# Strategic Ignorance and Crises of Trust: Un-anticipating futures and governing food supply chains in the shadow of Horsegate

Jeremy Brice<sup>a</sup>\*, Andrew Donaldson<sup>b</sup> and Jane Midgley<sup>c</sup>

<sup>a</sup>Department of Sociology, London School of Economics and Political Science, London, United Kingdom. <u>j.brice@lse.ac.uk</u> ORCID: 0000-0002-8117-7128, Twitter: @jfl\_brice; <sup>b</sup>School of Architecture, Planning and Landscape, Newcastle University, Newcastle-upon-Tyne, United Kingdom. ORCID: 0000-0003-0891-327X; <sup>c</sup> School of Architecture, Planning and Landscape, Newcastle University, Newcastle-upon-Tyne, United Kingdom.

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#### **Biographical notes**

**Jeremy Brice** is Fellow in Economy, Risk and Society in the Department of Sociology at LSE. His research examines the business, culture and governance of food, with recent projects focusing on the role of digital marketplace platforms in reconfiguring urban economies and cultures of food consumption.

Andrew Donaldson is Senior Lecturer in Newcastle University's School of Architecture, Planning and Landscape. His research is centred on food, urban infrastructures and pathological processes, focusing on themes of expertise, security, and the management of futures.

Jane Midgley is Reader in Urban Social and Economic Practice at Newcastle University's School of Architecture, Planning and Landscape. Her work explores the critical relationship between vulnerability, insecurity and responsibility in contemporary society, emphasising the ethics of care within community food provisioning and the work of industry and charitable actors in identifying and redistributing surplus food.

# Strategic Ignorance and Crises of Trust: Un-anticipating futures and governing food supply chains in the shadow of Horsegate

This article explores how transnational food supply chains are governed and secured through examining the 2013 horsemeat scandal, during which processed beef products were adulterated with horseflesh. Drawing on theories of governmentality and ignorance studies, it argues that the apparent ignorance among food businesses about their supply chains which this event exposed arises in response to a regulatory apparatus which renders businesses responsible for taking precautions only against foreseeable threats to food safety and authenticity. Limiting their knowledge of their supply chains therefore enables food businesses to control their ability to anticipate (and their liability for) crises. This article highlights the role of strategic ignorance in rendering future events unforeseeable and ungovernable, and in mediating the politics of accountability and responsibility within anticipatory governmental apparatuses.

Keywords: Anticipation, governmentality, ignorance, food scares, supply chain, horsemeat

### Introduction: A crisis of trust

On the 15th of January 2013 the Food Safety Authority of Ireland (FSAI) announced unexpectedly that traces of horse and pig DNA had been detected in samples taken from processed beef products sold by several major British food retailers. In response the British Food Standards Agency (FSA) launched an investigation incorporating a wider programme of meat speciation testing, undertaken in partnership with the food industry and with food regulators in other EU Member States, to establish the composition of processed beef products (Troop, 2013). Press coverage of this unanticipated, and illicit, appearance of horsemeat on British supermarket shelves was initially often jocular in tone. However, public and media disquiet grew steadily over the following weeks as these testing programmes produced further evidence of horsemeat contamination, and in some cases of intentional meat substitution, prompting the police to join the investigation in early February 2013 (Jackson, 2015).

Popular concern intensified after evidence emerged that consumers of adulterated meat products might have been exposed to the equine painkiller phenylbutazone. Although the prevalence of this substance in adulterated foodstuffs was later found – like the health risks posed by inadvertent consumption of trace amounts of it – to be minimal, for some of the firms involved these revelations of food fraud and chemical contamination constituted a major crisis with serious financial and reputational implications. In the weeks after the FSAI's initial announcement over ten million burgers were recalled from supermarket shelves (Jackson, 2015) and sales of frozen burgers fell by 43% (Neville, 2013). By August 2013 over 24,000 samples of processed beef products had undergone meat speciation testing, of which 47 had been found to contain horse DNA (National Audit Office, 2013). Meanwhile, the source of the adulterated meat had been traced back through two independent supply chains, centred respectively on Irish and French meat processing companies, to Dutch and Cypriot meat traders who had relabelled Polish and Romanian horsemeat as beef. Seven individuals who had participated knowingly in the substitution of horsemeat for beef were subsequently convicted of fraud offences in a series of prosecutions spanning France, the Netherlands and the UK (White, 2019).

The event known popularly as 'Horsegate' both exposed in spectacular fashion the complexity and opacity of the continent-spanning commercial networks through which many foodstuffs circulate and revealed their vulnerability to subversion by criminal enterprises. In so doing it dramatized the challenge of securing them against infiltration by malign actors as an urgent governmental problem, with investigators from the UK's National Audit Office (2013, p.5) concluding that the horsemeat affair had 'exposed weaknesses in controls in the food supply chain'. Analysing Horsegate therefore offers valuable opportunities both to scrutinise the rationalities and technologies which govern the transnational circuits of production and exchange that underpin contemporary capitalist economies and to problematise their pathologies (Brooks, Elliott, Spence, Walsh, & Dean, 2017; Jackson, 2015). In this vein, the numerous official inquiries commissioned in Horsegate's aftermath sought explicitly to identify shortcomings in the logics and arrangements through which contemporary food supply networks are regulated by investigating how this supply chain scandal might have come about. Several such investigations, most notably The Elliott Review into the Integrity and Assurance of Food Supply Networks (Elliott, 2014, p.20; see also House of Commons Environment Food and Rural Affairs Committee, 2013), concluded that the horsemeat scandal had been made possible by food manufacturers and retailers' excessive readiness to trust claims made by their suppliers about the nature and origins of their meat products, arguing that:

'Risk management is important and starts with knowing who you are doing business with. Understanding the complexities of supply chains is much more than maintaining a paper trail. When things go wrong, this alone will not provide a defence against allegations of negligence or handling counterfeit goods (...) Some in the industry have said that there will always be an element of trust involved when sourcing products. But there are risks in taking such an approach and industry must ensure it has procedures in place to verify that suppliers are acting responsibly.'

By Elliott's account, this disproportionate investment of trust was bound up with a deficiency in leading food businesses' knowledge about the structure of their own supply chains and the conduct of the firms operating within them. Crucially, he suggests that manufacturers and retailers implicated in Horsegate did not take sufficiently stringent steps to verify the provenance and composition of the meat used in their

products because they trusted their suppliers' claims about that meat's authenticity. Leading food businesses' trust in assurances offered by their suppliers is thus taken to have facilitated a major food adulteration crisis by rendering these firms ignorant of, and incapable of managing effectively, the risk that food fraud might occur within their supply chains. In order to remedy these failures of knowledge the Elliott Review (Elliott, 2014, p.8-9) called for the private sector food safety standards which increasingly govern relationships between firms within food supply chains to incorporate expanded auditing and traceability requirements, recommending the development of: 'additional audit modules for food fraud prevention and detection' and 'new accreditation standards for traders and brokers that include awareness of food fraud'. Both recommendations were subsequently implemented through revisions to the British Retail Consortium (BRC) Global Standard for Food Safety, which strengthened traceability requirements and introduced food fraud vulnerability assessments for raw materials, and through the introduction of dedicated BRC certification processes for food agents and brokers (Brooks et al., 2017; Donaldson, Brice & Midgley, 2019).

