HEALTH SECURITY AS PRACTICE: A PRAXIOGRAPHIC STUDY OF ROUTINE HEALTH SECURITY AT THE UK BORDER

By

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Abstract

This thesis contributes the first in-depth empirical analysis of routine health security practice at the UK Border. In combining recent theoretical developments in critical security studies with original empirical material, the core contribution of this thesis is illuminating the mechanics of prophylactic procedures in place *continually*, rather than *emergent* measures in response to public health emergencies. In sum, this thesis shows that a cordon sanitaire is in place all the time. Moving away from existing approaches to health security rooted in the Copenhagen School's popular securitisation framework, this thesis explores the everyday routine practices at play designed to mitigate and manage health security risk. On the one hand, securitisation has opened fruitful lines of enquiry, and has situated health security squarely within the post-Cold War International Relations (IR) research agenda. On the other hand, accounts informed by securitisation tend to reduce (health) security to a coherent and totalising 'crisis modality' of problem definition and problem resolution, and consequently deemphasise everyday routines and risk management. The upshot of securitisation's prevalence is that questions surrounding what takes place routinely in the space between singular, exceptional events are largely unanswered in the literature. Assuming a practice theoretical approach to health security, this thesis draws on a twelve-month praxiographic study of practice at the UK Border. Extensive periods of non-participant observation of Port Health Officers (PHOs) – who are responsible for infectious disease prophylaxis and the management of imports – give a unique, privileged entry point for analysis and critique of accepted knowledge about health security. In shedding light on the moving bodies, artefacts, and knowledge at play constantly at the border, this thesis presents an alternative reading of health security.

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List of Abbreviations

AIS	Automatic Identification System
ALVS	Automatic Licence Verification System
APHA	Association of Port Health Authorities
ATC	Air Traffic Control
BIP	Border Inspection Post
BSE	Bovine spongiform encephalopathy
CDC	Centers for Disease Control and Prevention
CED	Common Entry Document
CERS	Consolidated European Reporting System
CHIEF	Customs Handling of Import and Export Freight
CVED	Common Veterinary Entry Document
DPE	Designated Point of Entry
DEFRA	The Department for Environment, Food and Rural Affairs
EHO	Environmental Health Officer
EMSA	European Maritime Safety Agency
ERF	Evidence Report Form
FAO	Food and Agriculture Organization
FMD	Foot and Mouth Disease
FNAO	Foods not of animal origin
FOC	Flag of Convenience
FSA	Food Standards Agency
IATA	International Air Transport Association
ICW	International Catering Waste
IHR	International Health Regulations
ILO	International Labour Organization
IMO	International Maritime Organization
ISO	International Organization for Standardization
ISPS	International Ship and Port Facility Security Code
LA	Local Authority
MCA	Maritime and Coastguard Agency
MDH	Maritime Declaration of Health
OFI	Official Fish Inspector
OV	Official Veterinarian
PHA	Port Health Authority
PHO	Port Health Officer
PHE	Public Health England
PPE	Personal Protective Equipment
POAO	Products of Animal Origin
POAO HC	Products of Animal Origin for Human Consumption
POAO NHC	Products of Animal Origin not for Human Consumption
RASFF	Rapid Alert System for Food and Feed
SPS	Agreement on the Application of Sanitary and Phytosanitary Measures
SSC	Ship Sanitation Certificate
SSCC	Ship Sanitation Control Certificate
SSEC	Ship Sanitation Exemption Certificate
STS	Science and technology studies
TARP	Trade in Animals and Related Products Regulations
TB	Tuberculosis
TO	Technical Officer
TRACES	Trade Control and Expert System
WHO	World Health Organization
WTO	World Trade Organization

Introduction

Well, this was unexpected. This was something that came out of China, and it hit us and many other countries. You look at the numbers; I see the numbers with just by watching you folks. I see it — it's over 100 different countries. And it hit the world. And we're prepared, and we're doing a great job with it. And it will go away. Just stay calm. It will go away.

(Donald Trump, March 2020)

This is a dangerous enemy, with a dangerous combination of features: this virus is efficient, fast, and fatal. It can operate in the dark, spread silently if we're not paying attention, then suddenly explode if we aren't ready. And moves like a bushfire.

(Tedros Adhanom Ghebreyesus, May 2020)

Writing in mid-2020 against the backdrop of the COVID-19 crisis, health security – addressing health issues in security terms – could hardly be more politically and socially salient. Practices such as quarantine and social distancing have become part of daily life across the world. Objects such as facemasks and ventilators have become sought-after commodities, with the former seemingly becoming nothing short of an icon and an easy visual cue for the SARS-COV-2 virus. The ideals of solidarity and collectivity associated with Global Health Security – the health security of individual states being dependent on the security of all (Rushton, 2011) – appear to be in question: states around the globe have scrambled to protect their own citizens, and the response to COVID-19 has been 'bordered' in a variety of novel ways (Ferhani and Rushton, 2020). Phrases such as 'herd immunity' and 'flattening the curve' have become common parlance. Hyperbolic media coverage and government (in)action have successfully fuelled some of the most common symptoms of not just COVID-19, but any outbreak event: profound confusion, uncertainty, and unfettered anxiety. For all the recent hullaballoo surrounding health security (or perhaps more aptly health *in*security) and the policy responses associated with COVID-19, the merging of health issues with national and international security is nothing new.

Explicit articulations of 'health security' can be traced back to the post-WWII period: health was presented as central to the 'security of all peoples' in the original constitution of the World Health Organization (WHO) in 1946 (Harman, 2011: 20). Attention to the security dimensions of health grew particularly following the 'bonfire of the certainties' at the end of the Cold War. From the early 1990s onward, policymakers became attuned to a variety of so-called 'new security challenges' beyond the concerns that had dominated throughout the twentieth century: 'traditional' inter-state conflict, thermonuclear or otherwise. Along with climate change, energy, and information technology, disease – primarily, though not

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exclusively, infectious disease – found its way on to national and international security agendas, which demanded 'the allocation of resources, the redefinition of policy priorities, and, sometimes, new institutional architectures' (Nunes, 2015: 60).

Owing to broader security anxieties and ever-intensifying globalisation, from around the mid-1990s onwards the public health community became increasingly conscious of the difficulty for any state or region to isolate itself from the global circulation of pathogens (see, for example, Osterholm and Olshaker, 2017), as well as the broader socio-political implications of disease outbreaks. The SARS outbreak in 2003 and H1N1 swine flu pandemic in 2009 showed the speed with which pathogens are able to disseminate – the direct consequence of increased movement of people and goods globally. As a result of such fears, the security implications of disease have increasingly found their way onto policy agendas. An early demonstration of disease's place on the mainstream security agenda was the unanimous adoption of UNSC Resolution 1308 in July 2000, which 'not only marked the entry of HIV/AIDS into the highest levels of international diplomacy, but also underscored security as one of the most prevalent frames for dealing with this disease' (Nunes, 2014: 953). Similarly, the World Health Organization's (WHO, 2007) 2007 *World Health Report* focused on 'Global Public Health Security in the 21st Century'; the UK's *National Risk Register of Civil Emergencies* claims that pandemic influenza is the most significant civil emergency risk facing the UK (Cabinet Office, 2017: 9); and this sentiment is mirrored in US security policy (Homeland Security Council, 2006).

In tandem with such policy developments, a burgeoning interdisciplinary academic literature on (global) health security has emerged, which this thesis speaks to and contributes to. Disciplines including International Relations (IR) and Security Studies, Public Health and Medicine, Sociology and Medical Anthropology have all considered the security implications of a range of health issues and the implications of security-driven responses. In IR, engagement with health security has *primarily* focused on three things: firstly, the socio-political processes through which diseases come to be understood as security threats; secondly, whether or not linking health with security is a 'good' thing, considering the normative implications of responses to health security threats; and finally how the securitisation of health has shaped the formulation and implementation of policy responses – for instance the ways in which pharmaceuticals have increasingly become viewed as security technologies: 'medical countermeasures' (see, for example, Elbe, 2018).

The first two of these are frequently explored using or informed by the Copenhagen School's popular securitisation framework (see, for example, *inter alia* Curley and Herington, 2011;

Davies, 2008; Elbe, 2006; McInnes and Rushton, 2013; Sjöstedt, 2008; Wenham and Farias, 2019; Youde, 2008). Such studies attend to securitising actors, speech acts, exceptional measures, referent object, and audience (acceptance) (Buzan et al, 1998). This thesis project grew out of frustration with the predominance of securitisation theory in the health security literature. Seemingly lagging behind the rest of critical security studies, the reliance on a securitisation framework has resulted in health security research overwhelmingly focusing on exploring the framing of, and responses to, major outbreak events. Admittedly, it would be unfair of me to suggest this is necessarily 'wrong': during this time of uncertainty and in a state of emergency, I am cognisant of the worth and importance of exploring such outbreak events, and regardless, securitisation *has* opened fruitful lines of enquiry – both pertaining specifically to health issues and more broadly (Balzacq et al., 2015). Notwithstanding, the focus on singular events is superficial: myriad critiques and revisions of securitisation stress that its 'logic' is predicated on presentism and decisionism – a Schmittian 'crisis modality'. Critical security studies has long stressed the significance of looking beyond moments of rupture by showing that security 'works' routinely at an everyday level outside the domain of the exception, and not simply in response to singular events (see, for example, Balzacq, 2008; Bigo, 2002, 2014; Huysmans, 2006, 2011). Rather than being totalising as suggested by securitisation theory – a coherent modality of problem definition and problem resolution – security is in fact dispersed, unspectacular, and not necessarily constructed linguistically with exceptionalist grammar (McDonald, 2008).

Taking such critiques as a jumping off point, my aim in this research was to look beyond the responses to and framing of major outbreak events and consider the everyday workings of health security – something largely overlooked in the existing health security literature. The canon is replete with analyses of health crises through the lens of securitisation, but little is known about the banal routines that occupy the 'space between' such crises. This research is not merely a corrective to omissions in literature: a deeper understanding of quotidian security is of particular importance for critical security studies given the shift towards surveillance, risk management and preemptive/precautionary security governance. A vast body of work explores the nature and normative upshot of this shift[1]. Moreover (and especially pertinent in 2020) given the increased risk of, and from, outbreak events, precautionary modes of governance have similarly been acknowledged in the health security literature (Elbe et al., 2014; Lakoff, 2017; McInnes and Roemer-Mahler, 2017). In exploring health security's everyday routine patterns of action, and interrogating what – if anything –

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[1] See, for example, Adey and Anderson (2012); Amoore and De Goede (2008); Aradau et al. (2008); Aradau and Van Munster (2007, 2012); Daase and Kessler (2007); De Goede (2012); De Goede et al. (2014); Dunn Cavelty et al. (2015); Ericson and Haggerty (1997); Lobo-Guerrero (2011).

takes place in the liminality between such singular events, this thesis moves away from the analytical foci that characterise much existing research.

