertainty management, which imply social technology assessments that reflect an ethics of human flourishing. It is proposed therefore that the politics and ethics of uncertainty (Marris 1996) form the background of any attempt to develop a model of responsible innovation.

Drawing on preliminary findings of a project currently being undertaken for the UK Government’s Department of Environment, Food and Rural Affairs (DEFRA) by BRASS at Cardiff University, the paper then explores the potential contribution which could be made by corporate social responsibility (CSR) to the development of such a model in the case of nanotechnologies, and examines some problems and obstacles which voluntary regulation will have to face in this technology sector.

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² ESRC Centre for Business Relationships, Accountability, Sustainability and Society (BRASS), Cardiff University, UK. Email: grovesc1@cf.ac.uk

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Paper Proposal
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Paper Title:
Death Lessons: Cultural effects on the development of public safety initiatives

Abstract:
This paper examines the way in which organizational culture influences the perceptions and decisions of public safety specialists. It treats culture as a repertoire of thought and action deployed by actors to assist them in making sense of their lives and work (Swidler 2001; Weick, Sutcliffe and Obstfeld 2005). It further treats organizations as important sources of culture (Vaughan 2005; Hutter and Power 2005), tracing the way investigators embedded in organizational cultures can transform an accidental death into either a public safety lesson, or a one-off misfortune. I present data gathered as part of an ethnographic study of the Office of the Chief Coroner of Ontario (OCC) – a public agency charged with the investigation and remediation of suspicious death in the province of Ontario, Canada. Ontario's mostly part-time coroners perform their death investigations in a bi-cultural environment. On the one hand they are public servants and safety specialists, and on the other they are generalist medical doctors. Public institutional culture is characterized by hierarchical authority, a drive to precisely measure root causes before submitting them to extended analysis, deliberation, and generating abstract or universal solutions (Power 2007; Lane 2000; Power 1996). In contrast clinical medical culture is characterized by collegial authority, a drive to rapidly synthesize complex and uncertain causes before taking action that will improve the function of a specific patient or system (Groopman 2007; Bloor 1990; Smith 1989; Bosk 1979). When coroners investigate accidental deaths occurring outside of medical care, they often deploy public institutional culture to frame their work and the public safety measures that will flow from it. However, when they encounter an accidental death that has taken place under medical care, clinical medical culture tends to frame their reading and public safety measures are not produced. I conclude that this systematic cultural filtration of risk information cannot be stopped, but that coroners and other authorised public safety experts can be more reflexive about the influences organizational cultures may have on their selection of risks and their preferences for remediation.

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Responding to risk:

Contingency and continuity management after the 2007 floods

The summer of 2007 was the wettest recorded in the United Kingdom. In mid-June 2007, the city of Sheffield experienced significant flooding as a consequence of prolonged and heavy rainfall. This impacted upon both domestic and business premises with more than 1,200 homes and some 1,000 businesses being flooded. There is a consensus that one of the impacts of climate change is an increase of frequency of extreme weather events (Stern Review, 2007; Pitt Review, 2007), with estimates that risks relating to precipitation, over the next 30-100 years, will increase by 2 to 4 times across the UK, with some locations experiencing changes beyond this range (Foresight: Future Flooding Study, 2004). In light of this business resilience to disruption assumes ever greater importance, for individual organisations as well as for the local economy. A central recommendation of the Pitt Review was the reduction of the risk and impact of flooding, for which resilience was seen as a key underpinning factor. At a national level, Government stresses the importance of resilience, and specifically the role of business continuity management (BCM) in mitigating the impact of disruption, facilitating the rapid return to normal levels of business, limiting the volume of business lost to competitors, and reducing the chances of customer confidence loss (National Risk Register, 2008). However, translating the recommendations of national government Inquiries into changed behaviour at the local and organisational level is problematic (Elliot & McGuinness, 2002).

This aim of this research project is to investigate the impact of the 2007 floods upon SMEs in the Sheffield area in order to explore the relationship between national policy, local authority implementation and organisational behaviour with respect to flood related BCM. It is hoped that this shall provide insights into shifting patterns of risk governance. Whilst still in the early stages, there is emerging evidence to indicate that policy at the national level, such as Civil Contingencies Act (2004) is leading to changes in patterns of governance at the local level and the creation of novel structures and that BCM is not being acted upon effectively by small and medium sized enterprises. This paper shall discuss the aims and objectives of the project as well as present some emerging insights.

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Towards Public-Private Partnership (PPP) in crisis management training

This paper suggests a policy that could be followed by the DSB in the implementation of a potential PPP for crisis management training. It will rest on an analysis of PPP research and build upon the benefits of different control mechanisms to discover what incentive systems may be the most appropriate for this situation.

Direktoratet for samfunnssikkerhet og beredskap (DSB) has issued the Kravspesifikasjon for “Datastøttet treningsløsning for beredskaps- og kriseledelse” (DSB, 2009). This piece of procurement legislation is interesting not least in the fact that it does not specify exactly what incentive mechanism it will use to motivate a party interested in delivering such a service.

The three pillars of the PPP concept, information sharing, incentives, and enabling regulation, will guide the development of ways to deliver the required training and define the relationship between public and private actors. Three well known important trends can be identified as the vectors for the development of new partnerships in crisis management training: the changing relationship between private and public actors (Teisman & Klijn, 2002) (Bislev, 2004), the trend from government to governance (Reschenthaler & Thompson, 1996) (Christensen & L[ae]greid, 1999) (Dunleavy, 2005), and the trend towards more and more project organisation (for example time restricted organisations are more frequently created for executing special missions).

The analysis of the possible creation of a PPP solution for the DSB’s tender must require the analysis of elements for regulation and of economic incentives.

After outlining several PPPs in the crisis management sector, current crisis management training research and the challenges to delivering crisis management will be presented. In a second part the methodology and the control mechanisms for PPPs will be introduced. Examples of such control mechanisms like such as ISO, IEEE, SISO, IEC, SIS, CEN WS/ISDEM, and Norwegian organisations will then be presented. Finally this paper will suggest a policy for a successful PPP for crisis management training for the DSB.

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