This will paper address two of the numerous questions about the governing of potential threats to contemporary transnational commercial networks which arise from Elliott's (2014) identification of an association between an excess of trust among food businesses and a deficiency in knowledge which impedes the anticipation and control of future supply chain crises. First, why do major food processors and retailers such as those implicated in Horsegate, which typically pride themselves on maintaining sophisticated food safety and quality controls, often appear to know so little about their supply chains? Within what configuration of problems, rationalities, knowledge practices and technologies of action does this seemingly peculiar ignorance take shape?

Second, in what ways might this absence of knowledge about supply chains be bound up with efforts to foresee and to govern future food scandals and crises?

Our aims in posing these questions are threefold. First, we seek to excavate the governmental apparatuses - the heterogeneous assemblages of rationalities, discourses, technologies and practices (Aradau & Van Munster, 2007; Rose, 2004) - through which state and commercial actors attempt to anticipate and avert potential supply chain crises. Second, through exploring the limits and elisions of these apparatuses – and particularly the manner in which regulatory efforts to instil capacities for foresight within food businesses have precipitated not only foreknowledge of potential dangers but strategic ignorance about supply chain risks – we aspire to open up a dialogue between critical studies of anticipatory government and ignorance studies. Through connecting these hitherto largely separate bodies of scholarship we hope to unsettle the assumption that anticipatory apparatuses simply generate new knowledges about and modes of acting upon possible futures, and to foreground their role in distinguishing future events which are foreseeable and governable from those which are *un*foreseeable and *un*governable. In so doing we aim, finally, to open up space to examine critically the role played by attributions of unforeseeability, and that of their strategic appropriation by those governed through anticipatory activity, in mediating the distribution of responsibility, accountability and liability.

The following section begins by drawing on critical scholarship on both audit cultures and anticipatory modes of governing to examine the rationalities and technologies through which transnational supply chains are governed. Here we argue that official characterizations of Horsegate as symptomatic of an overabundance of trust portray this crisis as a failure of a governmental apparatus which seeks to induce in its subjects a mode of vigilance against potential future dangers which valorises a

comportment of circumspect mistrust. Subsequent sections of the paper seek to explain this apparent lapse in vigilance using interviews conducted between 2015 and 2017 as part of an exploratory research project examining how public, private and third sector actors within the UK food system anticipate, and prevent or manage, potential emergencies and crises.<sup>1</sup> In the second section we draw on interviews with supermarket food safety and quality managers, and with consultants who advise them, to investigate what capacities and responsibilities to anticipate and to forestall supply chain crises are fostered in food businesses through legal apparatuses of food regulation. Finding that key provisions within British food safety legislation instil conceptions of 'reasonableness' which entangle businesses' responsibilities to avert lapses within their supply chains with possession of the knowledge required to foresee these events, the third section examines how firms mobilise the limits of knowledge creatively to manage both supply chain risks and legal liabilities. Drawing on ignorance studies literature we suggest that British food businesses often manage the risk that they will be held liable for incidents caused by their suppliers' actions through cultivating a strategic ignorance about the identities and conduct of - and thus about the risks posed by - firms within their extended supply chains. Section four explains how supplier auditing procedures facilitate the creation and maintenance of this protective ignorance through enabling food businesses to delegate responsibility for knowing and managing their extended supply chains to their immediate suppliers. We conclude by considering what wider implications the dialogue between critical scholarship on anticipatory government and ignorance studies opened up through our analysis might hold for the study of responsibility, accountability and blame in a pre-governed world.

## Mistrust, vigilance and the governing of futures

The official inquiries examined above suggest that Horsegate laid bare a failure among

food manufacturers and retailers both to know their supply chains and to verify the provenance and composition of their products – a failure driven by an overly trusting attitude towards their suppliers (Elliott, 2014; House of Commons Environment Food and Rural Affairs Committee, 2013). Yet if Horsegate revealed a failure of the technologies and rationalities which govern the conduct of such businesses, one which might be used to diagnose the character of these apparatuses, then this was a failure of a rather peculiar kind. While food scares and scandals are frequently portrayed as crises of trust, the crisis is usually considered to consist in a *loss* of trust in the systems of provisioning through which food is produced, regulated and distributed rather than in its overabundance. As Staples and Klein (2017, p.12) note:

'the viability of contemporary, globalising systems of meat provisioning hinges upon the ability of producers, retailers and regulatory agencies to construct and maintain consumers' trust in the supply chain itself.'

Such accounts depict trust as an indispensable lubricant to food's circulation – one which becomes both increasingly vital and increasingly vulnerable within globalised supply networks in which distance and complex processing arrangements render the accuracy of claims about the origins and qualities of products inscrutable to consumers (Freidberg, 2004; Richards, Lawrence, & Burch, 2011). They thus imply that food supply networks may be secured only if *trust* is secured. It is arguably this potential to disrupt the transnational circuits of provisioning and exchange which underpin contemporary mass market food systems that transforms a loss of trust into a crisis, and thus casts it as a specific kind of event which must be governed in a particular way. Crises may be managed when they occur, if this is necessary to prevent them from causing catastrophic damage, but preferably they are to be foreseen and averted before they can develop at all (Aradau & van Munster, 2011). The horsemeat affair itself is

often considered to have precipitated just such a crisis of consumer trust – a crisis which official accounts imply would better have been prevented, but which nevertheless had to be managed at great cost and inconvenience to those caught up in it (Elliott, 2014; Jackson, 2015).

The naming of Horsegate as a crisis thus draws attention to possible defects in the apparatuses of anticipatory action through which both state and commercial actors seek to produce foreknowledge of possible futures and to foreclose those which may engender crises, emergencies or disasters (Anderson, 2010; Cooper, 2006). Indeed, the House of Commons Environment Food and Rural Affairs (EFRA) Select Committee's (2013, p.29) first report into Horsegate advanced exactly this analysis, concluding that:

'Retailers and meat processors should have been more vigilant against the risk of deliberate adulteration. Trust is not a sufficient guarantee in a system where meat is traded many times before reaching its final destination. We are concerned about the length of supply chains for processed and frozen beef products and welcome efforts by some retailers to shorten these where possible.'