Starting with a normative given (that health has come to be understood as a national and international security problem), and in line with empirical and theoretical developments in critical IR scholarship, described variously as 'practice turn', 'praxeology' or 'praxiography' (Reckwitz, 2002; Spiegel, 2005; Adler and Pouliot, 2011a, 2011b; Bueger, 2014; Bueger and Gadinger, 2015), this thesis approaches health security from a practice theoretical standpoint. It is propelled by the conviction that it is essential to look beyond moments of rupture and, consonant with shifts in critical IR, away from 'security as discourse' towards 'security as practice'. The starting point of this research was to ask: *how* is health security practised, *where*, by *whom*, and to *what* (if any) effect? Focusing on routine practice in UK (for the main reason that UK has emerged as one of the key proponents of health security in recent years) the central research question of this thesis is:

- How is health security practised everyday at the UK Border?

A heterogeneous family of conceptualisations, practice theories see value in focusing on practices themselves – *socially meaningful, routinised patterns of action* – as the core unit of analysis. According to practice theorists, these patterns of action should be regarded as a combination of a) *corporeal and mental activities*; b) *material* 'things' or *artefacts* and the ways in which they are operationalised, and finally c) the *background knowledge* which gives practices meaning. Turning to practice though is not merely a theoretical pursuit: there is more to practice theory than simply adopting an analytical sensibility of 'practices matter', and it is as much an empirical pursuit as it is a theoretical one (Miettinen et al., 2009).

> A return to practice stresses the need for seeking *proximity* to the world of practitioners and their activities (Bueger and Mireanu, 2015: 119 emphasis added)

Methodology

If turning to practice is as much an empirical pursuit as it is theoretical one, how do we go about it? Moreover, how did I engage with health security practices in the UK? This is explored in detail in Chapter 2. However, the short answer is praxiography: a research strategy aimed at making sense of practices, rather than culture (which is the focus of ethnography).[2] I refer to my research engaging with practices as praxiography rather than

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[2] To clarify, 'ethnography [which has made some inroads into IR] refers to the textual transcription/translation of holistic descriptions and experiences gathered through fieldwork' (Vrasti, 2008: 282; see also Schatz, 2009; Vrasti, 2010).

ethnography for several reasons. Aside from being concerned with practices rather than culture, the term a) nicely encapsulates and stresses the requisite shift in perspective needed to engage with practices, and b) stresses how theory and empirics cannot (or rather should not) be divorced.

> Praxiography is first a useful term since it takes up the argument that the turn to practice is not primarily about theory, but about the practice of doing research. The term clearly indicates this shift in perspective. It clarifies that practice theory requires a distinct methodology. (Bueger, 2014: 385)

In some respects praxiography is fairly uncomplicated: it entails direct observation of practices, with the researcher observing, watching, listening to the bodily movements and/or artefacts at play. In this sense, participant/non-participant observation is '*the*' appropriate method for praxiographic research. Practices, though, are not simply a question of 'doing things': as noted above, they are a combination of *corporeal and mental activities*; *material* 'things' and the ways in which they are operationalised; and finally *background knowledge*. Praxigography is therefore tricky as one of the things the researcher is concerned with is – by definition – not immediately accessible: (implicit) background knowledge. If the 'core claim of praxiography is that "the social", "the cultural", and "the political" are based primarily on implicit knowledge and meaning' (Bueger, 2014: 386), given that it is aimed at making sense of practices, and thereby reconstructing meaning, praxiography is therefore a firmly interpretative and qualitative research approach[3].

> Implicit meaning is not immediately accessible; it needs to be accessed indirectly. To reconstruct implicit knowledge will require considering articulated meanings, utterances, actions or the handling of objects and artefacts. (Bueger, 2014: 388)

So, whilst for practice theorists articulated meaning is of secondary relevance, in undertaking praxiography the researcher has little choice but to draw on 'articulated meaning, such as in explicit rules, classifications, cultural codes, metaphors, speech acts, representational practices, or discourse' (Bueger, 2014: 389). Moreover, in an attempt to make sense of practices (as they may, or may not speak for themselves) and to attempt to access background knowledge, other methods aside from observation may have a role in praxiographic research – including the analysis of documents which may be of use not only in elucidating practices, but also giving insights into background knowledge: 'a major type of document for praxiography is manuals and handbooks that provide guidance on how to carry out activities'

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[3] Given this, ontologically speaking, an anti-foundationalist position is assumed herein, given it takes (*in*)security not to be an axiomatic 'fact of life', but instead a subjective condition propelled by and 'made' of socially meaningful patterns of action. Given this, an interpretivist epistemological stance is assumed: as (*in*)security is regarded as contingent and subjective, any understanding/knowledge of it can only be gained by way of interpretation. This in turn naturally lends itself to a qualitative methodology.

(Beuger, 2014: 401). With this in mind, twelve months between October 2018 and October 2019 were spent undertaking extended periods of non-participant observation of Port Health Officers (PHOs) across five sites in the UK: Manchester Port Health Authority (PHA); Mersey PHA; Manchester Airport; London Stansted Airport; and London Gatwick Airport. This thesis presents the findings of the fieldwork with Port Health Officers (PHOs), who are responsible for routine disease prophylaxis at the UK Border. The proximity to security practitioners gained through the praxiography gives a unique, privileged entry point for critique of paradigmatic assumptions in existing research, as well as offering new empirical findings.

Contribution

This thesis seeks to make five key contributions. First, it represents the first in-depth empirical analysis of routine health security practice at the UK Border. At odds with conventional, securitisation-informed accounts of health security, the core contribution of this thesis is *illuminating the mechanics of prophylactic procedures in place continually, rather than emergent measures put in place in response to public health events*. In sum, through the insights afforded by proximity to practitioners, this thesis shows that *a cordon sanitaire is in place all the time*. This cordon sanitaire can be refracted into two interlinked (though nonetheless distinct) regimes. Firstly, a robust edifice of prophylactic controls designed to prevent the importation of infectious disease into the country is in evidence at seaports. This regime entails the sanitary inspection of *all* international voyaging ships, which are required to hold a valid Ship Sanitation Certificate (SSC), which PHOs are responsible for the issuance and monitoring of. In short, SSCs are certificates confirming the absence of public health risks on board ships, the issuance of which follows the inspection of a ship's galley; pantry/stores; quarters; evidence of vectors/standing water; potable and ballast water; solid and medical waste; engine room; and medical facilities.

> SSCs are designed to identify, assess and record any public health risks, and the consequent control measures that should be taken, while ships are in port. Public health risks are identified by epidemiological evidence, direct observation or measurement (or any combination of these). (WHO, 2011: 21)

Throughout the fieldwork, I observed over seventy Ship Sanitation inspections and 'boarding inspections' (in essence spot checks) – the mechanics of which are detailed in this thesis. Curiously, though, the fieldwork revealed that there is no such regime at airports, and this is unpacked in Chapter 3. The second regime is concerned with the enforcement of stringent European and domestic legislation controlling a variety of imports – mainly, though not exclusively, *foodstuffs*. Products of animal origin (POAO) are controlled due to their potential

to be carriers of zoonotic/epizootic infection. This thesis therefore highlights and stresses the centrality of *veterinary* medicine and expertise in health security practice: something largely missed by the IR literature on health security. Moreover there is a distinct *materiality* to this regime: this thesis sheds light on how seemingly banal, everyday 'things' or *objects* are treated in UK health security practice as (potentially) threatening to public health. Whilst aiming to stymie the introduction of zoonoses by controlling POAO accounts for much of this prophylactic regime, this thesis also stresses the importance of looking at health security beyond infectious disease. Markedly at odds with prevailing narratives in the IR engagement with health and security, which focuses primarily on communicable disease, the praxiography revealed that foodstuffs are also routinely controlled due to their (potential) impact on animal and public health, but not necessarily because of their potential to be carriers of zoonotic/epizootic infection. Given this, IR's engagement with health should also be speaking of *foodborne disease* as a health security problem. From this primary empirical contribution – that a cordon sanitaire is in place continually – flow four further key contributions.

The second contribution is theoretical and pertains to routine/exception debates. Amidst what may well become – along with 9/11 or the end of the Cold War, perhaps – one of IR's epochal, meta-events, conventional wisdom would tell us that the COVID-19 crisis will have instigated considerable change to the everyday practices discussed in this thesis. The crisis conditions of COVID, it would be expected, will have seen emergent exceptional measures put in place at the UK Border. In order to see what had changed since my main fieldwork ended, I made a special trip back for further observations at Gatwick in early March 2020, expecting hazmat suits and temperature testing and so on. I was, however, bitterly disappointed. In the words of one participant, it was 'business as usual'. Manchester PHA's website similarly notes how they are 'continuing to work as normal throughout this period'. In this sense, seemingly the everyday trumps moments of crisis: the Ship Sanitation regime appears to be functioning as it would 'normally', and the lack of a comparable regime at UK airports remains; exactly the same can be said of the regime controlling imports. In the case of health security practices at the UK Border, then, there is reason to suggest that stability, repetition, and ordering have primacy over erraticism and emergence. Contrary to securitisation-based studies' highlighting of exceptional emergent practices, the routine and the exception are seemingly much the same – and should not necessarily be viewed as being in opposition.

This second contribution can be unpacked further: the paradigmatic assumption in health security research that securitisation is 'how health security is made' is somewhat superficial. Owing to practice theory's performative ontology – discussed in later chapters – this thesis

shows that health security is something *made continually*, and not purely through securitising speech acts. There were myriad instances throughout the fieldwork when banal, impalpable acts were apparently '*securitising*'. Though mundane and unspectacular (certainly relative to the histrionics of a 'securitising move'), encounters on board ships were not simply bidirectional 'exchanges'. Rather, they should be understood as embodied acts of establishment: instances in which risks or potential 'dangers' were identified, as were appropriate means of rectifying them. In sum, this thesis stresses the importance of looking *beyond the exception*.

