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HEALTH CARE THROUGH THE LENS OF RISK: THE ISSUE OF RISK CATEGORISATION: AN EDITORIAL

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ABSTRACT

This editorial will introduce a four issue series of *Risk, Health & Society* special editions, '*Health Care Through the Lens of Risk*'. The editorial will argue that risk-thinking offers a particular approach to contingency, its culturally universal precursor. Contingency arises from the perception that one of two or more alternative outcomes might occur, or might have occurred. It addresses the infinity of possibility, and is properly located in minds rather than the material world in which singular events simply happen. The lens of risk renders contingency as the probability of a specified adverse event occurring within a particular time period. But each of the elements included in this definition can be reframed interpretively: events as categories; adversity as negative valuing; probabilities as uncertain expectations; and time periods as time frames. The editorial will outline this analysis, introduce the special issue series, and briefly review the original research papers included in this first special issue which focuses on risk categorisation.

INTRODUCTION

Over the next year, the authors of this editorial will be guest-editing '*Health Care Through the Lens of Risk*', a series of four *Health, Risk & Society* special issues which will focus on risk-thinking itself, turning attention away from the more usual study of particular health risks towards the less common study of health risk. The four component special issues will present original research concerned with the role, respectively, of categorising, valuing, expecting and time-framing in health risk thinking. Each special issue will include interviews with one or more prominent risk social scientists. The present editorial will map out the terrain which the series will cover. It will also introduce the first topic, risk categorisation in health contexts.

THE LENS OF RISK

The metaphor of risk as a culturally manufactured lens which shapes perceptions is often used to challenge naturalistic formulations (e.g. Hunt, 2003; Heyman 2012). This metaphor invokes the central role of the encultured, actively interpretive observer in the perception of risks. The starting point for the present exploration of this metaphor is an interpretivist reframing of the risk definition put forward in the Royal Society *Risk* report (1992, p. 2). This definition, clearly oriented towards the

aspiration of objective measurement as the second awkwardly written sentence demonstrates¹, renders risk as:

the probability (3) that a particular adverse (2) event (3) occurs during a stated period of time (4a), or results from a particular challenge (4b). As a probability in the sense of statistical theory risk obeys all the formal laws of combined probabilities (our additions in brackets).

Although the report is now history, celebrating its 20th birthday in 2012, and would not be couched in such militantly positivist terms today, it provides a useful starting point for considering the interpretive processes folded into analyses of particular 'real' risks. The definition offers a good starting point for interrogating risk-thinking not only because its objectivist predilection captures the reification of particular risks. In addition, unusually, it includes a vital temporal reference. None of the 11 types of risk definition reviewed by Aven, Renn and Rosa (2011) take time-framing into consideration. The specification of a '*stated period of time*', condition 4a, does so, but begs the question of who 'states' the temporal horizon for risk analysis and why. Resulting from a particular challenge, condition 4b, opens up an indefinite time frame which continues until the causal chain of adverse events associated with a risk factor works itself out. However, an indefinite time frame renders expected value incalculable, a problem which has led, for example, to the widespread but arbitrary acceptance of five-year survival in drug trials. Moreover, many causal chains continue indefinitely, and may extend across generations, as with the epigenetic effects of famine, and with emotional harm caused by child sexual abuse, making causal chain end-points difficult to determine.

The Royal Society definition unreflectively adopted the natural attitude (Schutz, 1962) towards a socially constructed phenomenon. Each of the four numbered components can be interpretively reframed, so that 'events' are turned into categories; the 'adverse' into negative (counterbalanced by positive) valuing; probabilities into uncertain expectations; and time periods into time frames. It can be objected that revisiting this question merely invokes hoary debates about positivism/relativism. However, in the many social settings where risk-thinking is employed by at least some social actors, the natural attitude mostly rules, with risks treated as if they are material phenomena which can be directly observed and measured. Hence, analysis which challenges the natural attitude to risk can offer useful critical insights into its concealed problematics. *Inter alia*, it offers a critical perspective on forms of healthcare which are predicated on implicit but contested values, the focus of the second special issue in this series². Although the ontology and epistemology of risk have by no means been clearly resolved (Aven, Renn and Rosa, 2011), and perhaps never will be, presuppositions about the issues listed

¹ The interview in this special issue with Nick Pidgeon, one of the main social science contributors to the Royal Society (1992) Risk report, provides an interesting historical context relating to the heated debate which arose within the Royal Society at that time about the objectivity of risks.