The EFRA Select Committee's characterization of Horsegate as betraying a breakdown in *vigilance* casts this scandal as a breach of norms of conduct associated with a particular rationalization of the imperative to anticipate and govern the future that is characteristic of late liberal societies. This is an expectation that the same cosmopolitan circuits of mobility and exchange (including food supply networks) which sustain contemporary economic, social and political life will periodically generate unwelcome and destructive events from terrorist attacks to disease outbreaks, ecological disasters and infrastructural breakdowns (Anderson, 2010; Caduff, 2014). The unexpected novelty of such events, and their imbrication within the very flows and circulations which apparatuses of anticipation seek to secure against disruption, is often depicted as inducing a struggle to detect warning signs that a threat may be developing and to intervene in time to forestall its emergence (Cooper, 2006; Hinchliffe, Bingham, Allen, & Carter, 2017; Lakoff, 2015; Lentzos & Rose, 2009). The problem of governing future events which are both radically new and potentially disastrous thus elicits the formation of 'a particular regime of knowledge to render these unexpected events actionable and governable' before they can occur (Aradau & van Munster, 2011, p.123).

Such apparatuses of anticipatory government frequently attempt to enlist diverse subjects into, and render them responsible for, the work of detecting and interdicting incipient dangers through inculcating both a vigilant attentiveness to unusual persons, things or behaviours and a compulsion to challenge or report that which appears dubious or 'out of place' (Adams, Murphy, & Clarke, 2009; Amoore, 2007; Langlitz, 2009). Such modes of subjectivation and responsibilization can be situated within a long genealogy of liberal technologies of rule which seek to nurture the faculties of both foresight and judgement among the governed in order that their energies and desires might be harnessed towards the taming and optimization of an uncertain future (Anderson, 2010; Aradau & van Munster, 2011; Lentzos & Rose, 2009). However, both Larsson (2016) and Langlitz (2009, p.411) suggest that the injunctions towards vigilance which characterize contemporary anticipatory apparatuses valorise a distinctive comportment of suspicion which 'requires one to cultivate a circumspect distrust and to maintain a high level of alertness at all times.' Intriguingly Dunn (2007, p.48; see also Freidberg, 2004; Donaldson et al., 2019) suggests that the audit-based systems of food safety governance introduced in response to past food scares, which often invest food businesses with new responsibilities to anticipate and avert future crises, have tended to precipitate corporate legal subjects which exemplify such vigilant conduct. She argues that:

'Audit systems force firms into a state of hypervigilance. Like hypervigilant individuals, whose past traumas make them obsessively scan the environment for threats, the hypervigilant firm's managerial 'nervous system' forces it to search constantly for potential risk.'

Dunn accounts for such hypervigilance through highlighting the tendency for systems of surveillance, verification and account-giving introduced in hopes of restoring trust in scandal-ridden institutions to inadvertently bring to light hitherto unnoticed opportunities for further misadventure or misconduct. In so doing, she suggests, these monitoring measures appear to conjure up new risks in ways that can reinforce expectations of impending crisis and deepen the very atmospheres of mistrust and unease that they were intended to dispel (Harvey, Reeves, & Ruppert, 2013). However, such apparent failure to restore trust frequently elicits only a clamour for newly diagnosed risks to be controlled through the installation of further instruments of oversight and verification (Langlitz, 2009; McGoey, 2007; Power, 1997). Hinchliffe et al. (2017, p.43-44) suggest that this reciprocal relationship between the intensification of verification activities and the proliferation of risk is 'amplified by an "anticipation of retrospection" (...) an approach to a future which may well involve being called to account for the actions that were or were not taken'. Drawing on Caduff (2014), they argue that the identification of hitherto unnoticed risks may occasion a fear among the subjects of audit that failure to take action to control those risks will attract blame if a crisis should subsequently occur – a fear which propels the implementation of increasingly elaborate precautionary measures. Indeed, Dunn's (2007) account hints that the capacity of audit-based governmental technologies to induce such fears, and thus to trigger a self-perpetuating search both for new dangers and for means of controlling them, forms an important component of their appeal to policymakers.

Within a mode of governing which seeks to fashion such hypervigilant corporate subjects, the revelation that food retailers and processors had trusted (and therefore had not verified) their suppliers' claims about the composition and provenance of the meat used in their products might well appear to indicate a troubling deviation from proper conduct. By this logic, which appears to underlie both the Elliott Review's (2014) and the EFRA Select Committee's (2013) arguments, the problem revealed by Horsegate was not simply that these firms' acceptance of their suppliers' assurances had enabled food adulteration to pass unnoticed. Their failure to consider that their suppliers might be perpetrators (or victims) of food fraud, and to check whether such activities might be occurring in their supply chains, also betrayed a more fundamental deviation from the comportment of vigilance valorised by contemporary governmental techniques and practices. For within a governmental logic of anticipatory alertness, to trust without seeking corroboration that a person or good is what they purport to be is arguably to abdicate one's responsibility to detect, and if possible to interdict, the seeds of future catastrophes. To trust without knowing is thus to blind oneself to potential threats and to forego the opportunity to avert an incipient crisis.

In this section we have drawn on critical scholarship on anticipatory government and audit cultures to argue that in depicting Horsegate as being symptomatic of an excess of trust, official inquiries portrayed this event as a failure of a governmental apparatus configured around the production of vigilant corporate subjects. Our focus now shifts to interviews with food safety and supply chain managers, as we begin to explore how injunctions to exercise vigilance against future food scandals are formulated within food safety legislation and operationalised within the procurement practices of food businesses. In the following section we therefore begin to explore what sorts of anticipatory knowledges and subjectivities are cultivated in the corporate persons regulated through food law, and to investigate what might explain food businesses' seemingly puzzling reluctance to interrogate the assurances of their suppliers and the structure of their supply chains.

#### Due diligence and reasonable trust

'we regularly change suppliers and get new suppliers in all the time. Not necessarily for the core meat lines, because obviously there's a lot more that goes into approving those, but for products that contain meat that we think will come across a [name of company] store. There's hundreds that will have meat in, so they are constantly being built up (...) that's where there's a lot of reliance on the supplier's due diligence. And that's where it's important to approve suppliers. That's why you've got to rely on BRC, you've got to rely on your technologist to say "Yes we have confidence in this supplier, that they have been able to show us that they are in control of this and they are only buying from these places." Because you could not physically audit everyone that offers everything into the food chain (...) so at some point you have to put that trust in, but it's about having the processes in place so you can have a reasonable *amount* of trust.'

'Becky', Supermarket Quality Assurance Manager

Becky works in the technical and quality assurance division of one of the UK's largest and best-resourced food retailers. Yet she, like other interviewees, was keen to emphasize the extent to which she and her colleagues depended on their suppliers to identify and to manage potential risks within their supply chains on their behalf. From her perspective, simply monitoring and managing the hundreds of companies from which her employer purchased products directly – what are known in the trade as their 'first tier' suppliers – presented challenge enough for a small team perennially overstretched by a constant deluge of warnings about potential non-conformances and emerging food safety risks. In their eyes it was necessary to delegate the task of knowing and supervising the 'second tier' companies supplying these suppliers and the 'third tier' suppliers serving those companies in turn – that is, their extended supply chain – to the first tier suppliers whose 'due diligence', they argued, it was anyway.