The third contribution is empirical. The continual cordon sanitaire I spoke of above is deeply selective. With the Ship Sanitation regime there is clear evidence of colonial, exclusionary logics still being enacted and stabilised: risk and danger are linked intrinsically with *place*. With the management of imports, similar logics are at play: all POAO from outside Europe is subject to official controls; foodstuffs more broadly (i.e. both POAO and FNAO) from the developing world are treated as a particular source of potential danger (overlooking and despite the fact many food-borne risks are created by our own intensive Western farming practices). Securitisation-informed accounts of health security do consider the emergence of exclusionary logics. However, the upshot of focusing on singular events is that such studies neglect how such logics are sustained 'in practice' *continually*.

The fourth contribution is also theoretical, but this time not in relation to exception/routine debates. In explicating nuances in background knowledge, I introduce the idea of *intuition* in relation to security practice, in particular how intuition informs everyday security *decisions* – something, as yet, given little to no attention in IR. In view of the current lacunae in theorisation of the forms of knowledge involved in security decisions, this discussion on intuition and tacit knowledge is an invaluable contribution to our understanding of the everyday and locality in security decisions. I agree with the likes of Huysmans (2011) wholeheartedly: security decisions *are* made all the time, and such decisions were witnessed first hand during the praxiography.

However, one of the most striking findings of the fieldwork was that practitioners seemingly '*just knew*' that something 'didn't *feel* right' and '*just* knew' what course of action to take ('just knowing' was repeated to the point of beginning to feel like a mantra). On several occasions practitioners turned to me and said, 'yeah, this one will be fine' (or variations thereof), before starting the sanitary inspection of a ship. One participant described their work as 'more of an art than a science'. Initially, this took me by surprise and provoked (apparently) unanswerable questions: how – if at all – is it possible to 'just know' something?

Are (health) security decisions *really* predicated on gut feelings, and on hunches? Moreover, 'just knowing' something complicates reducing security decisions to discretion alone – the path typically followed in IR (e.g. Côté-Boucher, 2016; Hall, 2017; Kalman, 2015): 'when an official is empowered to exercise public authority and afforded scope to decide how that authority should be exercised in particular circumstances' (Pratt and Sossin, 2009: 301). I answer questions of 'just knowing' by turning to science and technology studies (STS) and giving intuition serious attention. The direct product of tacit background knowledge – practical, 'hands on' know how – intuition means impulses about judgements or decisions: patterns that have been built up over time, and lead to making sense of a given situation, and what course of action to take, instinctively, without conscious, deliberate reasoning.

The fifth contribution is methodological. Whilst the discussion in the following chapters is not necessarily a foolproof guide to undertaking praxiographic research, it does elucidate a rigorous research strategy that could be applied successfully across critical security studies. Moreover, the original empirical findings in this entire thesis are the upshot of proximity to practitioners. In this sense, the empirically rich findings should be viewed as a call for those 'turning' to practice to not necessarily assume a practice theoretical position, but to leave the desk behind, get out, and explore: to search and find and *to dive into the field*.

Thesis Structure

This thesis is split into four substantive chapters, as follows. The first chapter presents a critical review of the existing literature on health security, though it focuses principally on an epistemological critique of securitisation theory. For all its contributions to critical security studies – not least studies of health security – securitisation has been the subject of myriad critiques and revisions. This chapter shows how securitisation delimits our understanding of health security by deemphasising everyday routines and risk management. The second chapter engages with the interdisciplinary practice literature, as well as the STS literature on knowledge production, and outlines this thesis' theoretical and methodological commitments. The first half of the chapter presents a theoretical discussion; the latter half presents methodological discussion, and in turn it outlines a framework for analysis of health security practice.

The third chapter is the first of two substantive empirical chapters: it presents the findings of the praxiographic fieldwork, and discusses the mechanics of routine infectious disease prophylaxis: the Ship Sanitation Regime. It begins tracing the historical development of the explicit *background knowledge* underpinning Ship Sanitation. This chapter then moves on to engage with the everyday mechanics of this regime. The fourth chapter follows the same

structure, but instead attends to the second regime introduced above: the 'imported food regime' – the enforcement of controls on imports. Finally, the thesis concludes by reflecting on the empirical findings of the fieldwork, considering limitations of the research, as well as making suggestions for future avenues of enquiry.

CHAPTER 1

Beyond Securitisation Theory

Key Points

- Whilst a diverse literature is apparent, the IR engagement with health security has *primarily* focused on three things: the socio-political processes through which diseases (invariably infectious) come to be understood as security threats; whether or not linking health with security is a 'good' thing by considering the normative implications of responses to health security threats; and finally how the securitisation of health has shaped the formulation and implementation of policy responses;
- The first two of these are invariably explored using or informed by the Copenhagen School's popular securitisation framework and attend to securitising actors, speech acts, exceptional measures, referent object, and audience (acceptance);
- Critiques and revisions of securitisation stress that its 'logic' is predicated on presentism and decisionism – a Schmittian 'crisis modality';
- The consequence of the above is that securitisation deemphasises everyday security routines and risk management;
- In sum, not enough is known about health security and the everyday, which this thesis seeks to act as a corrective to.

1.1 Introduction: Approaches to Health Security

Barry Buzan (1991: 7) famously suggested that security should be understood as 'essentially contested': an example of a kind of concept that generates 'unsolvable debates about their meaning and application'. Steve Smith (2005: 27) makes a similar point: 'there are some concepts whose meaning is inherently a matter of dispute because no neutral definition is possible'. Any definition of security is not, and arguably cannot be, neutral: it 'depends upon and in turn supports a specific view of politics' (Smith, 2005: 28). Put differently, any meaning of, and/or approach to security is contingent, being predicated on theoretical position, and normative proclivities. It should therefore come as no surprise that health security is 'still some way away from a universally agreed definition', and could equally be regarded as 'essentially contested' (Rushton, 2011: 781). In light of this, numerous conceptualisations of health security should be expected, each with its own agenda, and underpinned by specific ideas (for discussion, see McInnes, 2015). Unsurprisingly, contestation between these different conceptualisations of health security has given rise to a body of literature that is diverse and complex, and one reflecting the tensions between conflicting understandings of security. To briefly illustrate this diversity, health security has been approached from a realist perspective, as well as the standpoint of human security.

The 'IR engagement with health is inextricably linked with security' (Nunes, 2014: 941) and this engagement is longstanding, emerging out of realist concerns with the impact physical ailments may (or may not) have on military preparedness, and optimal military performance in conflict situations (Aaltola, 1999; McInnes, 2015: 8). In realist parlance, and as is well

known, the global system is made up of sovereign states acting in an anarchic, 'Hobbesian' system. In this system, Weberian understandings of power are foregrounded: 'an actor controlling another to do what that other would not otherwise do' (Barnett and Duvall, 2005: 39). These conceptions of power and order are ineluctably predicated on the material (i.e. military) capabilities of sovereign states (Barnett and Duvall, 2005: 40). As such, for realism, the 'health' of military personnel is of considerable importance.

In recent years, a wider version of national security – beyond the impact on military capacity – emerged, which includes health issues' (potential) impact on the economy and population more broadly. In sum, notions of 'national health security' began to surface at around the turn of the new millennium. For example, in a 1999 report, the Central Intelligence Agency (CIA) detailed the innumerable threats posed by health issues to the security of the United States, and in a 2000 report, the CIA suggested that health had the potential to cause international instability and disturb the global economy, in turn limiting economic growth (CIA, 2000). As such, numerous studies have considered health security from the standpoint of national security. Underpinned by 'orthodox', realist conceptions of security, research of this ilk considers how health issues can potentially compromise state integrity. Susan Peterson's 2002 article *Epidemic Disease and National Security* is exemplary here. Peterson analyses pandemic outbreaks and their (potential) implications for national and international security and in doing so considers the 'rhetorical linkages' between health and security in (primarily Western) policy discourse. The article concludes that major outbreaks of disease can potentially undermine state integrity, insofar as they can result in 'violent conflict by creating significant domestic economic and political instability' or else by altering the outcome of conflict, as has historically been the case (Peterson, 2002: 79).

Christian Enemark (2009), echoing sentiments in Katz and Singer (2007: 233), similarly assumes a realist perspective on health security, and suggests that framing health issues as matters of security (rather than of public health, for instance) may lead to addressing health issues through initiatives and policies developed for law enforcement. Although Enemark recognises some of the normative/ethical implications of health security, by way of compulsory vaccination, quarantining and so on (Enemark, 2009: 200-201), he also argues that it 'could be sensible to impose some restrictions on the freedom of individuals in the interests of avoiding or mitigating what could be a disaster for many' (Enemark, 2009: 201 emphasis added). Indeed, he goes as far as to suggest that human rights are 'not absolute', as international law acknowledges 'public health may be invoked as a ground for limiting certain rights in order to allow a state to take measures dealing with a serious threat to the

health of the population', (Enemark, 2009: 201)[4].

Perhaps not gaining the traction of national/international security approaches, and arguably remaining on the fringes of research, health security has also been studied from the standpoint of human security: that is through studies regarding health as fundamental to the 'security' of individuals or collectives. Since its emergence in the 1990s following the 1994 UN Development Report (UNDP, 1994), human security has become a popular framework for security analysis. Contending that (in)security ought to be understood 'differently' from the understandings that were paradigmatic throughout the twentieth century (i.e. realism), in human security approaches the individual is positioned at the heart of security analysis. As such, human security has engendered considerable interest and debate. In the 1994 report, it is suggested that:

> The concept of security has for too long been interpreted narrowly: as security of territory from external aggression, or as protection of national interests in foreign policy or as global security from the threat of a nuclear holocaust […] Forgotten were the legitimate concerns of ordinary people who sought security in their daily lives. For many of them, security symbolized protection from the threat of disease, hunger, unemployment, crime, social conflict, political repression and environmental hazards. (UNDP, 1994: 22)

An understanding of security such as this is naturally predicated on 'good' health, and the UNDP (1994: 23-24) expressly positions health – conceived broadly as the absence of illness – at the centre of its agenda, noting that people should have 'safety from chronic threats such as hunger, disease and repression' as well as 'protection from sudden and hurtful disruptions in the patterns of daily life (UNDP, 1994:24)[5]. Given this, it is not surprising that the links between health and security have been explored in the literature through a human security lens. Chen and Narasimhan (2003: 183) note how key 'health and human security linkages […] emerged in a series of health fields' throughout the 1990s: violence and conflict, global infectious diseases, and poverty and inequity'. Similarly, Caballero- Anthony and Amul (2015) with empirical focus on East Asia, note the synergies between human security and health (security). Analysing the policies and actors in health security practice and discourse in

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[4] Though peripheral to the focus of this discussion, it is nonetheless worth considering the analytical limits of national security/realist takes on health security. In short, these limitations are linked with problems with realism more broadly. Studies rooted in realist conceptions of security sediment and (re)produce narrow, reductive understandings of security, which are predicated on static, regressive Western-centric views. As such, race, gender, and class are largely neglected in analysis (Booth, 2007: 35-36.).