² The traditional interpretive approach to health and other risks provides a surprisingly powerful analytical tool, which can withstand postmodern critiques of social scientific claims to privileged access, because it confronts the natural attitude to risk. The latter may appear dated, as is the Royal Society (1992) Risk report. But the interpretive approach continues to offer illuminative insights into everyday attitudes towards risks. Anyone who manages a particular risk has to treat it as 'real' in order to avoid being paralysed by Hamlet-like doubts.

above carry many implications for practice, for example when health risk assessment is viewed as entirely resolvable through scientific methods.

Much can be learnt by taking into consideration the interplay between interpretivist and objectivist approaches to risks. A ubiquitous tension between the heuristic value of treating risks as real and the ontological and epistemological vulnerability of specific risk descriptions can be detected. For example, as of 2012, financial markets and governments still dance to the tune of discredited credit-rating agencies which failed to identify the enormous risks associated with the banking fiasco of 2007. Following the Fukushima nuclear disaster of 2011, the Japanese government created a circular 20km exclusion zone surrounded by a further 10km intermediate risk limbo even though it was widely recognised that radiation does not spread in neat circles. Psychiatrists continue to rely on endlessly shifting mental disorder classifications, disregarding their evident arbitrariness (Manning, 2000). In these and many other cases, socially organised risk management must proceed, *faute de mieux*, as if risks have been solidly identified and assessed, at least until a prevailing but ultimately fragile tacit consensus breaks down. It may be speculatively hypothesised that faith in prevailing risk delineations correlates with height of position in societal hierarchies. Those who are charged with managing a risk can least afford to doubt its delineation.

Defining Risk

Before further considering the 'lens of risk', it is politic to review current debates about the utility of even attempting to define this slippery context. Most of the recent plethora of social science risk texts ignore conceptual issues entirely, or raise them incidentally rather than centrally. These analyses implicitly treat risks as material phenomena to be explained, like lightning or supernovae, thereby unreflectively endorsing the natural attitude towards risks. Even an excellent collection of philosophical papers (Lewens, 2007, p.2), working in the discipline which might be most concerned with risk-thinking itself, leaps into a discussion of '*risky options*' without asking what makes an option 'risky'. Luhmann (1993, p.22) identified '*carelessness in concept formation*', whilst, nearly 20 years later, Aven (2011, p. 33) referred to a situation '*characterised by many weakly justified and inconsistent notions about risk*'. Rosa (2003, p. 55) went further, diagnosing '*an intentional silence about defining risk at all*' in the literature. However, the accusation of scholarly blindness, conspiratorial or not, has itself been challenged by those who question the meaningfulness of trying to define 'risk'. Hansson (2005, p. 7) dismissed as the '*first myth of risk*', the idea that risk '*must have a single, well-defined meaning*'. Power (2007, p. viii) cautioned that nouns such as risk can mislead because '*they suggest that a clear object exists when this is often not the case*', and makes his own point of departure '*the surely uncontestable fact that the noun has grown in use and significance in organizational life*'.

A starting point which interrogates the potentially variable ways in which culturally immersed social actors **use** the concept of risk offers a significant advance over approaches which seek to describe the essence of risks viewed as substantive phenomena. The former pragmatic analysis, of meaning in terms of use, opens up the possibility that usage variations in different societal domains are concealed by a common linguistic tag, or even that the term 'risk' has been stretched so far that it no

longer means anything. However, such a position cannot avoid indirectly debunking the implicit assumption that use of a single semantic unit across many domains reflects at least some degree of shared meaning. Social scientists thereby place themselves, however unintentionally, in opposition to the rest of humanity, or at least to those who live in societies which employ the lens of risk. It is possible to demonstrate inconsistency even in self-validating cultural products such as shared meanings. But an alternative analysis can be generated by beginning with the question of how encultured social actors, including risk social scientists, may actually use risk-thinking to **link** a diversity of domains, including health and social care, crime, business, politics, sport, the arts, weather forecasting, travel and close relationships, a remarkable but unremarked everyday accomplishment³.