It is worth examining Becky's casual reference to the notion of due diligence in some detail, because within the British legal system this concept plays a crucial role in apportioning liability for breaches of food law. The defence of due diligence was introduced into British food law in the Food Safety Act 1990, which establishes criminal penalties for the sale of unsafe or falsely described food. The Act's provisions for law enforcement action and sentencing have underpinned most subsequent UK food legislation, including the UK's implementation of EU food regulations. Like all British food legislation since the Adulteration of Food and Drugs Act 1872 (itself passed in response to a spate of food adulteration scandals), the Food Safety Act 1990 applies a strict liability framework under which, as Demerritt et al. (2015, p.374) explain, 'businesses have faced an absolute legal duty to ensure that the food they sell is "not injurious to health" or falsely described. This absolute duty has long been tempered by provisions exempting food businesses from liability for breaches of the law committed by another party provided that they acted in ignorance of the offence (Jukes, 1993). However, the Food Safety Act 1990 [(s)21] updated and greatly expanded these exemptions by establishing that a defendant must:

'prove that he took all reasonable precautions and exercised all due diligence to avoid the commission of the offence by himself or by a person under his control.'

While this injunction to take 'all reasonable precautions' can appear somewhat vague, it becomes more demanding in view of subsection 21.3 of the Act, which states that:

'(3) A person satisfies the requirements of this subsection if he proves—(a) that the commission of the offence was due to an act or default of another person who was not under his control, or to reliance on information supplied by such a person;

(b) that he carried out all such checks of the food in question as were reasonable in all the circumstances, or that it was reasonable in all the circumstances for him to rely on checks carried out by the person who supplied the food to him; and(c) that he did not know and had no reason to suspect at the time of the commission of the alleged offence that his act or omission would amount to an offence under the relevant provision.'

These conditions are noteworthy because they render food businesses' capacity to defend themselves against prosecution for food safety and authenticity offences contingent upon the demonstration of a particular form of anticipatory 'reasonableness'. In so doing, they subtly alter the process through which liability for the appearance on the market of unsafe or falsely described foodstuffs is distributed. Where under previous legislation the sheer fact that such food had been supplied would under most circumstances have exposed those who sold it to prosecution, now it is a business's failure to *take reasonable precautions to prevent* the sale of unsafe or fraudulent food which renders it legally responsible for a breach of food law (H.M. Government, 1992; Jukes, 1993). As such, the due diligence defence appears to be designed to hold to account the lapses in foresight which permit food offences to occur, and perhaps thus to induce an anticipation of retrospection (Caduff, 2014; Hinchliffe et al., 2017) which would motivate food businesses to invest their energies in anticipating and averting such events, rather than in reactively containing or compensating their effects.

However, this shift raises an awkward question. Which precautions can be considered 'reasonable'? The Food Safety Act 1990 does not answer this question explicitly, instead permitting the courts to determine on a case by case basis exactly what courses of action might constitute 'reasonable precautions' under particular circumstances (H.M. Government, 1992). In such cases a court seeks to determine whether a defendant made the same decisions, and took the same precautions, as a reasonable person would have taken in the same situation. As O'Malley (2004, p.80-81) explains, this test of 'reasonableness' invokes a very particular standard of conduct and judgement associated with the venerable (and explicitly gendered) figure of Reasonable Man, who common law theorists and practitioners have tended since the early nineteenth century to imagine as:

'a subject who had an ordinary – "reasonable" – capacity to anticipate the future (...) this capacity for "reasonable foresight" was based in the idea that "judgment and past experience guided practice" (...) reasonable man is a subject of uncertainty rather than risk: confronting particular situations; armed with experience and rules of thumb; able to estimate possibilities – and held to account for his failure to estimate them "reasonably".'

Food businesses attempting to claim the protection of the due diligence defence are thus asked to demonstrate that they have exercised a 'reasonable foresight' which considers all the dangers and vicissitudes that past experience suggests might arise in the course of conducting their business, and which takes prudent precautions against those which it seems might plausibly occur (Daston, 1988).<sup>2</sup> Individual business owners and corporate persons alike are thus obliged to incorporate this mode of anticipatory judgement into their business practices in order to obtain the protection of the law. O'Malley (2004, p.89) therefore identifies in common law's employment of the concept of reasonable foresight a technology of subjectivation through which regulatory regimes have sought to govern the reasoning and conduct of legal persons, arguing that: 'through the enforcement of these rules (...) the court is not simply making assumptions about subjects (...) it is also establishing a didactic technology for *creating* such "free"

In this respect the due diligence defence exemplifies a family of liberal governmental techniques whose vocation is to tame the potentially destructive contingencies of an uncertain future through producing autonomous and self-reliant subjects accustomed to making 'responsible' provision against accident and misadventure (Aradau & Van Munster, 2007; Rose, 2004).<sup>3</sup> Yet if the capacity to exercise foresight is by this account fundamental to liberal subjectivities because it allows such subjects to determine their future courses of action both freely and responsibly, it is also crucially important in establishing limits to the obligations which they are expected to fulfil. For the corollary of an ordering of reason and responsibility which holds that 'we should be responsible only for those eventualities we can ''reasonably'' foresee' (O'Malley, 2004, p.37) is that subjects who have exercised reasonable foresight should not be held liable for events which they could not feasibly have anticipated.

### Safer not to know?

British food law gives this distinction between events which could reasonably have been foreseen and forestalled and *un*foreseeable contingencies a prominent role in defining the limits of the due diligence defence, and thus in determining liability for food safety and authenticity offences. The Food Safety Act 1990 [(ss) 21.3(c) & 21.4(c)] makes it clear – in keeping with wider legal doctrines of wilful blindness (McGoey, 2019) – that a business which knew or had reason to suspect that a supplier's conduct was likely to result in a crime, but took no action to prevent this offence, cannot claim to have exercised due diligence. Legal disputes concerning liability for incidents of food contamination, adulteration or food-borne disease therefore often hinge on the question of whether the defendant could reasonably have been expected to foresee that the actions of its suppliers (or of their suppliers) might cause a breach of the law. As 'Richard,' a food law specialist working for a brand protection consultancy, explained in an interview: Richard: 'Now, if someone comes at you with due diligence and says, "That is a risk that you should reasonably have known about or a hazard that you should reasonably have anticipated and it doesn't appear in your system at all," that for me is a failure of your due diligence. If someone comes to you and says, "Here's this hazard that you couldn't possibly have known about that isn't included in your hazard analysis," you go, "Hold on, how could we have actually known about that?" (...) If there was information sharing networks out there that you have access to (...) it's very difficult to argue that you haven't been using them. But if the information is not there, "I couldn't have known that" is a reasonable argument.'

Interviewer: 'Right, so the availability of the information almost creates an obligation to act on it?'

Richard: 'Yes. If you could reasonably have known about it then it is a risk you could reasonably have been expected to control. If you couldn't have reasonably known about it then you could not reasonably be expected to have controlled the risk.'