[5] Again, as with the above discussion of realist approaches to health security, though not the focus herein, it is worth highlighting that human security is a controversial and somewhat ambiguous concept (see, for example, Paris, 2001). Further, human security may be regarded as uncritical insofar as it is essentially 'problem-solving' in Cox's (1981) famous typology. As such, it reproduces many of the statist understandings of security it purports to shift away from. For example, human security scholars overwhelmingly suggest that a strong state is needed for human security (Newman, 2010: 89-90). As such, the legitimacy granted to human security and the emancipatory (or an least transformative) potential it represented became precluded by its increasing cooption by elites (Newman, 2010)

East Asia, they suggest possible ways of feeding forward and promoting a more 'individual-centric' approach to human security, and health security.

Whilst a diverse literature *is* apparent, unpacking 'health security as a contested concept' and presenting an exhaustive overview of the nuances in the health security literature is not possible within the confines of this thesis[6]. In IR, engagement with health security has *primarily* focused on three things: firstly, the socio-political processes through which diseases come to be understood as security threats; secondly, whether or not linking health with security is a 'good' thing, considering the normative implications of responses to health security threats; and finally how the securitisation of health has shaped the formulation and implementation of policy responses – for instance the ways in which pharmaceuticals have increasingly become viewed as security technologies: (see, for example, Stefan Elbe's work on 'medical countermeasures' (e.g. Elbe, 2018)). The processes through which diseases come to be understood as security threats, and the normative implications of linking health with security are invariably explored using (or informed by) the Copenhagen School's securitisation framework – the focus of this chapter.

Aside from an exhaustive overview of literature not being possible, more important is that such a review is not necessary. This thesis is interested in *health security and the everyday*: interrogating health security's patterns of action, and engaging with the banal everyday routines that occupy the 'space between' moments of crisis and rupture. As such, the purpose of this chapter is to show how securitisation theory's prevalence has resulted in an overwhelming focusing on exploring the framing of, and responses to, major outbreak events. The upshot of this is that virtually nothing is known about health security routines and the everyday. In order for this thesis to effectively fill this lacuna in research, it is essential to understand the everyday, the important work routines do in (re)producing security, and how and why securitisation fails to adequately account for the them. The next section of this chapter begins by outlining the key tenets of securitisation theory, as well as the contributions it has made to the health security literature. It then moves on to critique of securitisation, paying particular attention to studies that have shown security operates and has effects continually, and that securitisation deemphasises this.

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[6] For instance, whilst I speak of 'orthodox' or 'realist' approaches to health security, a number of studies – drawing on the work of French philosopher Michel Foucault – have highlighted a shift from self-referential sovereign power (i.e. preserving the power/security of the state) towards governmentality (i.e. improving the welfare of citizens) (Elbe, 2009: 86– 107; Ingram, 2010).

1.2 The Making of Health Security: Health and Securitisation Theory

Reflecting the popularity of this approach in critical security studies 'securitisation has arguably become the most prevalent framework in analyses of health security in IR' (Nunes, 2014: 942). This observation holds six years down the line, and the literature is replete with studies directly using or informed by securitisation. In the health security literature, securitisation has been applied to a variety of issues. However HIV/AIDS, and infectious disease – conceived as pathogenic microorganisms (bacteria, viruses, parasites or fungi) that have the potential to be spread, directly or indirectly, *from one person to another* – (typically influenza) are the most common. Good examples of studies attending to HIV/AIDS include: Elbe 2006; Fourie, 2014; McInnes and Rushton, 2010, 2013; Rushton, 2010; Sjöstedt, 2008, 2011. Examples of research attending to the securitisation of infectious disease include: Caballero-Anthony, 2006; Curley and Herington 2011; Davies, 2008; Enemark, 2017; Hanrieder and Kreuder-Sonnen, 2014; Herington, 2010; Huang, 2014; Kamradt-Scott and McInnes, 2012; McInnes 2016; Youde 2008; Wenham and Farias, 2019.

Approaches informed by securitisation are interested in 'the processes through which health issues emerge as security problems, as well as to the political implications of this' (Nunes, 2014: 942) (hence the analytical foci in research I describe above). Securitisation coalesces actor and object in spatially and temporally contingent expressions of security. As is well known, securitisation posits that issues become constituted as matters of security (i.e. as threats) in 'securitising speech acts'. Speech acts are predicated on a rhetorical structure: 'survival, priority of action "because if the problem is not handled now it will be too late, and we will not exist to remedy our failure" (Buzan et al., 1998: 26)[7]. In such a speech act, an issue becomes framed, and imbued with 'a sense of importance and urgency that legitimizes the use of special measures outside the usual political process to deal with it (Smith, 2005: 43). In this sense, and central to the discussions that follow, securitisation theory distinguishes between the 'normal' political process, and 'security politics'. As Buzan et al. (1998: 25) note of securitisation:

> The way to study securitization is to study discourse and political constellations: When does an argument with this particular rhetorical and semiotic structure achieve sufficient effect to make an audience tolerate violations of rules that would otherwise have to be obeyed? If by means of an argument about the priority and urgency of an existential threat the securitizing actor has managed to break free of procedures or rules he or she would otherwise be bound by, we are witnessing a case of securitization.

In a securitising speech act a securitising actor articulates that 'something – a referent object – to be existentially threatened'. Referent objects are regarded as 'things that are seen to be

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[7] Several attempts at expanding the scope of this are evident, including notions of 'visual securitisation', which draw attention to modalities of representation beyond the spoken (Hansen, 2011; Heck and Schlag, 2012).

existentially threatened and that have a legitimate claim to survival' (Buzan et al., 1998: 36). For the Copenhagen School, referent objects are typically understood as 'middle-range collectives' (Buzan et al., 1998: 40-41). Whilst 'collectives' may be characterised and defined at varying levels ('communities', 'populations', and so on), securitisation theory privileges the state as referent (Wæver, 1995: 55). In such a speech act, the adoption of exceptional measures to redress the (existential) threat are advocated, and in turn implemented (or else the possibility of implementation is opened up). Owing to this, securitisation brings insights from the work of Carl Schmitt and the exception: within the context of liberal democracies, this being the circumvention of 'normal' political/legal limits, which would otherwise be restricted by 'checks and balances' (see, for example, Huysmans, 1998). Finally, for a securitisation to be regarded as successful, it must be met with 'audience acceptance' (Balzacq 2005: 182; Côté 2016; McDonald, 2008)

1.2.1 Securitisation's Contribution

Given the above, securitisation by its very nature does not conceive security as an objective condition – for instance 'the absence of inter-state conflict', or similar. Instead, security is regarded as a social and political process. Securitisation therefore opens fruitful lines of enquiry: security 'is not interesting as a sign referring to something more real; it is the utterance itself that is the act. By saying the words, something is done (like betting, giving a promise, naming a ship)' (Buzan et al., 1998: 26). As such, using 'the security label does not merely reflect whether a problem is a security problem, it is also a political choice, that is, a decision for conceptualization in a special way' (Waever, 1995: 65). Seemingly, then, there are clear synergies with poststructuralism and securitisation insofar as a security framing does not merely describe objective social realities, but rather brings them into being (see, for example; Laclau and Mouffe, 1985: 108). In this sense, securitisation's most palpable contribution is how it stresses that there is nothing 'natural' or axiomatic about the health/security nexus: these linkages are not a 'fact of life'. Securitisation foregrounds this, and 'shows that this nexus is not self-evident. Diseases are not threats '"out there", waiting to be observed; rather, they emerge as such because of social processes of representation – which may be explicit or implicit, intentional or not' (Nunes, 2014: 942).

Conceiving (health) security as a social process, then, makes it possible to appreciate how health security is political: an assemblage of power relations; a political constellation of problem definition, and problem resolution. Securitisation has contributed to the health security research agenda by opening productive lines of enquiry, given that it enables 'us to see health security as a political modality for dealing with issues. Linking health with security is not only the result of a process; it also has an impact' (Nunes, 2014: 942). Lines of enquiry

are both normative and methodological, the former invariably being oriented around questions of ought or should elites (i.e. policymakers) be framing health issues this way? What are the broader repercussions of this? Securitisation therefore stresses that coalescing health and security this way might not be the *a priori* 'best' modality for dealing with health issues. Securitisation is therefore particularly useful for normative analysis given the

> approach points to the inherently political nature of any designation of security issues and thus it puts an ethical question at the feet of analysts, decisionmakers and political activists alike: why do you call this a security issue? What are the implications of doing this – or of not doing it? (Waever, 1999: 334)

With this in mind, Elbe (2006: 199) notes that the security designation changes how issues are understood and therefore dealt with: as such, linking health with security has at its heart a 'complex normative dilemma'. Whilst the securitisation process has the potential to increase awareness of health issues, and bolster the mobilisation of resources, this comes with potentially detrimental effects. With specific reference to HIV/AIDS, Elbe suggests that the securitisation of health issues may restrict the activity of non-state/civil society actors, in turn resulting in the (military) intervention of state actors, given securitisation's 'threat/defence' logic. As such, because of this 'logic', responses may be channeled through the military and 'pushed away from civil society toward military and intelligence organizations with the power to override the civil liberties of persons with HIV/AIDS' (Elbe, 2006: 120). Moreover, securitisation highlights how 'militarisation' may – especially in 'developing' countries – result in the prioritisation of military personnel over civilians for medicines/treatment. Such sentiments and ideas are pervasive in other securitisation-informed studies.