A Definition of Risk

One way of beginning to understand what social actors do when they look at the world through the lens of risk is to uncover the largely concealed interpretive work entailed by the adoption of metaphorical risk spectacles. A possible starting point for this endeavour is summarised in Table 1 below. This table sets out the recommended reframing of the four elements folded into the Royal Society (1992) definition as questions of interpretation, and thereby of social negotiation, power and interest.

INSERT TABLE 1 HERE.

The lower part of the table sketches the carry-over from risk-thinking to risk management, by no means definitively. A two-way relationship between these two concerns can be identified. For instance, a drug company seeking to promote one of its products might want to talk up the seriousness (negative value) of the health condition it is directed at, and emphasise its prevalence (probability)⁴. The nuclear power industry has argued for a relatively short time-frame of 500 years with respect to assessing its unwanted legacy, thereby pushing most of the period in which waste will continue to be radioactive outside a constructed temporal event horizon (Atherton and French, 1999). One advantage of viewing risk identification, assessment and management from an interpretive framework is that it allows their relationships to be problematised, challenging the 'identify-assess-manage' model of risk rationality. In both of the above examples, a preferred risk management 'solution' defines a risk, rather than *vice versa*⁵.

³ The risk 'superpower' can be located in a family of terms (Skolbekken, 1995) which convey different attitudes towards contingencies framed as risks. Selection of 'danger' conveys the speaker's view that a risk ought to be avoided, whilst 'vulnerability' points up intrinsic weaknesses of a person or other entity. 'Uncertainty' invites delay until further evidence is obtained. Such lexical choices are driven pragmatically rather than by inherent differences between types of contingency (Heyman *et al.*, 2010, pp. 25-29).

⁴ For a gripping exposé see '*Big Bucks, Big Pharma: Marketing Disease and Pushing Drugs*' at http://www.youtube.com/watch?v=IKP_ISD3rvQ. According to US advertisements, 'restless leg syndrome' seriously damages the life quality of 1 in 10 Americans, but can be cured by taking the appropriate drug. Such cringe-making but sinister examples illustrate *in extremis* the interpretive socio-political processes which can lie concealed in the identification of an 'adverse event'.

⁵ As these examples illustrate, the four identified elements of risk thinking are interrelated, so that, for example, altering the time frame within which a risk is considered or the inclusivity of a risk category will change its probability of occurrence.

Aven (2011) concluded from a historical survey of the risk research literature⁶ that there has been a shift away from narrowly probabilistic approaches towards those which emphasise events, consequences and uncertainty, thereby drawing attention to the risk observer; but that objectivist approaches still strongly influence the field when real-life decisions are to be made about the management of particular risks. It is possible to combine these approaches in a single analytical framework by viewing the four elements shown in the top right-hand column of Table 1 (categorising, valuing, expecting and time-framing) as a pre-cultural precursor of societally constructed risk-thinking. These four elements, or a similar list, reference contingency, not risk, and point to a kind of mental stem cell, a primitive which arises out of the universal human mental capacity to envisage multiple futures or pasts. To think contingently involves believing that one of two or more identified outcomes **might** occur, or **might have** occurred⁷. Contingency is located in minds, not in the material world⁸, where unique events merely happen⁹. Culture shapes this primitive at two levels: through establishing a prevailing cosmology which specifies how and why metamorphoses from possible to actual take place, e.g. via divine decision-making or the operation of chance; and, secondly, through selection of a small number of contingencies from the infinity of possibility for socially organised concern. Members of societies in which contingency is understood in terms of risk tend to be drawn inexorably towards ‘observing’ particular risks. These considerations justify a wordy but accurate definition of risk as ‘*the projection of uncertain expectation, viewed in terms of randomness, about the occurrence of a negatively valued outcome category within a selected time frame*’ (Heyman *et al.*, 2010, p. 19).

The present special issue series will explore the four risk elements itemised in Table 1 through research which highlights interpretive processes of categorisation, valuing, expectation-building and time-framing.

