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Review essay
Thinking culturally about risk

Risk Perception, Culture, and Legal Change: A Comparative Study of Food Safety in the Wake of the Mad Cow Crisis
By Matteo Ferrari, Farnham: Ashgate, 2009.
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The contemporary preoccupation with risk

Ferrari's book is a welcome addition to the still limited literature on the bovine spongiform encephalopathy (BSE) experience which, unlike any other specific response to a disease, played an important role in reshaping modern governance and consolidating key assumptions about the world around us. The 'mad cow' crisis began in 1986 when the unfathomable bovine brain disease was identified, but was then reignited with the shocking discovery a decade later that it could pass, and had passed, to humans despite the controls put in place. Scientific confirmation in 1996 that there was a human form of BSE led to political panic and further undermined the then exhausted Conservative Party rule. The retrospective lessons of the experience went far beyond agriculture. The problem was perceived to be one of openness and independence: perhaps government was too dependent upon lobbies and financial interests such as agriculture and, whilst utilising scientific advice, did not allow their independent voice to have influence. Less widely recognised, but even more importantly, the political lesson of the BSE experience was to henceforth tend to avoid being seen to downplay risk, based on the retrospective view that the danger could, and should, have been announced before it was scientifically confirmed. Better to overestimate even apparently limited risks than be caught again committing the now cardinal sin of downplaying them, or simply remaining silent. This is not so much a new-found principle of risk aversion as a variation on an age-old political truism of, above all, making sure that the next crisis is 'not on my watch'.

The iconic image of the BSE experience remains that of Agriculture Minister John Gummer attempting to feed a hamburger to his daughter in an act of public reassurance that British beef was now safe to eat. This failed attempt to challenge heightened risk perceptions remains *the* example of how *not* to conduct oneself for contemporary politicians throughout Europe. Through this important experience, the notion of political responsibility was effectively redefined from attempting to calm public fears to alerting the public at the earliest possible stage, and thereby at least partially passing on and privatising responsibility for risk management. This new, risk-sensitive approach was demonstrated soon after with the management of the hypothetical risk of electromagnetic radiation from cellphones. This became a major issue in British society in the late 1990s as another mysterious yet potent threat was predicted. It became the subject of a public inquiry in a demonstration that the political and scientific authorities had learnt their lesson from BSE, and were prepared to entertain even potential hazards (Burgess, 2004). The shadow of BSE

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was cast over policy-making far beyond agriculture, also reconfiguring the organisation of EU politics. In the more cultural terms upon which this book partially rests, BSE affirmed the dangers of 'tampering with nature' and the assumptions of malign industrial/corporate influence. Much of the literature that there is on this important episode tends to share rather than interrogate these assumptions. Whilst not being directly concerned with these assumptions, Ferrari's approach certainly tends towards an opening up of the subject. Further, he specifically identifies the problem of how 'generic clues that a link might exist between BSE and vCJD [Variant Creutzfeldt-Jakob disease] may have been interpreted ex post as proofs, once the link had effectively been ascertained' (p. 16).

This is a book that straddles legal scholarship with the less well defined social study of risk that is my area of expertise. It is something of a popular moment for the subject, and many have become newly acquainted with the discussion of risk and how it is, in objective terms, so often curiously (mis)perceived. A series of books have popularised the basic notions of risk perception, most recently in *Nudge* by behavioural economist Richard Thaler and legal/risk scholar Cass Sunstein (2008), a book that has found influential favour on both sides of the Atlantic. Other recent popular books include Dan Gardner's *Risk: The Science and Politics of Fear* (2009) and Gerd Gigerenzer's excellent *Reckoning with Risk* (2003). What all these books share in common is to proceed from the psychological starting point of the individual and how they generally misperceive risk. *Nudge*, for example, concentrates on our range of in-built biases and how these might be influenced or 'nudged' back into better outcomes, such as choosing the healthier item on the menu. We are all familiar with the optimistic bias of the lottery ticket buyer or the smoker whose lungs will somehow defy what ravages those of everyone else. Conversely, in another classic variable, a sense of dread accompanies experiences such as flying where, whilst we might know that it is the safest way to travel, every murmur of turbulence braces us for disaster. Instead, we appear to prefer even the illusion of control that comes with, the statistically altogether more dangerous, driving. A common conclusion is that human beings don't 'do probability well', finding it difficult to place ourselves in the grander scheme of population-wide averages and random events.