Youde (2008) assumes a similar (though more vociferous) position to Elbe, and argues – using avian flu as a case study – that any perceptible 'benefits' of securitisation are negated by broader socio-political implications. Youde, much like Elbe, highlights how the securitisation of avian flu has resulted in overtly statist, and thereby militaristic, interventions: the corollary being the unnecessary circumvention of civil liberties (by way of exceptional responses). Youde (2008: 146) also highlights how securitising a health issue has the potential to give rise to neglect of other issues. Given the histrionics synonymous with securitisation, the focus on one issue may actually be counterproductive and may result in states becoming vulnerable to other threats, as human and financial resources as well as bureaucratic structures become invested in a single issue. This, Youde argues, is the case with avian flu. Finally, Youde notes how the securitisation of avian flu has potentially contributed to the aggravation of tensions between the Global North and Global South: this is due to the Global South invariably being framed as a source of danger (see, for example Nunes (2016) for a discussion of the racialised framing of the 2014/2015 West African Ebola outbreak). Moreover, given

that states in the Global South are typically 'blamed' for the spread of infectious disease, Western understandings of risk, and thus management strategies, are typically introduced in 'developing' states.

Other securitisation-informed studies have brought insights from social constructivism more broadly – in particular the work of Finnemore and Sikkink (1998) and notions of the norm life cycle. These studies explore the emergence of health issues as matters of security, and – to use the parlance of the norm life cycle – how they become 'internalised' across different cultural and political contexts (Vieira, 2007). A noteworthy example is Sjöstedt (2008) who offers analysis of the security framing of HIV/AIDS in Russia. Sjöstedt argues that Russian elites initially questioned and resisted the (Western) HIV/AIDS metanarrative. However, as the (potential) implications of HIV/AIDS became increasingly acknowledged and ultimately 'accepted' globally as a security threat, perceptions in Russia changed, and HIV/AIDS came to be regarded as a national security concern.

Curley and Herington (2011) consider health security and context. However, rather than analysing the 'spread' of perceptions of infectious disease globally, they focus their attention on domestic context. Again with an empirical focus on avian flu, they consider the securitisation of the disease in Vietnam and Indonesia, and consider the extent to which domestic cultural/political factors may have had bearing on the security framing. The article concludes by suggesting that the successful securitisation of avian flu was due to Vietnam's organised and centralised state. This organisation and centralisation resulted in authorities being able to shape public opinion domestically with little to no opposition/resistance. Conversely, it was Indonesia's lacking of a unified, central administration that resulted in the securitisation of avian flu by elites being altogether more difficult to achieve. 'By opening up the domestic contexts, Curley and Herington are therefore able to determine the conditions under which a threat is received or translated in different spaces' (Balzacq et al., 2015: 20). Beyond highlighting how the effective securitisation of infectious disease is contingent on the 'workings' of a state's political system, Curley and Herrington also note how there are other potential domestic determinants of an effective securitisation.

The securitisation of avian flu in both Vietnam and Indonesia was contingent, at least partly, on the nature of the referent object (i.e. what was at 'threat'). In the case of Vietnam, the economy was 'existentially threatened' by way of invocations of economic slowdown; in Indonesia the referent object was 'postcolonial injustice'. Given these insights, aside from stressing that there is nothing natural about the health/security nexus, securitisation usefully highlights how security the framing is contingent: how the successful securitisation of health

issues is implicated in factors such as domestic governance/bureaucracy, as well as public opinion. Studies drawing on securitisation are therefore able to offer analysis of how the attempted securitisation of the same issue in different countries may potentially not produce the same results. Insightful analyses and empirical examples of health issues being securitised in line with the theory notwithstanding, securitisation does have its limitations[8]. Within the broader trajectory of critical security studies, securitisation has engendered much debate and has been the subject of considerable criticism: for the purposes of the thesis and engagement with *health security practice and the everyday*, the following section focuses on securitisation's analytical shortcomings, which relate to its Schmittian underpinnings[9].

1.3 Beyond the Exception

Securitisation theory's understanding of security is a limited one, and is characterised by its assimilation of Speech Act Theory (Austin, 1962), and Schmittian understandings of emergency or 'exceptional' politics. Securitisation dictates that 'security' is to be understood as temporally and spatially contingent, being predicated on the authority and self-referring decisionism of the state. In this sense, what is and what is not regarded as a security threat is decided by the state; this in turn is articulated in a speech act (see, for example, Huysmans, 2006: 32-33, 2011). This decisionism, which underlines securitisation theory is best summarised as 'self-grounding through an assertion of one's power to decide [which] is the authentic political moment' (Huysmans, 2006: 137). As such, a decision is made, and security threats are constituted as such through dramatic discourses of urgency and crisis (i.e. in a securitising speech act). Securitisation's implied decisionism and presentism gives rise to superficial analyses of security: this overwhelming focus on contingent manifestations of

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[8] The 2014-15 West African Ebola outbreak and Brazil's 2015-17 Zika crisis are perhaps the most prominent recent examples of this (McInnes, 2016; Wenham and Farias, 2019). At the time of writing in mid-2020, securitisation will no doubt have important things to say about 'how COVID-19 is framed, the state of emergency, and the exceptional measures taken across our societies' (Dijkstra, 2020: 456). Despite this, to my knowledge there are no studies expressly applying securitisation to COVID-19, though this will no doubt change.

[9] Whilst tangential to the focus herein, it is worth noting at this point that studies have highlighted innumerable other analytical shortcomings of securitisation: three of the most prominent are mentioned briefly here. Firstly, securitisation's normative assumptions have been discussed: i.e. securitisation is unable to offer analysis of security outside its narrow, regressive logic, thereby foreclosing alternative, 'emancipatory' readings of security (Booth, 1991, 2007; Nunes, 2013, 2015). Secondly securitisation is Eurocentric: i.e. securitising issues is seemingly a Western phenomenon, thereby resulting in health security research being focused on Western policy communities (Rushton, 2011; Wilkinson, 2007). (Aside from being Eurocentric, and with no wish to (further) upset Barry Buzan and Ole Wæver… securitisation has also been accused of racism (Howell and Richter-Montpetit, 2020)). The final problem is the curious absence of gender. Studies using securitisation overwhelmingly privilege the state as referent object, which in turn results in the failure to acknowledge gendered (in)security because '"gender" rarely produces the kind of collective, self-contained referent objects required by the Copenhagen School' (Hansen, 2000: 287). In other words, owing to securitisation's rhetorical structure (which posits that a referent object (typically a state) needs to be existentially threatened) gender is largely ignored, as such gender-based insecurities are incompatible with the requisites of securitisation's logic (Booth, 2007: 163-169; see, also Smith, 2005: 37).

security results in several analytical blind spots.

Whilst opening useful lines of enquiry – both normative and methodological – the 'logic' of securitisation downplays the role of broader socio-political context. Innumerable critical scholars have illustrated how the 'success' of a securitising move is predicated on its 'situatedness' within broader socio-political context. Importantly, critical literature has also noted that security works outside the domain of the exception: rather than simply 'playing out' in response to singular, exceptional events, security instead functions continually at the everyday level. Studies of this ilk assume the stark distinction between 'security politics' and 'normal politics' is erroneous, and that security is routinised and enacted continuously (Bigo, 2002, 2014; Huysmans 2006, 2011, 2014).

1.3.1 Securitisation Theory and Context

Innumerable studies have suggested that securitisation's implicit 'crisis modality' overlooks the context in which effective securitising moves occur (Balzacq, 2005, 2011; Ciută, 2009; Salter, 2008; Stritzel, 2007). Narrow conceptions of security give rise to the Copenhagen School failing to 'conceptualize securitizing speech acts and securitizing actors as [being] embedded in broader social and linguistic structures' (Stritzel, 2007: 367)[10]. As Bigo (2014: 211) eloquently suggests of this: it 'is essential to avoid an approach framed solely in terms of securitization theory, which often implies presentism by a lack of attention to the space/time structuration that rendered possible an event, sensationalism linked to media pressure'. Any securitisation, it is suggested, does not (and arguably cannot) take place in and of itself in isolation (Balzacq, 2005), especially given that it needs to be met with audience acceptance (Côté, 2016). The determinants of 'audience acceptance' – affective moods or 'climates' of disquiet and anxiety resulting in securitisation occurring with little or not resistance – are largely neglected in securitisation theory, and 'how we know when (securitization) happens (is) radically under-theorized' (McDonald, 2008: 572; Salter, 2008).

> the success of securitization is contingent upon a perceptive environment. Therefore, the positive outcome of securitization, whether it be strong or weak, lies with the securitizing actor's choice of determining the appropriate times within which the recognition, including the integration of the 'imprinting' object — a threat — by the masses is facilitated. This tends to subscribe, moreover, to the view that the public would accept the description of threats deployed

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[10] Notions of 'facilitating conditions/circumstances' (or 'felicity conditions/circumstances') – the 'rules' governing linguistic practices and the relative social positions of actors – could be used to rebut such critiques of securitisation. These 'conditions' notwithstanding, the Copenhagen School itself offers, at best, a very weak account of context, speaking only of the 'appropriateness' of invoking security (Buzan et al., 1998: 25-32); moreover though going some way to explaining the 'workings' of speech acts, the link between 'felicitating conditions' and the efficacy of a securitising move is missing.

by elites, and securitization will successfully take place, if the times are critical enough. (Balzacq, 2005: 182)

In sum, the focus on contingent articulations of security overlooks the conditions that would explain (at least partly) how and why security framing occurs, and why a security framing might be met with audience acceptance. Also falling under the umbrella of context – and also the upshot of its implicit presentism and decisionism – securitisation does not account for deeper *political trends*. Attention to such trends is essential given that security 'cannot be understood, or reconceptualized, or reconstructed without paying attention to the constitutive account of the political that has made the *prevailing accounts of security seem so plausible*' (Walker, 1997: 69 emphasis added). With Walker's notion of prevailing accounts of security, the past determines the present. To illustrate, the events of 9/11 are regarded as prototypical: an epochal 'meta-event' in IR and security studies, and seemingly an example of securitisation. Yet the view that 9/11 somehow 'changed everything' is flawed: Huysmans (2006) suggests that security policies and responses do not appear out of nowhere, but are part of a continuous and gradual process, pre-structured by previous developments:

> The *routines*, the *hardware*, the *credibility* of politically linking terrorism and asylum, an ongoing competition between intelligence agencies and the Pentagon, which all have played a crucial role in shaping global and domestic domains of insecurity in the wake of 9/11, are embedded in longer-term institutional and political histories and are *enacted* in everyday, ordinary *practice*. (Huysmans, 2006: 5 emphasis added)

As such, this chapter now turns to two prominent, interlinked critiques of securitisation. Firstly, sociological approaches to security and notions of *bureaucratic routinisation* which highlight how securitisation does not address the continual 'workings' of security. Secondly, notions of risk and securitisation's failure to account for potentiality: that security is increasingly predicated on *preemption*, rather than *response*.