HEALTH RISK CATEGORISATION

This special issue will focus on ‘events’ in the Royal Society (1992) and many other treatments of risk and risks, which will be reframed as ‘categories’. The advocated sceptical attitude towards relationships between the unique events which occur in the physical world and their categorisation is well-captured by the following quotation (Lakoff, 1987, quoted by Bowker and Starr, 2000, p. 33):

⁶ As noted by Nick Pidgeon whose views are presented in this issue, a fissure has developed between risk researchers concerned primarily with system safety who publish in journals such as *Risk Analysis* and *Risk Research* and risk social scientists whose papers are printed in journals such as *Sociology of Health and Illness* and *Health, Risk & Society*. The latter, including the present authors, have focussed on interpretive issues for over two decades, but have had relatively little impact on government, public services or industry.

⁷ Although multiple contingencies or a continuous range may be envisaged, decision-making often requires binary decisional choices, e.g. about whether to follow screening with a diagnostic test or not, which force probability ranges into ‘high’ and ‘low’ risk categories.

⁸ Most physicists believe that multiple possibilities can ‘exist’ at the quantum level, with measurable effects, but this troubling belief does not impact directly on the cookbook world of risk analysis.

⁹ Because every event is different, history can only appear to repeat itself after occurrences have been categorised and thereby rendered ‘the same’.

My guess is that we have a folk theory of categorization itself. It says that things come in well-defined kinds, that the kinds are characterized by shared properties, and that there is one right taxonomy ... It is easier to show what is wrong with a scientific theory than with a folk theory. A folk theory defines common sense itself. When the folk theory and the technical theory converge, it gets even tougher to see where that theory gets in the way - or even that it is a theory at all.

Marking out gaps between what happens and its categorisation opens up an important but neglected field for social scientific study (Heyman *et al.*, 2010, chapter 2). Risk categorisation entails a conjoint, usually unarticulated, societal process of contingency selection, differentiation from 'non-events' and homogenisation of intra-category variation. Categorisation manufactures risks as identical, distinctive entities which can be counted so that their probabilities can be inductively estimated. In the absence of this process, there can be no risk to manage, although undesired events may well continue to occur.

The reliance of risk assessment on contestable prior categorisation can be easily demonstrated. For example, those who view depression as a medical condition differentiate it from ordinary sadness. Parker's conclusion (Parker and Hickie, 2007) that 95% of Australian teachers regularly reported symptoms which would have justified a diagnosis of depression challenges its differentiation from everyday gloom. Similarly, non-detection of Rosenhan's (1973) pseudo-patients demonstrated that mere presence in a psychiatric institution was sufficient to trigger the diagnosis of mental disorder. In the domain of physical health, Davis *et al.* (2002) found that some members of sero-concordant HIV-positive couples considered sex with their partner to be safe on the grounds that both were already infected, whilst others were worried that one partner might have a more virulent sub-strain. Hence, risk perceptions were shaped by the extent to which the infection was homogenised. This analysis does not imply that one categorisation is as good as another, merely that all involve some reduction in information and therefore have only imperfect connections to the material world. But risks can only be 'managed' after they have been constituted into categorised packages through the conjoint socio-cognitive process of selection, homogenisation and differentiation. A similar point was made nearly 100 years ago in relation to the theory of entrepreneurship by one of the earliest modern writers about risk (Knight, 1921).

Given that contingency is infinite, since anything **might** happen, candidate risks have to become societally embedded in order to 'survive'. The socio-political processes through which risks become consolidated into organised social life have been little researched or even analysed, but some suggestions, along with contested examples, are offered in Table 2 below.

INSERT TABLE 2 HERE

The proposed analysis differentiates individual identification of a risk 'event' from its establishment as a societally organised presence. This distinction is well-exemplified by the first original article in this special issue. De Graaff and Bröer explored sufferers' attempts to obtain recognition for what they see as an overlooked serious risk, of electro-hypersensitivity from exposure to electromagnetic fields (EMFs).

Although self-defined sufferers' efforts to achieve societal recognition of this risk are perhaps doomed to failure, their methods for attempting to establish risk reality, such as using EMF detectors which make a lot of noise, resonate with more 'successful' risks.

Desmond, Prost and Wight (2012) investigated the entanglement of two overlapping but distinct disease categorisations drawn upon by poor people in rural Tanzania, namely malaria and nzoka. These two adverse events are predicated on very different cosmologies linked to parasites and witchcraft respectively. A striking finding of their research is syncretism between Western-medical and indigenous belief systems within an overarching risk framework. This composite generates new risk concerns, for instance arising from the belief that the injections which help with malaria will cause deadly harm to children afflicted by nzoka.

