Safety Science xxx (2017) xxx–xxx

Contents lists available at ScienceDirect

Safety Science

journal homepage: www.elsevier.com/locate/ssci

Theory informed by practice. Application informed by purpose. Why to understand and manage risk, cultural context is the key

Bill Durodié

Department of Politics, Languages and International Studies, University of Bath, UK

ARTICLE INFO

Article history:
Received 18 November 2016
Received in revised form 6 April 2017
Accepted 10 April 2017
Available online xxxx

Keywords:
Risk
Culture
Trust
Values
Strategy
Engagement

ABSTRACT

Risk analysis and risk management are reliant in order to be effective on their ability to engage with and communicate to non-specialist audiences, whether these be policy-makers asked to turn the advice that they agree with into practice, those implementing decisions, or the public, who are often on the receiving end of these.

Accordingly, there needs to be clarity of purpose regarding – and reflected through – the language used, the partners engaged, and the proposed ends of any measures to be implemented. These elements sit within specific cultural contexts – both geographical and historical – and it is essential to account for these in translating theory into practice.

This article surveys the discourse used across various examples, including a detailed case study. The most significant conclusion is that while data and evidence certainly matter for validation – understanding culture remains key to effective risk analysis and trustworthy risk management because, on the whole, people look for meaning beyond the mere '*facts*'.[1] This applies to risks assumed to be narrowly technical as much as those with a strong social, cultural and political dimension.

Insufficient risk analysts and safety experts consider or account for the broader, contextual and cultural factors that impact their choices, analyses and modes of dissemination.[2] This creates a divide between those commissioning and conducting the research and those to whom it is held to apply and needs to be implemented by, which undermines democratic accountability, as well as the possible benefits of, and trust in, their enterprise.

1. Introduction

Risk analysis and risk management have exploded into public prominence in the thirty years since the publication of Ulrich Beck's *Risikogesellschaft* (1986), and even more so following its translation into English (as *Risk Society*) in 1992 within the context of the aftermath of the collapse of the old – Cold War – world order.[3]

The concept of risk was previously applied mostly in relation to engineering and finance, but through Beck's work it came to assume a new significance with respect to social and cultural matters, such as the environment (his initial impetus), as well as public health, security and even interpersonal relations.

Journals such as *Risk Analysis* were reinvigorated and many others were launched around this time (e.g. the *Journal of Risk and Uncertainty* (1988) in the US, and the *Journal of Risk Research* (1998) in Europe). Countless new courses, conferences and centres focusing on risk also emerged.[4]

Much of the early discussion was more conceptual in its framing than now. What is a risk? Who decides? Are risks objective or socially constructed? To what extent could the psychometric paradigm or cultural theory shed any light? How ought we to go about mitigating presumed impacts or consequences?[5]

[1] A recent exemple of this might be the election of Donald Trump as the President of the United States of America, where despite his detractors being supported by an army of '*fact-checkers*' and voters being alert to his lies (and personality flaws), still he was elected, on the basis presumably, of what he appeared to stand for, beyond the immediate evidence.

[2] '*Human factors*' analysis tends to focus on individual needs and foibles rather than their wider societal framing.

[3] Furedi (2002), for instance, notes a ten-fold increase in reference to the phrase '*at risk*' in British broadsheet newspapers across the latter part of the 1990s.

[4] The Centre for Analysis of Risk and Regulation (CARR) at the London School of Economics from 2000, and the King's Centre for Risk Management (KCRM) at King's College London from 2002, to name just two of the new centres putting on various courses and conferences.

[5] See, for instance, Slovic (1987), Adams (1995), Fischhoff (1995) and Renn (1998).

http://dx.doi.org/10.1016/j.ssci.2017.04.002
0925-7535/

Inevitably – over time – the emphasis shifted towards measuring social risks and public perceptions more carefully as well. So-called '*human factors*' also became more prominent, and a quantitative element emerged in these areas. But with this there arrived a number of new problems. As risk analysis has increasingly embraced advanced mathematical modelling, to what extent is it still able to speak to the audiences it needs to reach – from policy-makers through operational implementers to the wider public?

How do these audiences engage with and decipher the often very detailed and complex analytical frameworks developed over considerable time-spans by industry experts and academics? And – even more challengingly – are those experts themselves clear and in agreement as to their aims and purposes, as well as the possible consequences of their projections and the resonance of these – or not – among those they are held to be advising?

A disconnect with others, and a concomitant '*culture of suspicion*', is considered to be one of the many possible sources of mistrust in a system (O'Neill, 2002). What's more, empirically focused risk analysts may be less versed in the study of social forces and the understanding of cultural change than they could be.

The point may not be so much a need to respond to presumed risks as to influence how these are perceived of in the first place. This latter is often a moral and political task relating to societal values and mental frameworks that those directing or serving the public may not have fully considered (Douglas and Wildavsky, 1982).

For instance, whilst it is clear that World Health Organization officials did understand the possible role and impact of the media and social media on how their messages pertaining to 2009 H1N1 pandemic influenza were received, it is less evident that they understood their own role within this, still less that of the cumulative impact of previous health communications and emergencies upon the public imagination at that time (Durodié, 2011).