We live in an era where risk and impact assessments are becoming a ubiquitous and often puzzling requirement. Alongside this, Americans are about to be 'nudged' into better decisions, as Cass Sunstein has now been installed as Obama's head of regulatory affairs, and we in the UK might not be too far behind given Chancellor George Osborne's interest in Richard Thaler's ideas. It is also topical given some indications from Britain's new Coalition government that public risk is going to be managed more bravely, such as the rejection of knee-jerk responses to the Cumbrian shootings in June 2010, the suspension of the Vetting Scheme for adults coming into regular contact with children and the general sponsoring of liberty over the risk-averse agenda that so characterised the Labour years. Prime Minister David Cameron himself has chosen consciously to eschew much of the anti-terrorist security paraphernalia we have become accustomed to politicians cocooning themselves within. Gordon Brown's premiership initially suggested a new approach when he responded to the bombing of Glasgow airport in June 2007 with Margaret Thatcher-style 'the show must go on' resilience, but he quickly descended into promoting and politicising the risk of terrorism, as Blair had done. It will be interesting to see if Cameron's approach lives up to its initial promise or falls victim to the politics of risk and safety that became so entrenched in the UK from the 1980s (Wilson, 2009, chapter 13; Johnston, 2010). This politics of risk is a useful reminder that there is more to the perception of risk than instinctive individual responses: among other factors it is determined by the character of response from those assumed to be responsible for its management.

It may be unsurprising that the study of risk in society predates recent interest. It originates in the various attempts to come to grips with the explosion of very public risk misperception in America from the 1960s. As Douglas and Wildavsky (1982, p. 10) asked in their classic study:

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> 'What are Americans afraid of? Nothing much, really, except the food they eat, the water they drink, the air they breathe, the land they live on, and the energy they use. In the amazingly short time of fifteen to twenty years, confidence about the physical world has turned into doubt. Once the source of safety, science and technology have become the source of risk.'

Anxieties focused on environmental pollution, such as over buried toxic waste at Love Canal in upstate New York, which was connected with ill health among local residents in the late 1970s. A dominant motif in reflecting on these experiences was the apparent gap between public and expert assessment. Love Canal remains a debacle of 'junk science' for critics of how government accommodated fears with no clear evidence but plenty of media-driven alarm (Sunstein, 2004; Burgess, 2004). In perhaps the earliest influential account in the social sciences, in 1969, Chauncey Starr isolated a distinction between voluntary and involuntary risk, suggesting that the public is willing to accept the former to a level one thousand times greater than the latter. Think here of the voluntary and largely accepted risk of radiation from the mobile phone, for example, versus the outrage that often seems to greet the involuntary mobile phone mast. Other influential approaches isolated axes around degrees of control (as in the flying example, above) and the visibility of potential hazards (back to invisible mobile radiation), taking as given the centrality of the characteristics of the potential hazard and the reactions these inspire in our 'hardwiring'. In the influential psychometric paradigm innovated by Paul Slovic (1987), 'cognitive maps' of public perceptions of particular hazards are produced from surveys asking how individuals regard hazards such as nuclear power. The extent to which hazards are observable/unobservable and apparently subject to control or not are seen to determine the extent of concern to the individual. These form the axes around which particular hazards are plotted, and the feelings that each inspires stand as an independent explanation of how particular hazards might be configured in a particular society at a particular time. Even more basically, recent accounts such as Gardner's (2009) simply insist that our brains are not designed to think logically all of the time, and that this accounts for our exaggerated sense of threat from statistically improbable sources such as the Islamic terrorist or child abductor.

Less well known outside academia, around the same time a different approach to risk evolved that questioned aspects of the psychological paradigm. British anthropologist Mary Douglas and American political scientist Aaron Wildavsky (1982) pointed out that the distinction between voluntary and involuntary was more apparent than real. Further, not all individuals respond in the same way but invariably fall into a range of character types that determine responses. A more useful starting point for them was why particular risks are selected for attention in the first place, a pertinent question given the apparently only recently acquired sense of heightened environmental risk in America at this time.

Interesting and useful starting points though they are, the numerous psychological characterisations of risk (mis)perception do not perform well in explanatory terms when extrapolated to a bigger stage, across space and time. Returning to the mobile phone example, we might wonder why it is that American anxiety has tended to focus on the mobile phone itself – irrespective of what risk psychologists might say about risks voluntarily undertaken. By contrast, Europeans have primarily objected to the mobile phone masts, irrespective of the basic physical logic that would suggest holding something against your head for prolonged periods might be more damaging that being in its general vicinity. Or, looking across time instead of space, why is it that technologies (which we now know to be dangerous), such as X-rays or radar, inspired no expectation of harm in the past when they first appeared, whilst a far more unlikely candidate like mobile telephony does the opposite in today's very technological world? These are the same human beings and same hardwiring, but evoking quite different reactions in different geographical and historical circumstances. Clearly, there are at least some additional components

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to understanding risk reactions that have some bearing upon the specific circumstances in which they present themselves. Particularly for those inclined towards historical and social understanding, 'human nature' remains unsatisfying, even banal as explanation. Returning to thinking about political leadership, for example, we can understand that reactions to risk are not an aggregation of individual biases and misconceptions.