Kayali and Iqbal (2012) studied the self-categorisation of depression. Their research involved inviting women diagnosed with this condition to describe the triggers, if any, for the onset of their condition. The authors concluded that these explanations fell into two types, depending upon whether a woman identified any triggers or none. Women who identified triggers were more likely to anticipate that they would eventually recover from their condition. Superficially, this sub-categorisation of depression appears similar to the old medical division between exogenous and endogenous depression. However, the qualitative findings show that many of the 'triggers' would not be medically recognised. For example, one British woman saw distress about the 9/11 attack on New York as having triggered her depression, even though she was not personally connected to this event. Hence, the research highlights the importance of the interpretive frameworks through which individuals link adverse event categories to risk factors.

Skolbekken, Østerlie and Forsmo (2012) investigated older women's understandings of the relationship between measured wrist bone mineral density (BMD) and the two 'conditions' of osteopenia and osteoporosis, defined by WHO in terms of being respectively 1-2.5 and >2.5 standard deviations below the young adult mean. As happens in other cases such as that of high cholesterol, a purported risk factor has acquired the status of an adverse event in its own right, despite being only imperfectly linked to the primary concern, in this case vulnerability to fractures. This diagnostic system well-illustrates the categorising processes which underpin the manufacture of 'events'. Continuous measurements are homogenised into discrete, differentiated categories with inevitably arbitrary dividing lines, which are required to guide clinical decisions such as whether medication should be prescribed. The research shows how women struggled to understand these homogenisation and differentiation processes. They knew that bone mineral density could vary at different body sites, rather than just at the wrist, questioned the proposed link between BMD and fractures on the basis of their own experience, and puzzled as to why a small change could put them over the boundary into 'having' a disease. Differences in the reference group used for calibrating BMD deviations, and even the inverse variation between a high (standard deviation) score and a good outcome stimulated doubts and scepticism.

Finally, Scammell and Alaszewski (2012) investigated the categorisation of risk itself, by midwives in relation to high and low risk pregnancies. The issue in question for

this research was not the presence of a particular risk to mother and/or baby, but generic riskiness from any possible source. The paper draws a powerful contrast between an abstract commitment to 'normal birth' within the midwifery profession, on the one hand, and the indefiniteness of contingency on the other. Since so many things might go wrong, normalcy could only be ever attributed tentatively until the birth was safely completed. The distinction between high relative risk and low absolute risk was obscured by fear of litigation and professional misconduct charges.

CONCLUSION

It is 20 years since the Royal Society produced its *Risk* report. As the interview with Nick Pidgeon presented in this special issue illustrates, the debate about risk-thinking has moved on considerably since that period, partly as a result of the controversy which the report generated. Conceptualisations which make the observer integral to the social construction of risks are now widely recognised. Nevertheless, particular risks tend to acquire facticity as 'virtual objects' (Van Loon, 2002), perhaps because a robust status is a requisite for organising social responses to contingency, i.e. to what merely might happen. The research papers presented in this special issue series will probe risk construction in relation to categorising, valuing, uncertain expecting and time-framing.

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TABLE 1
TWO VIEWS OF RISK ELEMENTS (Heyman *et al.*, 2011, p. 21)

<i>Risk viewed as referring to natural phenomena</i>	<i>Risk viewed as referring to Interpretations</i>
RISK CONSTRUCTION	
Event	Category
Adversity	Value
Probability	Expectation
Time period	Time frame
RISK MANAGEMENT	
Service delivery	Service organisation
Evidence-based practice	Practice encoding
Information-giving	Information representation
Regulation and safety	Control

TABLE 2
RISK CONSOLIDATION SUB-PROCESSES (based on Heyman *et al.*, 2011, p. 44)

<i>Consolidation Process</i>	<i>Contested Example</i>
Risk factor-outcome linkage	Sun exposure-melanoma
Adversity foregrounding	Cannabis-psychosis
Threshold setting	Insulin level-diabetes
Risk individualisation and moralisation	Obesity
Risk-prevention linkage	Dietary fat-coronary heart disease
Institutional embedding	Breast cancer screening
Commercial entrenchment	Pharmaceutical marketing
Iconography accumulation	Learning (intellectual) disabilities

Note: Based on Heyman et al. (2011, p. 44).