That the first cases emerged in rural Mexico where the challenge of accessing health services skewed reporting away from the norm ought also to have been a cause for greater circumspection on their part from the start. And, to argue that it was only with hindsight that the concerns could be viewed as having been disproportional to the actual threat is to miss the extent to which it was cultural framing more than virology that shaped and drove the response and ensuing policy.

Accordingly, before embarking on exploring this any further it will help to present a few other examples and the dilemmas that arise from them. These are not held to be typical necessarily but rather serve as vignettes offering a lacuna into some of the key challenges and processes that ought to concern us.

2. Algebra for real life?

2.1. A very brief example from the UK

On 18 April 2016, some two months prior to the referendum in the United Kingdom to consider its continued membership of the European Union (EU), the then Chancellor, George Osborne, launched a Treasury analysis document on the purported economic impacts, were the UK to leave the EU (HM Government, 2016).

In effect, this was a 200-page quantitative risk analysis of what some forecasters expected to occur. Detractors lambasted it as scaremongering and a waste of public funds (BBC, 2016a), while the media and other campaigners projected its headline prognosis that every household would be £4300 worse off as a consequence of any '*Brexit*' vote.[6]

Leaving aside the politics of the matter, (Durodié, 2016) what is more apposite here is to consider the report as just one of the latest exemplars of a growing trend to publish weighty tomes to back-up particular views pertaining to public policy on socially related risk and to project what ought to be done about these.

Noting the incongruence of such a lengthy and complex work being promoted to inform public debate on a decision that was both imminent and important, *The Telegraph* (in many ways the house journal of the British establishment that one might have imagined would rally to the Conservative Chancellor's cause) ran a skit, supposedly depicting two men in a pub (to be read as working class as evidenced through the portrayal of their Estuarine pronunciation),[7] deliberating over the finer points of leaving the EU – or not – through reference to the convoluted algebra contained in the report:

> "*Don't know about you, Baz, but I'm voting to leave. Get immigration down, take back our country, and stop this lot in Brussels pushing us around*."
>
> "*Come off it, Dave. Be realistic. What about* ln(Tijt)?"
>
> "ln(Tijt)?"
>
> "*Yeah*, ln(Tijt)."
>
> "*What's* ln(Tijt)?"
>
> "*Well, it's equal to* $\alpha\ \mathrm{ij} + \gamma\ \ t + \alpha_1 \ln(\mathrm{Y\ \ it} * \mathrm{Y\ \ jt}) + \alpha_2 \ln(\mathrm{POP\ it} * \mathrm{POP\ jt}) + \varepsilon\ \mathrm{ijt}$."
>
> "*God, that's a point. I'd never looked at it like that before*."
>
> "*See, it all makes sense when you think about it*."
>
> "*Fair enough, got me bang to rights there. And there was me thinking* $3 \times (\mathrm{Tijt}) = \alpha\ \mathrm{it}_1 * \mathrm{Y\ jt} + (\mathrm{X} * \mathrm{Y\ it}) + 2\mathrm{X\ it}_3 - \varepsilon\ \mathrm{ijt}$."
>
> "*Jesus, Dave, where do you get this rubbish? You've got to stop reading the Daily Star*."

As the part-Irish comedian Paul Merton noted wryly on the satirical BBC television show *Have I Got News For You* a few days later (BBC, 2016b), '*the last four letters seem to spell eejit*'.[8] Presumably, in his mind at least, the real '*eejit's* here were those who had prepared the over-detailed 201 page forecast in the first place.

2.2. A longer example from the Netherlands with consideration of wider implications

In 2007, the Dutch government developed a new National Security Strategy informed by a detailed National Risk Assessment (MIBZK, 2007), the methodology for which was published the following year. This latter coincided with the production in the UK of the first National Risk Register (Cabinet Office, 2008) and, as Vlek has noted (2013), other countries soon followed suit, including Australia, Canada, Germany, New Zealand, Norway, Sweden, Switzerland and the United States. By 2014, the process had reached its sixth iteration in the Netherlands alone, engaging a significant number of experts in its preparation (RIVM, 2014).

Unlike earlier risk assessments there that had been driven primarily by environmental protection policy, this document was designed to address as wide a range of risks as could be conceived of. Of course, these included flooding (about half of the land mass

[6] Brexit – short for British exit – was the term used for the decision by the UK to leave the EU.

[7] Emanating from the Thames Estuary around London and most evidently revealed here by the phrase '*bang to rights*' (meaning caught red-handed and '*banged-up*' i.e. put in prison).

[8] Eejit – close enough to the recurrent ε ijt term in the formulae – is Gaelic slang for '*idiot*'.

Please cite this article in press as: Durodié, B. Theory informed by practice. Application informed by purpose. Why to understand and manage risk, cultural context is the key. Safety Sci. (2017), http://dx.doi.org/10.1016/j.ssci.2017.04.002