The limitations of psychologically based approaches have led to more contextual and social factors being incorporated into analyses, looking at how perceptions vary according to gender and race, for example. In American studies, both non-Whites and women have generally been found to be more risk-averse than White males, a finding which can be located within differentials of power and control. More broadly, trust and the perceived legitimacy of the state and other key institutions have been identified as a key variable. In this context the emerging perception of 'regulatory capture', which was common in the USA from the 1960s, would help explain the growth of heightened risk perception. The assumption that risk management and expertise more generally had been 'captured' by (corporate) interests appeared to determine, in turn, the assumption that risks were likely to be actually more severe than was being let on. Likewise, the parallel growth of heightened risk perception in the UK and Europe in the 1990s can be understood in similar terms, as political institutions and their relationship to science became suspect, particularly in the shadow of the BSE crisis. The quest to pin down variables that have general explanatory power has proven elusive, however, with even trust being found to account for only a limited extent of risk perception variation (Viklund, 2003). Yet the emphasis on looking beyond abstract psychology to social context and processes persists. Much contemporary research is organised around the theme of the 'social amplification of risk', which is less of a theory than an instruction to be alive to how perceptions are transformed by various actors, especially the media (Pidgeon, Kasperson and Slovic, 2003).

There is now a great deal of risk research, but most are narrow case-studies that only indirectly and often artificially relate to a wider theme such as trust. It is unusual even for there to be a clear comparative approach that at least introduces more elements into the equation and suggests the possibility of isolating explanatory variables. This seems a step too far for risk research that has sometimes reluctantly already travelled quite a way from its roots in individual psychology. Comparative work is primarily confined to some studies of trust and risk perception, and of differing forms of regulation – particularly an apparent convergence or 'flip-flop' of approaches between the USA and Europe (e.g. Hammitt, Wiener, Swedlow, Kall and Zhou, 2005).

Risk perception, culture and legal change

This brings us to Matteo Ferrari's book on the management of food safety after the BSE crisis. It is refreshingly impressive in scope. He takes on the comparison of the American, European (including some of the necessary further digression into the UK, which was at the centre of the controversy) and Japanese regulatory responses to 'mad cow disease' and its human form, vCJD. Less successfully, for this reader, he goes further, with a detailed history of tort liability in each country and region in the second half of the book.

Not only positive for the extent of his concern, Ferrari also adopts a more interesting and substantial framework than only social amplification, returning to aspects of the cultural approach advanced by Douglas and Wildavsky. Ferrari considers the role of basic biases, but insists that cognitive dynamics alone simply cannot account for the questions posed by his comparative perspective. For Douglas and Wildavsky (1982), it is the composition of a given society, community or social group – for example, its basis in market economics – that determines the acceptance of certain risks as legitimate. They suggest that the process whereby particular threats assume the status of a risk is a complex one, involving for example the consolidation of

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feelings of anxiety concerning marginal social groups and cultures, the possibility for community consensus and the perceived position of a society as a borderland. They ask what function risks and dangers perform for communities, a useful question that directs us away from the often distracting preoccupation with the apparent irrationality of the perception itself. Risk perceptions, like rituals more generally, might be playing an indirect role. Consider the preoccupation with mobile phone masts above, a preoccupation that is generally associated with parents and concerns about the future. From a cultural perspective it appears that the ugly and visible threat of the mast can play the role of providing an apparently certain danger in an otherwise highly uncertain world of modern parenting and concerns for children's futures. The lack of evidence for possible harm is not compelling compared to the reassuring shape the mast gives to otherwise nebulous fears (Burgess, 2004). More mundanely, we might suggest the elevated spectre of avoiding sugary drinks plays a similar role in giving shape to otherwise highly uncertain parental control over children's diet.

Like most good research, Ferrari's book proceeds from a clear and interesting puzzle. The different reactions to BSE in Europe, Japan and America are at odds with straightforward explanation, most obviously because of the extent of the disease in each case. The Japanese regulatory reaction was akin to the dramatic European one despite the tiny number of BSE cases they experienced: Japan has virtually adopted the restrictive European product liability directive. By contrast, the American reaction was comparatively muted despite sharing a similarly low number of cases with the Japanese. BSE was not a scandal in the US, and significant food safety reforms were not enacted. Ferrari proceeds clearly, arguing that the different reactions cannot be explained in their own terms but require the additional element of culture, more specifically food culture. The place of food culture explains the character of risk reactions and ultimately the process of legal change. Simply put, culture influences what is perceived as a significant risk in a given society and in turn this partially determines what is then understood to require legal regulation. The basic conclusion is that 'we must pay attention to the legal forces, but also to the socio-cultural variables which operate in determining the adoption of a given rule' (p. 44).