1.3.2 Routines, Resilience and Risk

Securitisation assumes security to be totalising and aggregate: a coherent, ordered modality for dealing with specific issues (or issue areas). A threat is recognised, constituted as such discursively in a speech act, and acted upon accordingly. However, an influential strand of literature suggests that securitisation theory misses dispersed *practices*: those which continuously (re)produce the knowledge on which effective securitising moves are predicated. In particular, the so-called 'Paris School' of critical security studies (developed initially by, and therefore linked principally with the work of, Didier Bigo) has pointed to the continual 'workings' of security, by directly building on the Marxian, Weberian and Durkheimian inspired work of French sociologist Pierre Bourdieu. Broadly speaking, these

sociological approaches to security seek to unpack *how and why* securitisation occurs, and moreover – departing from the original formulation of securitisation – attempt to consider and 'map' *the actors, agencies and bureaucracies involved in the diffuse securitisation process*. With this reading, securitisation is not understood as an aggregate (discursive) process, but instead as something not temporally and spatially contingent, and not predicated solely on linguistic practices. Instead, such works regard securitisation as a continual process: something sustained and propelled by routine *practices* – patterns of action which (re)produce background knowledge (seminal examples are Bigo, 2002, 2011, 2014).

> Securitization is not usefully characterized as a discursive practice creating "exceptionalization," even though it may find its origins in this practice. Authors like Buzan have little sense of the routines, the day-to-day practices, of the bureaucracies that are necessary to understand how discourses work in practice. Securitization works through everyday technologies, through the effects of power that are continuous rather than exceptional, through political struggles (Bigo, 2002: 73)

With this continual (re)production of knowledge in mind, and echoing Bigo (2014), a securitising move should be regarded as the *effect* – not the *cause* – of everyday security practice. Returning to the idea of political continuity (as opposed to the 'rupture' and 'change' typified by 9/11), securitisation's neglect of socio-political contextual factors, and the prevailing accounts that render securitisation possible: the plausibility of security framing is contingent, and is predicated on its being entrenched within historical trajectories – both political and institutional (see, for example, Huysmans, 2006). Using Walker's terms, these prevailing accounts – accepted understandings of security – are not simply 'out there', able to perpetuate without external agency or intervention. Instead, rather than regarding such established patterns of knowledge as self-perpetuating, it can be suggested they are (re)produced by, and manifest themselves in, everyday bureaucratic routine practice (Bigo, 2002: 72-73, 76; Huysmans 2006: 31; 2008, 2011). These prevailing accounts of security are (re)produced by means of *continual enactment*. Hence security knowledge is continually (re)produced – the very knowledge on which securitising moves are predicated. These quotidian 'micro' security practices are exemplified by electronic surveillance measures – for example the routine capture of CCTV images in urban spaces, screening practices at both 'traditional' and 'off-shored' border sites, and the routine practices undertaken by intelligence agencies and police. Unlike securitisation, which prioritises focusing on the 'professionals of politics', these accounts privilege the role of 'security professionals' (Loughlan, et al. 2015: 35). Importantly, sociological approaches to securitisation stress that not only should security be regarded as an unspectacular process – something *continual* – but also that we should not be speaking of single, critical moments of *decision,* as privileged in the original formulation of securitisation:

By uttering 'security' a state-representative moves a particular development into a specific area, and thereby claims a special right to use whatever means are necessary to block it. (Wæver, 1995: 55)

Thereby the actor has claimed a right to handle the issue through extraordinary means to break the normal political rules of the game (Buzan et al., 1998: 24).

Instead:

A number of significant securitizing processes exist – among others, instances of the technologically mediated spread of surveillance and the folding of securitizing into everyday life – that are effacing speech acts with weighty decisionmaking significance. Speech acts of security seem to be displaced by the diffuse and associative securitizing work of what from the perspective of existential speech acts mostly appear as little security nothings, such as programming algorithms, routine collections of data and looking at CCTV footage. (Huysmans, 2011: 372)

And crucially:

Decisions are taken all the time, but they are dispersed, and it is relatively difficult to assign critically significant actions to particular actors or to aggregate sets of actions into a limited group of actors who have the capacity to create an assemblage of security. Securitizing develops through a wide variety of mediators that connect data, people, sites and times, but in connecting also change the material they are connecting (Huysmans, 2011: 376 emphasis added)

This broad sociological approach to securitisation – or 'unease management' (Bigo, 2002) – therefore stresses that security is *performative*, and therefore constituted continually at the everyday level, not purely at the level of elite actors (Huysmans, 2011). Correspondingly, returning to the previous discussion about sociopolitical context – in particular Stritzel's suggestion that securitisation fails to analyse linguistic structures more broadly – 'security discourse' (i.e. *language practices*) must similarly be regarded as dispersed, and not aggregate, manifesting purely in contingent speech acts, spoken almost exclusively by elites. Securitisation forecloses analysis of language practices outside the strictures of securitising speech acts. This is regrettable: it would be erroneous to conceive discourse this way – as aggregate, and not made up of multiple layers. Rather than viewing (security) discourse as aggregate as is the case with securitisation, discourse can instead be regarded as 'a specific series of representations and practices through which meanings are produced, identities constituted, social relations established, and political and ethical outcomes made more or less possible' (Bialasiewicz et al., 2007: 406). Given this, the assumption of a broader Foucauldian or Deleuzian take on discourse (as in language) stresses how securitisation neglects the quotidian discourse(s) of (in)security: the technocratic language of customs officers, the 'silent' speech acts of the police and lower-level bureaucrats are all overlooked by securitisation. Securitisation's neglect of diffuse discourse is regrettable: as with quotidian practice, this everyday language can also be said to (re)produce, and thus constitute, security at the everyday level (Huysmans, 2011).

Everyday security does not simply (re)produce established, 'given' understandings of (in)security as described above. A burgeoning literature explores routine risk management, and preemptive/precautionary security governance. Frequently linked with resilience, numerous studies attend to the *management of risks before they become crises[11]*. Preemption is not consonant with the logic of securitisation, which is about *emergency response* to exogenous disturbance more than it is about *preventing* emergencies from arising in the first place.

> Resilience implies a systematic, widespread, organizational, structural and personal strengthening of subjective and material arrangements so as to be better able to anticipate and tolerate disturbances in complex worlds without collapse, to withstand shocks, and to rebuild as necessary […] to create a subjective and systematic state to enable each and all to live freely and with confidence in a world of potential risks. (Lentzos and Rose, 2009: 243)

This risk-oriented research suggests how security is less about responding to 'events'/threats post hoc, and more about attempting to mitigate the impact of 'events', or even preventing them from occurring in the first place: the somewhat fatalistic assumption of potential insecurity (Joseph, 2013). Studies of preemptive security therefore 'focus not only on the attempt to eliminate specific threats per se, but also strategies to identify and manage global uncertainties' (Brassett and Vaughan-Williams, 2015: 33). Strategies to 'bolster resilience' are intended to mitigate – if not prevent entirely – the effects of future 'catastrophic possibilities' (Walker and Cooper, 2011: 153). Such possibilities are diverse, with low-probability of occurrence, but with potential for considerable impact (hence natural disasters such as flooding or earthquakes, *infectious diseases*, terror attacks and so on).

Referent objects in discussions of preemptive security typically include public spaces (often urban) (Coaffee et al., 2008), critical infrastructure (Aradau, 2010; Burgess, 2007; Lakoff and Collier, 2010), and financial systems (de Goede, 2007). An observation worth making at this point is that security routines differ in their logic to preemptive strategies insofar as the latter is predicated on 'knowledge' of a future event: something which has not yet happened. In this sense such anticipatory assemblages designed to 'improve' or 'bolster' resilience therefore essentially attempt to govern the 'unknown' (Anderson, 2010). The next 'catastrophic possibility' should certainly not be understood as 'simply one in a series of similar past and present events' (Aradau and Van Munster, 2012: 99), preemption and security routines are not mutually exclusive: it would erroneous to suggest that established knowledge (techniques) do not inform responses to 'future events'.

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[11] See, for example, Adey and Anderson (2012); Amoore and De Goede (2008a, 2008b); Aradau et al. (2008); Aradau and Van Munster (2007, 2012); Daase and Kessler (2007); De Goede (2012); De Goede et al. (2014); Dunn Cavelty et al. (2015); Ericson (2007); Ericson and Haggerty (1997); Lobo-Guerrero (2011); Tsoukala (2009).

To take an example from outside health, innumerable risk-oriented studies have emerged – departing from 'orthodox' notions of 'the securitisation of terrorism' – and have considered the changing nature of counter-terrorism. Analysing the governance of possible terror threats within the context of the Global War on Terror (GWoT), these studies note some of the increasingly inventive measures adopted to mitigate future attacks. Amoore and De Goede (2008: 173) for instance highlight how the 'Brussels-based financial clearing house SWIFT had routinely extradited banking and credit card transactions data to the US security services' arguing in turn 'the transaction [has become fundamental] to security practice because it is assumed to provide a complete picture of a person, an 'electronic footprint' that makes it possible to identify a suspicious body in movement and, most importantly, to verify or deny access in advance'. Vaughan-Williams' (2008, 2010) analyses of the UK's 'New Border Doctrine' make similar arguments. He notes how the new security context that emerged post-9/11 has given rise to bordering now being increasingly predicated on the identification of subjects deemed 'risky', in turn restricting their movement prior to their attempts to enter the UK. This is typified by 'off-shoring' (literally 'exporting the border' and having bordering sites external to the UK), as well as biometric technologies at 'traditional' physical border sites (Bialasiewicz, 2012)[12].