In short, a food business which had access to, or could have obtained, information indicating that a breach of food law was likely to occur within its supply chain would be expected to have foreseen and taken precautions against such a lapse. It would therefore be left exposed to costly and reputationally damaging litigation should it later suffer such an incident without first implementing 'reasonable' risk management arrangements. Meanwhile, one able to argue that it could not reasonably have been expected to obtain such information would bear no legal responsibility for the offence. This often places food businesses in the paradoxical position of having to demonstrate their ignorance, and indeed their *inability to know*, of lapses within their extended supply chains. As 'Adrian' – a senior executive at a technology firm providing risk management software and consultancy services to food businesses – explains:

'The real challenge is, sometimes you're better off not knowing. Because if you know there are toxicological issues with wheat from China (...) that could find its way into your chain, and you've got twenty of those issues, you now have to do

something about them. But you could be taking all these mitigating actions around potential risks that never materialize. (...) We have a due diligence defence, so if you're aware of something, you've got to do something about it. If you're not aware of it, you *can't* do anything about it. So, there can be a temptation to stick your head in the sand.'

For Adrian, it seems, the Food Safety Act 1990's requirement that food businesses take precautions against any hazards which might foreseeably affect them, and demonstrate that any breaches which do occur were unforeseeable, means that it may not be in their best interests to gather too much information about dangers and vulnerabilities lurking within their supply chains. Although possession of such information might help a business to avert a food scare or crisis, it might equally be taken as evidence that its staff could reasonably have foreseen offences committed by companies operating within their supply chains. Indeed, Adrian suggests that there is therefore at least a 'temptation' for British food businesses to attempt to limit their vulnerability to prosecution over offences committed within their supply chains through cultivating what ignorance studies scholarship would term a state of strategic ignorance. McGoey (2019, p.3) characterizes practices of strategic ignorance as: 'actions which mobilize, manufacture or exploit unknowns in a wider environment to avoid liability for earlier actions.' In this context, such techniques might be employed to prevent a firm from gaining foreknowledge of possible risks to or misconduct among its suppliers, and thus to deflect censure by portraying any subsequent crisis as an unforeseeable surprise. This analysis of strategic ignorance invites an appraisal of the unknown which differs subtly from that typically mobilised within discussions of anticipatory action as 'a governmental *dispositif* at the limits of knowledge' (Aradau & van Munster, 2011, p.30). Such accounts tend to operate within an opposition between 'power/knowledge' and 'weakness/non-knowledge' (Aradau & van Munster, 2011, p.34) which portrays

ignorance primarily as a constraint upon the possibility of action to be overcome through the elaboration of new modes of foreknowledge capable of authorising anticipatory intervention (Adams et al., 2009; Amoore, 2013; de Goede, 2014). In ignorance studies, by contrast, non-knowledge of troubling events, processes or phenomena is often portrayed as a potentially valuable asset which can be generated and husbanded actively (and perhaps intentionally), and whose judicious deployment may facilitate the pursuit of particular objectives (Freidberg, 2017; Heimer, 2012; McGoey, 2007).

Although this point is rarely developed explicitly, such artful cultivation of ignorance is arguably woven intricately through apparatuses of anticipatory government (Mallard & McGoey, 2018). The anticipation of retrospection introduced earlier in this paper (Caduff, 2014; Hinchliffe et al., 2017) clearly forms an important component of the 'temptations' towards strategic ignorance which Adrian describes, and similar anxieties about future accountability for present day decisions feature prominently in existing accounts of the mobilization of ignorance in response to regulatory scrutiny (for instance Heimer, 2012; McGoey, 2007; Pénet, 2018). Adrian's words tread similar ground in implying that decisions to refrain from enquiring too strenuously into suspect goings-on within one's supply chains may reflect a fear that shirking the obligations to take precautionary action which such information might create could invite legal liability in the wake of a future crisis. Yet this apprehension does not provoke the restless drive to discover and control an ever-growing array of possible risks and threats that is frequently chronicled by studies of anticipatory government (Amoore, 2013; Anderson, 2010).

Instead, many food businesses appear to respond by developing supply chain risk management strategies which strike a delicate balance between the gathering of

information and the maintenance of defensible zones of plausible ignorance. On the one hand, such businesses must assemble sufficiently detailed and comprehensive information that they may be considered to have taken all reasonable precautions and exercised all due diligence. On the other, they must maintain a sufficiently limited knowledge of the provenance of their wares that they may plausibly deflect legal and regulatory challenges by claiming that they could not reasonably have foreseen any incidents which might transpire within their supply chains. This observation suggests that impediments to supply chain transparency may sometimes run deeper than the technical barriers and commercial confidentiality concerns identified by Freidberg (2017). It also addresses our first question by clarifying why food businesses know so little of their extended supply chains, and of the potential risks therein. However, it does not explain how such businesses construct and maintain this condition of strategic ignorance or, for that matter, how a business pursuing such a risk management strategy could be considered to be taking 'all reasonable precautions' against a breach of food law within its supply chain. The next section therefore returns to our second question by examining how food businesses' ignorance of the risks which firms within their supply chains might pose emerges out of, and how it is rendered 'reasonable' within, the landscape of anticipatory activities which has condensed around the due diligence defence.

#### **Reasonable suppliers**

'the emphasis in the due diligence system has to be on prevention. In due diligence, that is about using suppliers you can trust, it's that whole world of trust. How do you build and engender trust? That's what a due diligence system is about. So from a major manufacturer/retailer point of view (...) the due diligence mechanisms you would normally look at is, you would do your initial supplier assessment, decide which supplier is a reasonable supplier.'

'Richard,' Food Law Specialist, Brand Protection Consultancy

As a food law professional, Richard is clear that food businesses may exercise reasonable foresight and demonstrate due diligence through ensuring that their immediate suppliers can be trusted. How is a food business to know whether a supplier is trustworthy? For Richard, this is to be established principally through documentary evidence that the supplier is itself a 'reasonable' business which takes reasonable precautions to prevent breaches of the law. If a prospective supplier possesses its own risk assessments, food safety management systems and raw materials testing regime, and if audits confirm that it has implemented these procedures, then a potential customer may assume that it is a reasonable business which can be trusted to supply safe and legally compliant food.