In the crudest terms, the extent to which the risk of BSE was chosen for attention reflects the relative importance of beef and the cattle industry, in a similar way to how fears about mobile phones have limited resonance, as one might imagine, in a country like Finland where everyone knows someone whose job depends on Nokia's continued success. 'Beef culture' is important in the US but marginal in fish-loving Japan: Americans consume 43 kg of beef annually compared to 9 kg in Japan. Japan produces few cattle, not least because of its chronic land shortage but also and more interestingly because a taboo has developed against those handling beef. In a sense, beef was already suspect in Japan, frowned upon by Buddhism, with butchers a caste apart, as in India. Beef in America is more like a birthright, and no self-respecting American is going to easily fall for cattle-related public alarm. Lobbying efforts to limit alarm were likely to be more effective in the US than Japan, and this was indeed the case. But this is a cultural argument more than an economically based one which, in its own terms, could go either way: we might imagine that Americans would be more alarmed about potential diseases from their beloved beef, with the Japanese indifferent. What is more important to this argument is the character of food culture, particularly the boundary between the 'natural' and the 'unnatural' that is central to the anthropological approach of Douglas. American food culture, shall we say 'burger culture', is not sensitive to the purported 'naturalness' of food, something which is defining in both Europe and Japan.

The contrasting American, European and Japanese perspectives on food purity have led to open clashes, such as over growth hormones for cattle, considered a normal part of agriculture in the US but evoking 'Frankensteinian' fears in Europe. BSE affirmed a sense that 'going against nature', particularly the practice of feeding animal protein to cattle at the centre of the BSE story, would

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inevitably end in disaster. The subsequent alarm over genetically modified 'Frankenfoods' that remains particular to Europe further affirms the importance of this now powerful cultural assumption that mixing technology and foodstuffs is likely to have negative consequences. In Europe, where the natural and authentic character of food is both embedded and artificially politicised, there is little resonance for alarm unless it evokes the imagery of industrial agriculture. It is notable that Europeans are largely uninterested in any problems associated with 'organic' food, such as the basic issues of how its purity might be defined in each agricultural sector or how it could be made economically sustainable. Instead, 'organic' suggests modern-day virtue in the European context which need not justify or explain itself.

From this kind of perspective wonderful curiosities can be appreciated, such as the way that 'American consumers are more concerned about the risks of food contamination as a consequence of a terrorist attack' (p. 33). As Ferrari further notes, 'we can summarize the difference between the two systems by saying that, whereas in Europe traceability is aimed at safeguarding consumers' health, in the US, its goal is the protection of national security' (p. 69). Whilst we Europeans are likely to be taken aback by the extent of the domestic American obsession with terrorism, Americans might find equally puzzling our (in the UK case, newfound) preoccupation with precisely which farm the cow that provided our meat spent its days. Again, considering how certain issues figure in our respective senses of national identity and how one defines their boundaries proves useful. Terrorism clearly speaks to a nation struggling to find a new focus as the world's policeman, whilst the modern European fantasy of idyllic natural food production reveals a different story of the appeal of dystopian and catastrophist views of the future.

There are other strengths to Ferrari's work. Along the way, he is particularly perceptive about Europe, where BSE allowed consumer lobbying groups into a position of influence. Anyone familiar with the way in which Brussels operates will know how it revolves around consumer group lobbying and assumptions that corporate influence is likely to compromise public health and safety. Ferrari acknowledges the difficulties of pinning down food cultures given, for example, the globalisation of (American) burger culture, and is generally careful to limit any claim to universal explanatory power. He emphasises that his focus on culture is at least partially shaped by its relative neglect elsewhere. In the Japanese case, we can suggest that food culture would play a stronger role in determining policy because of the importance of food culture to national identity – for many Japanese their principal source of pride in their country. Being American and certainly being European is configured differently.