1.4 Towards an Account of Everyday Health Security Practice

Turning our attention back to the health security literature, health *has* been approached from the standpoint of risk/preemption (Elbe, 2008; Elbe et al., 2014; Lakoff, 2017; McInnes and Roemer-Mahler, 2017). Elbe's 2008 study, for instance, considers the 'logics and technologies' of resilience that have emerged to attenuate the impact of the HIV/AIDS pandemic. Also in evidence are analyses of 'emergency vigilance': examining a 'microbial

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[12] Though tangential to the focus herein, it is nonetheless worth mentioning that a significant number of studies have assumed a more expansive, Foucauldian understanding of resilience, regarding it as a regime (Bulley, 2013; Duffield, 2012; Kaufman, 2016; O'Malley, 2010; Reid, 2012). Though these critical approaches certainly still take into account policies, and continual enactment, they conceive resilience more broadly: as a mode of entrepreneurial self-organisation, bound-up with late capitalist modernity (i.e. neoliberalism). These studies foreground the individual: as such, resilient subjects are 'programmed' and encouraged to be responsible for their own security (Kaufman, 2016). As such, these resilient subjects are 'enjoined to take entrepreneurial steps in managing their own risks in lieu of excessive state intervention' (Brassett and Vaughan-Williams, 2015: 34). This mode of governance has emerged (so the argument goes) 'because subjects that are capable of securing themselves are less of a threat to themselves and in being so are not a threat to the governance capacities of their states nor to the governance of the global order either' (Reid, 2012: 74; Joseph, 2013). In sum, this strand of literature can be said to regard security as 'an activity': something enacted, and practiced by ordinary citizens. In this sense security becomes normalised, being embedded in *everyday* life. This is typified by the encouragement of citizens to be 'on the look out' and permanently 'watching out for', and in turn escalating behaviour regarded as risky or suspicious 'not only in public spaces such as the airport, railway station, or shopping centre but also among their neighbours at home' (Vaughan-Williams, 2010: 1077).

world full of surprise and potential', Weir and Mykhalovskiy (2010: 62) consider the 'emerging infectious disease' (EID) paradigm. This political modality or logic is predicated on *potentiality*, and stresses the possible 'threat' posed by 'new' or 'emerging', or else 'unusual' diseases. Such diseases, owing to the possibility of becoming epidemics or pandemics, have the potential to cause significant mortality – or at the very least social or economic disruption (Weir, 2015: 27; Weir and Mykhalovskiy, 2010; see also Dingwall et al., 2013). It is argued that this paradigm is underpinned by 'emergency vigilance', with public health (broadly conceived) now being focused more on preemption and precaution, and less on response to extant, 'known' threats. 'This permanent watchfulness has become more pressing with the intensification of flows of people, information, and goods, which allows for constant updates about outbreaks in other parts of the world and threatens to bring these diseases very close to home in only a few hours' (Nunes, 2015: 62). These studies of risk and vigilance *do* depart from focusing on singular, exceptional events, though *how* exactly these preemptive logics 'work' or 'play out' everyday are neglected in existing literature.

For example, resonating with notions of resilience, studies of pandemic preparedness – understood as comprehensive frameworks of planning to alleviate the impact of future (i.e. potential) pandemic outbreaks (CDC, 2014; WHO, 2017a) – are underexplored in the health security literature. When they have been studied, works typically focus on (the adoption of given) policies, overlooking how policies actually 'play out' by both security professionals, as well as 'prepared', civilian human subjects (see for example Katz and Sorrell 2015; Nelson et al. 2007). Though incisive, these studies offer what is ultimately a superficial reading of preparedness frameworks given that they must, by their very nature, 'work' continuously and at an everyday level. This is especially so given that preparedness 'includes a capable health care system, transparent communication mechanisms, human capacity, tools and protocols (Katz and Sorrell, 2015: 201). This narrow reading is regrettable given that if preparedness is to be understood as a regime or rationality (i.e. much like resilience) which is contingent on continual performance or enactment by human subjects – if resilient citizens are on the look out for 'risky behaviour', then similarly 'prepared subjects' must read public health notices and wash their hands, avoid the workplace if showing specific symptoms, and so on (HSE, 2003). In this sense, pandemic preparedness is a lived experience, which permeates and shapes daily life, as 'rules, positions, languages and performances [are] decisive formative mechanisms' (Crawford and Hutchinson, 2015: 3).

Analysis of health security routines is neglected in the literature, and the 2014-15 West African Ebola outbreak is a useful example here. Dovetailing with the earlier discussion about 9/11, and the error of suggesting that somehow 'everything changed' because of it, the same

could be noted about Ebola. Though a singular event (and arguably an instance of securitisation) to suggest that it resulted in dramatic changes to global health governance – and within that frame health security – would be erroneous. McInnes (2016) notes how Ebola being understood and thus framed as a security matter – a 'crisis' – was predicated on how it resonated with existing narratives underpinning global health more broadly (for other broad constructivist accounts, see Davies et al., 2015). McInnes suggests there are three 'themes' within this narrative that in turn gave rise to its securitisation by (Western) elites: 'the effects of globalisation, the emergence of new [security] risks and the requirement for new political responses' (2016: 391-392). Whilst offering profitable insights into the socio-political 'making' of health security beyond the securitisation approach (both broadly and with specific reference to Ebola) McInnes' study seemingly assumes that these narratives are self-perpetuating.

An alternative, more nuanced reading of these narratives would be offered by attending to banal routine practice, and considering the daily, continuous, unspectacular 'securitising process', and the corollary – its ontological effects: the continual enactment and (re)production of these narratives sustaining notions of health (*in*)security (Bigo, 2002; Huysmans, 2006). This approach would instead foreground how enactment, by way of routine practice, serves to continually (re)produce security knowledge: the background knowledge on which 'securitising moves' are predicated. Such banal practices are typified by the focus of this thesis: routine practices at 'the border', which serve to manage health security threats continually. However, the above critiques and revisions of securitisation are merely a jumping off point, rather than a framework for analysis, per se – *those which stress that security 'works' continually, outside and beyond singular, exceptional events* – and the following chapter engages with practice theory in order to outline a theoretical and methodological framework for analysis of *health security routines*.

Conclusion

Although a diverse literature is apparent, IR's engagement with health security has *primarily* focused on three things: the socio-political processes through which diseases (invariably infectious) come to be understood as security threats; whether or not linking health with security is a 'good' thing by considering the normative implications of responses to health security threats, and finally how the securitisation of health has shaped the formulation and implementation of policy responses. The socio-political 'making' of health security as well as the implications of this are invariably explored using or informed by the Copenhagen School's popular securitisation framework and attend to securitising actors, speech acts, exceptional measures, referent object, and audience (acceptance). This chapter has detailed

critiques and revisions of securitisation, which stress that its 'logic' is predicated on presentism and decisionism – a Schmittian 'crisis modality'. The upshot of securitisation deemphasising everyday security routines and risk management is that markedly little is known about health security and the everyday, which this thesis seeks to act as a corrective to.

CHAPTER 2

Health Security as Practice

Key Points

- Practice theory refers to a collection of conceptualisations which see value in focusing on practices as the core unit of analysis;
- Practices themselves are not simply 'doing things' but instead socially meaningful, routinised patterns of action and are a combination of: corporeal and mental activities; material 'things' or artefacts and the ways in which they are operationalised, and the background knowledge which gives practices meaning;
- Insights from science and technology studies (STS) suggest that background knowledge should be understood as explicit and tacit;
- From tacit knowledge comes *intuition*: the instantaneous comprehension or apprehension of an object or event in the past, present, or future. Intuition sheds light on the mechanics of discretionary judgements: how security decisions are made;
- Because of the materiality of practices through either the corporeality of embodiment and/or non-human objects means adopting a distinctive praxiographic methodology and seeking proximity to practitioners;
- Non-participant observation is the corresponding method for praxiographic research.

2.1 Introduction

The previous chapter noted how securitisation has become the 'go to' framework for analysis of health security. Such studies attend to securitising actors, speech acts, exceptional measures, referent object, and audience (acceptance) (Buzan et al, 1998). However, the previous chapter detailed some of the critiques/revisions of securitisation that stress that security operates continually outside the domain of the exception, rather than simply in response to singular events. In particular, taking notions of 'unease management' and sociological approaches to securitisation as a jumping off point, my motivation for this research was to look beyond (the responses to and framing of) major outbreak events and consider the everyday, routine workings of health security – something largely overlooked in the existing literature. Analyses of health crises through the lens of securitisation abound, but the space between health events is unexplored. This thesis therefore redresses this gap in literature.

This research is not merely a corrective to omissions in literature, though. As noted earlier in this thesis: a deeper understanding of everyday security is of particular importance for critical security studies given the shift towards surveillance, risk management and preemptive/precautionary security governance. Moreover (and especially pertinent in 2020) given the increased risk of, and from, outbreak events, precautionary modes of governance pertaining to health have similarly been acknowledged (Elbe et al., 2014; Lakoff 2017; McInnes and Roemer-Mahler, 2017). Starting with a normative given (that health has been increasingly linked with security), and in line with empirical and theoretical developments in

critical IR scholarship described variously as the 'practice turn', 'praxeology' or else 'praxiography' (Reckwitz, 2002; Spiegel, 2005; Adler and Pouliot, 2011a, 2011b; Bueger, 2014; Bueger and Gadinger, 2015), the desire to move away from securitisation and engage with the everyday workings of health security directed my attention to practice theory.

Why 'turn' specifically to practice theory? There is clear rationale for this manoeuvre. Whilst incisive, regrettably *much* of the largely theoretical literature discussing security routines – particularly the Paris School, which inspired this thesis – is just that: theoretical and deeply abstract; one of Latour's flying saucers, insofar as most studies fail to *actually engage* with routine security practices:

> As soon as a divide is made between theories and what they are theories *of*, the tip of technoscience is immediately shrouded in fog. Theories, now made abstract and autonomous objects, float like flying saucers above the rest of science, which becomes 'experimental' or 'empirical'. (Latour, 1987: 242 emphasis in original).

How do diffuse processes of securitisation *actually work*? What *physical* and *mental* activities are practitioners *doing* day-today? What *knowledge* is enacted? What *objects* are used? In what *communities* are practices taking place? *Where* are such routine activities taking place and what do these sites *look* like? What *training* (if any…) do practitioners receive? *How* do they make *decisions*? Such questions are, by and large, unanswered by the likes of Huysmans and Bigo, and they offer no real methodological toolkit for engaging with security and the everyday[13]. My point here is not against theory (far from it, in fact). Nor is my point to overplay the benefits of empirical research. Nor is it necessarily a call for 'more' empirical research. Nor is my point an indictment of the likes of Huysmans and Bigo: not everyone who talks about practice is a practice theorist insofar as they do not share the ontological and epistemological commitments of practice theory I discuss below (and nor do I necessarily think they should). However, the discussion of practice theory that follows highlights and calls for recognition of the fact that theory and empirics should not be divorced, and for more analysis of how the two 'interpenetrate' (Bueger and Mireanu, 2015). Truly turning to practice, as Miettinen et al. (2009) stress, has never been concerned with theory alone.