As Bill Maurer notes of the due diligence practices of offshore financial services firms, this work of scrutinising the claims and credentials of prospective suppliers is intended to enable the actor performing it to enjoy a particular kind of certainty. This is emphatically *not* a certainty that the documentation submitted in support of would-be suppliers' claims about their conduct is accurate. It is always possible that a prospective supplier might have answered an approval questionnaire inaccurately or hidden evidence of non-conformances from auditors. But if such checks fail to locate any specific grounds on which to doubt that the object of scrutiny is who or what it purports to be then the subject performing due diligence may be: 'certain (...) that he has undertaken reasonable care with regard to regulated person' (Maurer, 2005, p.487). 'He' may therefore be certain that in accepting their claims as being true he is acting reasonably. This, then, is the 'reasonable' amount of trust in one's suppliers of which Becky spoke. It is a willingness to accept suppliers' assurances about the quality, safety and authenticity of their products *if* duly diligent examination of documentary evidence

reveals no reason to doubt that these suppliers are themselves reasonable actors who will take all reasonable precautions against lapses within their own businesses and supply chains. At first glance these exhaustive efforts to establish the reasonableness of first tier suppliers stand in puzzling contrast to food businesses' relative inattention to the trustworthiness, and indeed the identities, of more distant tiers of suppliers. Yet as Nick (a technical manager for a second supermarket chain) explained, it is precisely *because* food businesses can be reasonably certain that their immediate suppliers will act reasonably that they may refrain from monitoring their wider supply chains more closely:

'stuff like heavy metals, things like mycotoxins, aflatoxins, all this, sort of, significant... risks associated with food, we really as much as we can put the onus back on the suppliers to say, "Look, these are potential risks. You need to understand them; you need to have appropriate policy and controls within your own process." (...) us having an active analysis programme, at this later stage in the food chain, it doesn't really help anybody *and* incurs massive cost. So if you're getting your supplier's supplier to verify that the rice that they're selling you, or the tuna they're selling you, is wholesome and safe to use, then that's a better place than us saying that we're taking something off our shelves which is already on sale.'

For Nick, establishing that prospective suppliers are 'reasonable' is of paramount importance because a reasonable supplier can be expected to take the same precautions as would his employer. As such, reasonable suppliers can be trusted not only to control the risks posed by their own business processes effectively, but also to anticipate and manage the risks present within the extended supply chain on their customers' behalf. Indeed, outsourcing responsibility for overseeing one's extended supply chain in this fashion is doubly attractive. It enables firms to argue that they have acted reasonably and even efficiently in ensuring that the risks associated with food production, processing and distribution are managed by firms which are directly involved in, and therefore familiar with, these activities. Meanwhile, it simultaneously relieves them of the obligation to foresee and control the risks to which firms within their extended supply chains might be exposed. As Richard (the food law advisor quoted above) explains, this argument reduces the exposure of food businesses to prosecution by facilitating the transfer of legal liability to a first-tier supplier – and potentially further up the supply chain – should an offence occur:

Richard: 'I think due diligence, to some extent, has built up this system of "I'm reliant on the information from my supplier and therefore, if that information is wrong, that's my supplier's fault not mine." (...) I think that we have tended, because of due diligence, to say "My supplier, I trust my supplier." Because it's in your interests to trust your supplier. Because then if something goes wrong, you can blame them.'

Interviewer: 'Presumably, the blame can then be passed down to the supplier of the supplier, and so on, until eventually it reaches somebody who can't pass the buck?' Richard: 'Yes. I mean that, in essence, is due diligence. (...) You're getting back to the person who is actually responsible for it in the first place.'

Richard's words suggest that entrusting the monitoring and management of their extended supply chains to 'reasonable' first tier suppliers can sometimes enable food businesses to construct and maintain a strategic ignorance of any questionable goingson which may occur among more distant tiers of suppliers. Such businesses may argue accurately that these regions of the supply chain were unknown to them but *were* known to their immediate suppliers, and therefore that the supplier – rather than the customers who trusted it to anticipate and avert breaches of food law on their behalf – should be held to account for any offence which might occur. Moreover, Richard's comments imply that this displacement of liability can be replicated at each 'tier' of the supply chain. 'First tier' suppliers may follow the same reasoning as their customers and delegate responsibility for knowing *their* extended supply chains – and for foreseeing and taking precautions against the dangers within them – to trusted 'second tier' suppliers, who may in turn delegate these obligations to 'third tier' suppliers, and so forth through an indeterminate number of 'tiers'. Each firm in turn thus gains the ability to argue that it could not reasonably have foreseen, or taken precautions against, any lapses which might occur within its extended supply chain.

Our interviewees often argued earnestly that such delegation of responsibility for knowing and managing supply chain risks was both necessary and desirable because it would be neither practicable nor financially feasible for their employers alone to maintain effective oversight of the many thousands of firms implicated in their extended supply chains. From their perspectives, such arrangements were attractive because they offered the most cost-effective and pragmatic means available to their firms of ensuring compliance with the law as it stood. Yet the cumulative effect of these repeated deferrals of knowledge, and of the liabilities which attend possession of it, is seemingly to introduce multiple layers of protective opacity into food supply chains which restrict each business's sphere of knowledge to simple dyadic relationships with its own 'first tier' suppliers and its immediate customers. This arrangement shields each business in turn from acquiring knowledge of the extended supply chain within which it is situated, preventing it from becoming able to foresee (and thus responsible for taking reasonable precautions against) threats which might afflict more distant tiers of suppliers. This situation could be characterized, following Heimer (2012, p.18), as inducing a state of 'distributed ignorance' in which organizations: 'focus intently (...) on their own work (...) but lack a systemic perspective. Facts that are distributed across the group remain inert because they have not been put into proper relation with each other.' For such arrangements arguably render each business responsible for taking reasonable

precautions against those risks which might foreseeably be generated by its own activities, and by those of its immediate suppliers, while facilitating a studied unawareness of those which may emanate from more distant tiers of the supply chain.

In so doing this ordering of knowledge, foresight and legal liability appears to focus the anxieties engendered by the anticipation of retrospection (Caduff, 2014; Hinchliffe et al., 2017) on a very particular form of precautionary action. Rather than eliciting a restless effort among those tasked with securing the supply chains of British food businesses to anticipate and pre-emptively control new risks, rationalities and technologies of reasonable foresight appear instead to channel their energies towards a reflexive policing of the limits of the knowable and the foreseeable. They induce attempts to forestall liability for future crises not through a hypervigilant production of foreknowledge about possible future crises, but through separating out a restricted sphere of potential dangers which can be envisioned (and must therefore be managed) from a wider domain of unforeseeable surprises against which precautions need not be taken.

The modes of responsibility and accountability engendered through the legal technology of due diligence thus precipitate supply chain risk management strategies which foreclose potential future liabilities through defining and manipulating the boundaries between the knowable and the unknowable, and between the foreseeable and the unforeseeable. Yet in so doing they precipitate an ordering of the knowable and the unknowable which leaves little space in which to apprehend or address risks which overflow any single dyadic relationship between buyer and supplier and emerge instead from the broader structure of complex supply chains. Banished beyond the boundaries of the domain within which food businesses are obliged to exercise reasonable foresight, such dangers are rendered unknowable and, by extension, unforeseeable and

ungovernable. In the process, expectations that food businesses might assemble the forms of knowledge about complex supply chains or exercise the modes of vigilance which are often characterised as being necessary to foresee and forestall supply chain crises such as Horsegate begin themselves to appear somewhat unreasonable.