Whilst, on the whole, a work to be clearly recommended, it inevitably has its weaknesses. The second half of the book is about tort liability and food safety more generally, prompted by the European Union's extension of strict liability for movable defective goods to include primary agricultural products, as a means of making compensation easier and forcing producers to manage risks more effectively. The basic point is that food liability has historically played an important role in countries with a common law tradition, but less so in those with a civil law tradition. The key assumption here is that BSE was preventable and had the impact it did through mismanagement. He charts the practical and legal difficulties involved in extending liability in this way, driven as it was from above and in a highly political manner. But this second half is too distinct from what precedes it, though this is partially a problem of my own inclination and undoubtedly this account would be of greater interest to legal scholars concerned with food liability. After this, the conclusion then comes rather out of the blue, trying to take us back to the BSE crisis and the differential manner in which societies responded whilst mindful of the larger legal issues of tort liability. Fundamentally, more work was needed on integrating the two sections to make this a book with more than specialist appeal – something which I believe could have been done given BSE's importance and the inherently interesting terrain of comparative risk.

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Ferrari doesn't successfully communicate how bizarre this disease was, an issue of some importance in the ready assumptions of blame attributed to scientists and politicians alike. Particularly for us non-scientists, it is easy to be blasé about the difficulties of dealing with new scientific problems. We readily assume that any delay must be down to incompetence, interference or just the inadequacies of the scientific project. Yet it is hard to respond to a problem with no apparent rules or boundaries from which to proceed. In its own terms, BSE presented a double problem of being both apparently too familiar and so strange as to defy any means to understand, let alone manage, it. New animal diseases emerge quite regularly, and it was really only with hindsight (200,000 dead cattle, over 100 human casualties and billions of pounds later) that it began to become clear that here was something of a nightmare scenario. In stark contrast to the relative familiarity of new animal diseases, this was one that did not follow normal patterns and therefore defied some of the normal means of control (the only model, and this proved both help and hindrance, was the sheep disease scrapie). It was not an infectious disease: typically BSE cases did not devastate particular herds but only individual animals within them. According to the now largely accepted prion theory, the transmissible agent is radically different from other infectious particles, consisting wholly of protein. Until the 1990s, most scientists were very suspicious of this theory, despite the absence of any other convincing explanation.

Ferrari also lacks knowledge of how the issue developed in its UK home, forcing him to accept at face value that a European parliamentary inquiry revealed 'major mistakes' into the management of the crisis when such clear-cut retrospective conclusions remain terribly difficult and a strong case can be made to say that the crisis was dealt with as well as possible under conditions of great uncertainty. More useful here is the account by one of the key civil servants involved in managing BSE, Richard Packer (2007). Ferrari's lack of wider familiarity with contemporary risk politics leads to error, such as the assertion that the beef alarm was 'the first important scandal to occur in the food industry' (p. 17). In fact, in the UK, prior food contamination scandals such as salmonella in eggs predated BSE (Booker and North, 2007) and provided important context and precedent. Similarly, in the US, there is an even longer history of health and environmental alarms, a familiarity that might further explain Americans' propensity to dismiss at least some concerns – given an issue that is relatively important to them. Ferrari's claim that the image of beef in Europe was already compromised by the growth hormone scandal in the 1980s is also dubious, not least because the issue made little wider impact.

As with any academic work, there is the sense that 'theoretical underpinnings' are really not much more than some intelligent thinking through of an issue that has to be dressed up in grander terms because of the demands of the academy. The argument here is one that logically follows from an acquaintance with the relative places of beef and agriculture in each society, irrespective of any particular approach. For example, returning to an earlier anomaly over contrasting reactions to mobile phones and masts, we can understand that promotion of concern with mobile radiation in the US became bound up with the pursuit of legal action against handset manufacturers that were rejected given their lack of scientific basis but lingered as 'phantom risks' in the public arena. The wider context is the distinctive prominence of personal injury litigation in the US. Similar sociocultural explanation can be employed to understand the European anxiety with mobile phone masts (Burgess, 2004).

This is a more interesting introduction to risk in society than many. But it does come with the prohibitive price tag associated with so much academic publishing now. It required more work to turn it into a consistently readable account, and there is also still some PhD language ('it is necessary to have regard to' (p. 9)). Perhaps most importantly, the cultural argument is in danger of naturalising dispositions and neglecting agency, potentially becoming as banal an explanation as 'human nature'. BSE did not automatically turn into a major crisis but did so partly because it coincided with the implosion of Conservative rule. Because the government neglected to keep the

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European Commission properly abreast of developments, continental Europe took revenge on Britain, banning beef imports and otherwise politicising the issue. Returning to another relevant example, 'Frankenfoods' was a media creation, and it was a prolonged campaign involving major newspapers, Prince Charles and the main supermarkets who embarked upon a 'GM-free' sales pitch that consolidated the sense of a toxic product. The cultural approach to risk is interesting and useful, but it must obviously be employed alongside other perspectives.

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