# Conclusions

In this paper we have traced the configuration of governmental rationalities and technologies out of which British food businesses' seemingly surprising ignorance about their own supply chains emerges, highlighting how this ordering of the knowable and the unknowable has coalesced around anticipatory apparatuses intended to avert potential future food scares and scandals. We have argued that the unknowability of food supply chains is bound up with attempts under the Food Safety Act 1990 to enrol British food businesses in forestalling food safety and authenticity offences through instilling into them the comportment of reasonable foresight associated with the Reasonable Man of common law jurisprudence. While the businesses discussed in this paper appeared to have adopted this form of anticipatory subjectivity sincerely and enthusiastically, they had not taken up its distinctive obligations to take reasonable precautions against all foreseeable future food scares and scandals in a mechanical or an unthinking fashion. Instead, they have been quick to realize that if the capacity to foresee a criminal offence within one's extended supply chain creates a legal obligation to take precautions against it then to render such a breach *un* foreseeable is logically to exonerate oneself from liability. Seen in this light, food businesses' readiness to entrust their suppliers with the task of knowing their extended supply chains, and of managing the risks which might emerge from them, does not signal the inexplicable deviation from norms of reasonable, responsible and vigilant conduct feared by official inquiries into Horsegate. Instead, it emerges as a prudent institutional risk management strategy -

one engendered as an unexpected by-product of attempts to exercise the very modes of reasoning and of reasonableness inculcated in food businesses through due diligence provisions within British food law.

It therefore appears that attempts to inculcate in food businesses an anticipatory subjectivity configured around the exercise of reasonable foresight have not simply produced new modes of foreknowledge. They have also elicited new practices of strategic unknowing whose purpose is to configure supply chain crises as being *un*foreseeable and therefore *impossible* to avert through present-day action. This, we would argue, is an observation which both challenges the rationale of reforms to the governance of food supply chains implemented in the aftermath of Horsegate and carries more general theoretical implications for critical accounts of the governing of futures through anticipatory action. On one level it calls into question the logic of attempting to avert future food adulteration scandals through the expansion and intensification of supplier auditing and certification schemes (see also Donaldson et al., 2019). As we argued above, such technologies for establishing the 'reasonableness' of suppliers - and of their risk control measures - are steeped in the same conceptions of reasonable foresight which predispose food businesses to disperse, disrupt and fragment knowledge about their extended supply chains. Moreover, in enabling food businesses to delegate responsibility for overseeing their extended supply chains to their suppliers, such due diligence arrangements arguably facilitate the cultivation of the very forms of strategic ignorance which allow firms to defer liability for events such as Horsegate through positioning them in the domain of the unforeseeable. As such, their intensification appears as likely to impede as to aid the assembling of the more comprehensive regimes of supply chain surveillance and anticipatory vigilance advocated by inquiries such as the Elliott Review (Elliott, 2014).

Turning to broader theoretical concerns, our encounters in this article with the legal technology of due diligence and with ignorance studies scholarship have disclosed a complex entanglement between the production of non-knowledge and the operation of governmental arrangements intended to render potential future crises foreseeable and actionable. We would suggest that this engagement invites some revision of prevailing theorizations of the interface between governmentality and anticipatory action, which often depict apparatuses of anticipation as being:

'both a knowledge machine (...) producing evermore knowledge about the unknown, and (...) a power engine converting obstacles to action into opportunities for intervention' (Caduff, 2014, p.304).

Such analyses explicitly position pre-emptive, precautionary and preparatory action as operating at the limits of knowledge (Amoore, 2013). However, they tend nevertheless to view these modes of governing as being configured around the production and employment of knowledge about possible future events in order to render them amenable to intervention – and therefore as being constrained by the incompleteness of the foreknowledges that they mobilise (Aradau & van Munster, 2011; de Goede, 2014). We would argue, by contrast, that technologies of anticipatory government such as due diligence are not simply 'knowledge machines.' They are also engines for producing *non*-knowledge which surreptitiously generate events and relationships that may not be known and potentials which cannot yet be acted upon. Much as Dunn (2007) contends that governmental apparatuses necessarily produce not only governable spaces and subjects but *un*knowable and *un*governable 'zones of wildness', we suggest that the production of actionable futures through apparatuses of anticipation is interwoven with a furtive fabrication of potential events which are *un*knowable and *in*actionable. The implication is that in the very act of disclosing particular futures, anticipatory

apparatuses implicitly generate distinctions between possible events which may be foreknown and pre-governed and those which cannot (and perhaps should not) be drawn into the domain of the foreseeable and the governable.

This line of thinking unsettles a tendency within much critical scholarship on anticipatory action to treat unknowable aspects of the future as standing in opposition to modes of governing configured around the production of foreknowledge, and therefore to identify in the unanticipated a reservoir of resistance and of political potential (see Adams et al., 2009; Amoore, 2013; Aradau & van Munster, 2011). To challenge this characterization of the unanticipated is in some respects a troubling move, for it threatens to reabsorb the unforeseen and the ungovernable into apparatuses of anticipatory action as mere derivative effects of the same governmental rationalities and technologies whose powers they appear to constrain. However, we would suggest that this is a risk worth taking because it also offers opportunities to gain analytical purchase upon the problematics and politics of potentially disruptive futures. In particular, focusing on the manner in which anticipatory apparatuses organise the division between knowable and unknowable (and by extension between governable and ungovernable) futures draws attention to their role in mediating the distribution of responsibility in the wake of crisis and scandal.

Denaturalizing the capacity to produce unknowable futures and to render events unforeseeable, much as existing anticipation scholarship scrutinizes the shaping and seizing of futures through the production of foreknowledge, can thus help to open up questions about how this ability becomes a strategic resource or an object of dispute in struggles over the allocation of accountability and blame. These are questions at which extant studies of anticipatory government already hint sporadically, but which are investigated in detail all too rarely (for an enlightening exception see de Goede, 2014). However, we would argue that attending to such issues creates valuable opportunities to move beyond general exhortations to reform or disrupt anticipatory action through enquiring critically into how distinctions between foreseeable and unforeseeable futures are produced, by whom, to what ends, and with what consequences. In so doing, we would suggest, it invites comparative examination of what effects, capacities, obligations and exclusions might be produced through different orderings of the boundary between foreseeable and unforeseeable futures – and further investigation of what is at stake in such contrasting organizations of the limits of foreknowledge. We would suggest that pursuing such lines of enquiry can provide potent resources with which to investigate and to trouble the politics and ethics of reason, responsibility and accountability particular to a world governed in anticipatory registers.

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### Endnotes

- During this project we interviewed 48 employees of organizations including food manufacturers and retailers, UK government agencies, and providers of third-party consultancy, audit and data management services to the food sector. The names of all participants have been replaced with pseudonyms in order to preserve their anonymity.
- 2. This need not necessarily mean events with a high statistical probability of occurring. While the circumstances confronted by Reasonable Man can be likened to past events, they remain irreducibly singular and he must always confront the possibility that a situation might possess unique characteristics which could produce an unexpected outcome (Daston, 1988; Maurer, 2005).
- 3. Given its long history in case law we are reluctant to identify the due diligence defence as a specifically neoliberal legal technology. Indeed, it seems to us to resemble more closely O'Malley's (2004) characterisation of a 'classical' liberalism which governs uncertainty through contractual agreements among prudent subjects than neoliberal valorisations of competition and entrepreneurial risk-taking. While we would suggest that the specific subjectivities and practices discussed in this paper arise through its encounter with apparatuses of vigilance associated with late liberal modes of rule, we are more concerned here with the implications of this interaction than with its periodisation.

#### References

- Adams, V., Murphy, M., & Clarke, A. E. (2009). Anticipation: Technoscience, life, affect, temporality. *Subjectivity*, 28(1), 246–265.
- Amoore, L. (2007). Vigilant Visualities: The Watchful Politics of the War on Terror. Security Dialogue, 38(2), 215–232.
- Amoore, L. (2013). *The politics of possibility: risk and security beyond probability*.Durham: Duke University Press.
- Anderson, B. (2010). Preemption, precaution, preparedness: Anticipatory action and future geographies. *Progress in Human Geography*, 34(6), 777–798.

- Aradau, C., & van Munster, R. (2011). *Politics of catastrophe: genealogies of the unknown*. London: Routledge.
- Aradau, C., & Van Munster, R. (2007). Governing terrorism through risk: Taking precautions, (un)knowing the future. *European Journal of International Relations*, 13(1), 89–115.
- Brooks, S., Elliott, C., Spence, M., Walsh, C., & Dean, M. (2017). Four years posthorsegate: an update of measures and actions put in place following the horsemeat incident of 2013. *Science of Food*, 1(5), 1–6.
- Caduff, C. (2014). Pandemic Prophecy, or How to Have Faith in Reason. *Current Anthropology*, 55(3), 296–315.
- Cooper, M. (2006). Pre-empting Emergence: The Biological Turn in the War on Terror. *Theory, Culture & Society*, 23(4), 113–135.
- Daston, L. (1988). Classical probability in the Enlightenment. Princeton, N.J.: Princeton University Press.
- de Goede, M. (2014). Preemption contested: Suspect spaces and preventability in the July 7 inquest. *Political Geography*, 39, 48–57.
- Demeritt, D., Rothstein, H., Beaussier, A. L., & Howard, M. (2015). Mobilizing risk: Explaining policy transfer in food and occupational safety regulation in the UK. *Environment and Planning A*, 47(2), 373–391.
- Donaldson, A., Brice, J., & Midgley, J. (2019). Navigating futures: Anticipation and food supply chain mapping. *Transactions of the Institute of British Geographers*, Advance online publication. DOI: 10.1111/tran.12363
- Dunn, E. (2007). Escherichia coli, corporate discipline and the failure of the sewer state. *Space and Polity*, 11(1), 35–53.
- Elliott, C. (2014). *Elliott Review into the Integrity and Assurance of Food Supply Networks – Final Report*. London: The Stationery Office.
- Food Safety Act 1990, c.16. Retrieved from:

https://www.legislation.gov.uk/ukpga/1990/16/data.pdf

- Freidberg, S. (2004). French beans and food scares: culture and commerce in an anxious age. Oxford: Oxford University Press.
- Freidberg, S. (2017). Trading in the secretive commodity. *Economy and Society*, 46(3–4), 499–521.
- H.M. Government. (1992). *The Food Safety Act 1990 and You: A Guide for the Food Industry*. London: The Stationery Office.

- Harvey, P., Reeves, M., & Ruppert, E. (2013). ANTICIPATING FAILURE:
  Transparency devices and their effects. *Journal of Cultural Economy*, 6(3), 294–312.
- Heimer, C. A. (2012). Inert facts and the illusion of knowledge: strategic uses of ignorance in HIV clinics. *Economy and Society*, 41(1), 17–41.
- Hinchliffe, S., Bingham, N., Allen, J., & Carter, S. (2017). *Pathological lives: disease, space and biopolitics*. Chichester: Wiley Blackwell.
- House of Commons Environment Food and Rural Affairs Select Committee. (2013). *Food Contamination: Fifth Report of Session 2013-14*. London: The Stationery Office.
- Jackson, P. (2015). *Anxious appetites: food and consumer culture*. London: Bloomsbury Academic.
- Jukes, D. (1993). Regulation and enforcement of food safety in the UK. *Food Policy*, 18(2), 131–142.
- Lakoff, A. (2015). Real-time biopolitics: the actuary and the sentinel in global public health. *Economy and Society*, 44(1), 40–59.
- Langlitz, N. (2009). Pharmacovigilance and Post-Black Market Surveillance. *Social Studies of Science*, 39(3), 395–420.
- Larsson, S. (2016). A first line of defence? Vigilant surveillance, participatory policing, and the reporting of "suspicious" activity. *Surveillance and Society*, 15(1), 94–107.
- Lentzos, F., & Rose, N. (2009). Governing insecurity: contingency planning, protection, resilience. *Economy and Society*, 38(2), 230–254.
- Mallard, G., & McGoey, L. (2018). Strategic ignorance and global governance: an ecumenical approach to epistemologies of global power. *British Journal of Sociology*, 69(4), 884–909.
- Maurer, B. (2005). Due Diligence and "Reasonable Man," Offshore. *Cultural Anthropology*, 20(4), 474–505.
- McGoey, L. (2007). On the will to ignorance in bureaucracy. *Economy and Society*, 36(2), 212–235.
- McGoey, L. (2019). *The Unknowers: How Strategic Ignorance Rules the World*. London: Zed Books.
- National Audit Office. (2013). *Food safety and authenticity in the processed meat supply chain*. London: The Stationery Office.

Neville, S. (2013). Frozen burger sales plunge 43% after horsemeat scandal. *The Guardian*. Retrieved from: https://www.theguardian.com/uk/2013/feb/26/frozen-burger-sales-fall-horsemeat-scandal

O'Malley, P. (2004). Risk, uncertainty and government. London: GlassHouse.

- Pénet, P. (2018). The IMF failure that wasn't: risk ignorance during the European debt crisis. *British Journal of Sociology*, 69(4), 1031–1055.
- Power, M. (1997). *The audit society: rituals of verification*. Oxford: Oxford University Press.
- Richards, C., Lawrence, G., & Burch, D. (2011). Supermarkets and Agro-industrial Foods: The strategic manufacturing of consumer trust. *Food, Culture & Society*, 14(1), 29–47.
- Rose, N. (2004). *Powers of Freedom: Reframing Political Thought*. Cambridge: Cambridge University Press.
- Staples, J., & Klein, J. A. (2017). Consumer and Consumed. Ethnos, 82(2), 193–212.
- Troop, P. (2013). Review of Food Standards Agency response to the incident of contamination of beef products with horse and pork meat and DNA: An Independent Report. London: Food Standards Agency.
- White, K. (2019). Four men go on horsemeat scandal-linked trial in Paris. *The Grocer*. Retrieved from: <u>https://www.thegrocer.co.uk/horsegate/four-men-go-on-horsemeat-scandal-linked-trial-in-paris/575788.article</u>