> A return to practice stresses the need for seeking *proximity* to the world of practitioners and their activities, and more carefully listening and talking to those whose lives are at stake. Security from such a perspective is best understood by a focus on the practices constituting security, and the variety of diffused and mundane actions and objects – some of them of a profoundly oppressive character – by which security practice is performed. Security studies then are a project of proximity and close engagement with the flow and the infrastructures of the everyday and the mundane, and those discriminated by security practices. (Bueger and Mireanu, 2015: 119 emphasis added)

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[13] For the sake of completion, Bigo's (2014) article *is* based on key informant interviews.

Put differently, markedly at odds with the famous Coxian dichotomy of 'problem solving theory' and 'critical theory' – the latter standing 'apart from the prevailing order of the world' (Cox, 1981: 131) – to effectively and critically engage with security practices (i.e. everyday routines) means adopting an analytical sensibility of proximity, and seeking and negotiating closeness to security practitioners. To simply 'speak of practices' is not enough. As such, owing to the tenets of practice theory, and as will become apparent, this chapter engages with *both* the theoretical underpinnings of this research, as well as the methodological: divorcing the two from a practice theoretical perspective is impossible. This chapter outlines the fundamentals of practice theory that underpin this thesis. However, in drawing on the science and technology studies (STS) literature, it takes the idea of 'background knowledge' – one of foundations of the interdisciplinary practice theoretical literature – further. In explicating nuances in tacit knowledge, I introduce the idea of *intuition* in relation to security practice and everyday security *decisions* – something, as yet, given little to no attention in IR. In view of current lacunae in theorisation of the forms of knowledge involved in security decisions, this discussion on tacit knowledge is an invaluable contribution to our understanding of the everyday and locality in security decision-making. The chapter then moves on to discuss methodological issues and detail the methods used in this thesis.

2.2 Practice Theory in IR and Beyond

This section begins by sketching out exactly what practice theory is, before considering what practices themselves are, and finally how insights from STS and the idea of intuition helps better understand how security decisions are made. Technically, there is no such thing as practice theory, and it is problematic to refer to it in the singular as there are a number of heterogeneous practice theor*ies* (Ortner, 1984; Miettinen et al., 2009); Reckwitz (2002) suggests the idea of a 'family' of theories to account for this. Use of the term 'practice theory' has made inroads into numerous disciplines including, *inter alia*: organisation studies (Nicolini et al., 2003; Golsorkhi et al., 2010; Nicolini, 2013); history (Spiegel, 2005); policy studies (Hajer and Wagenaar, 2003; Freeman et al., 2011) and IR (Neumann, 2002; Adler and Pouliot, 2011a, 2011b). Practice theorists draw on a divergent body of thinkers: anyone from Bourdieu (rather curiously, particularly in IR[14]) to Wittgenstein, Latour to Callon, though my own take on practice draws principally on the work of Theodore Schatzki, as well as thinkers

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[14] For examples of Bourdieusian IR, see Guzzini (2000), Pouliot (2008), Berling (2012), and Adler-Nissen (2013). I say curiously, because for whatever reason – maybe because of the explicit focus on power and domination in his work, or because IR has adopted practice theory by way of sociology – IR, singularly, equates practice theory with Bourdieu. Why I am not sure, as his name is invariably name-checked in footnotes in the interdisciplinary practice literature, but little beyond that (Spiegel, 2005). As such, and for clarity, this explains why I am *not* engaging with Bourdieu's conceptual toolkit in this thesis. Investigation of the curious prevalence of Bourdieu in the IR practice literature would certainly be worth exploration in a future research agenda.

from STS. Heterogeneity notwithstanding, practice theory can be understood as a rather loose collection of *conceptualisations which see value in focusing on practices themselves as the core unit of analysis*. All practice approaches

> take social practices which are materially anchored in bodies and artefacts and dependent on implicit knowledge as the smallest and prior unit of analysis. (Bueger, 2014: 384)

It has been suggested that practice theories share six core ontological and epistemological commitments (Reckwitz, 2002: 250-257; for similar points, see Bueger and Gadinger, 2015: 452-453; Rouse, 2007), all of which this thesis subscribes to. First, practice theorists privilege process over stasis, hence the verb 'ordering' rather than the noun 'order', and practice approaches are replete with gerunds: 'structuring', '(re)producing', 'knowing', 'doing' and so on. Following Bueger and Gadinger (2014: 60), and Kustermans (2016), at the heart of much practice literature is an unresolved 'tension between understanding practice as a social regularity and as a fluid entity'. Engagement with practice certainly does present the analyst with something of a paradox. Broadly speaking, on the one hand we can discern fluidity and dynamism: continuously shifting, 'ephemeral doings' (Rouse, 2007: 639). On the other we can identify stable, organised, regulated patterns, routines, and reproduction (hence ordering) (Schatzki, 2002:101). Generally speaking, practice theorists take sides and stress either the emergent nature of practices or the repetitive nature of practices. This tension has been addressed by some theorists who have distinguished between 'minor adjustments' and 'major ruptures' in practice (Schatzki, 2002).

> A minor adjustment refers to the principle of indexicality […] and the fact that any new situation requires adjusting and re-arranging the practice in it. A major rupture refers to those moments in which practices fully break down. This can be because of their failure, the rise of a newly emergent practice, the invention of a new object, or a new encounter between practices. One major methodological response to this problem has been to explicitly focus on moments of rupture and crisis to learn about practices which are adjusted, replaced or newly emerge in such contexts. (Bueger, 2014: 391)

This thesis engages with this tension, though I do not offer conceptual solutions. Insights from the fieldwork suggest that a solution is in fact not necessarily needed – certainly in the case of the practices attended to herein. My research confirms Reckwitz's (2004: 51) take on practice: rather than focusing on taking sides, questions of *which practices*, under *which conditions*, take on an erratic nature (or otherwise) are a better focus of research. At the time of writing, conventional wisdom would tell us that the 'crisis conditions' of COVID-19 will no doubt have radically changed the practices observed during the (pre-COVID) fieldwork, and given rise to erraticism and (at the absolute least) minor adjustments. However, and quite astonishingly, the (so the media would have us believe) 'unprecedented' public health crisis has in fact instigated markedly little change to the practices I discuss in this thesis: in the

words of one participant at Gatwick in early March 2020, *'it's business as usual'*. As such, in the case of health security practices at the UK Border, there is reason to suggest that continuity and repetition have primacy over emergence. In the parlance of securitisation, and at odds with studies highlighting exceptional *emergent* practices: the *routine and the exception are seemingly much the same*, and should not necessarily be viewed as being in opposition.

The second core commitment of practice theories is that they situate knowledge 'in practice'. This means that knowledge cannot be universal but should instead be understood as spatially and temporally contingent: a 'specific social practice contains specific forms of knowledge […] this knowledge is more complex than "knowing that". It embraces ways of understanding, knowing how, ways of wanting and of feeling that are linked to each other within a practice' (Reckwitz, 2002: 453). This is unpacked later in this chapter in my discussion of background knowledge. Third, learning and the internalising of knowledge are understood as a collective exercise, rather than individuated: knowledge of a specific practice is learnt through interaction. Fourth, practices are regarded as having materiality through either the corporeality of embodiment or through non-human artefacts. Whilst bodies are the primary carrier of practice, they are not the only one: stressing 'the impact of objects, things, and artifacts on social life is not merely adding the element of materiality; it is an attempt to give non-humans a more precise role in the ontologies of the world' (Bueger and Gadinger, 2015: 453). Fifth, social order is not seen as totalising, but instead a multiplicity of overlapping orders is assumed (Schatzki, 2002: 87; 2019: 31, 46).

> An activity, that is, the performing of an action, is an event: in it, an action takes place. A practice, consequently, embraces an array of such events. Because these activity-events can overlap or be successive, a practice transpires at an array of possibly overlapping moments and periods of time. The actions that compose a practice are also performed by multiple individuals. (Schatzki, 2019: 31)

> The category of material relations also includes spatial relations such as inside and outside, above and below, overlapping and separate, larger and smaller, and so on. (Schatzki, 2019: 46)

> There is never a single reality, but always multiple ones. This does not imply chaos, limitless plurality, or an atomized understanding of order. Orderliness is, however, an achievement. It requires work and emerges from routines and repetitiveness in "situated accomplishments" of actors […] order is always shifting and emergent. The assumption is that actors are reflexive and establish social orders through mutual accounts. Thus, the permanent (re-)production of "accountability" is preserved through ongoing practical accomplishments. Practices therefore have a dual role, both creating order through accountability and serving to alter the "structure" by the innovativeness of reflexive agents. (Bueger and Gadinger, 2015: 453)

Finally, a performative ontology of the world is assumed. Synonymous with Judith Butler's trailblazing work on gender performativity (Butler, 1990), a performative understanding of

the world foregrounds the idea of *reiteration* and reenactment, and stresses the fluidity of social relations. Moving away from notions of fixity, the 'world of becoming' is the upshot of continual establishment: making, unmaking, and remaking, as well as ongoing 'maintenance of relations between actors, objects, and material artifacts' (Bueger and Gadinger, 2015: 253). In this sense the world around us only '*is*' because of practices. Though not necessarily the primary focus of this thesis, this last point in itself questions the idea of reducing the 'making of health security' to single securitising moves, insofar as from a practice theoretical stance health (*in*)security is performative, and thereby constituted continually through practice.

What are practices, then? I regard practices themselves *to be socially meaningful, routinised patterns of action*. Such action is not necessarily 'preceded by a premeditated design [and] can be oriented toward a goal without being consciously informed by it' (Pouliot, 2008: 261). If practices are

> the site of the social, then routinized bodily performances are the site of the social and – so to speak – of "social order". They give the world of humans its visible orderliness (Reckwitz, 2002: 251).

Specifically, international practices and/or security practices are any patterns of action that pertain to world politics (the making, remaking, or unmaking of territorial limits is an obvious example) or security (for instance counter-terrorism, or in this case disease). These patterns of action, in turn, should be understood as a combination of a) *corporeal and mental activities*; b) *material* 'things' or *artefacts* and the ways in which they are operationalised, and finally c) the *background knowledge* which gives practices meaning (this will be considered in more depth in the following sections). Practices must be understood as an assemblage of the three, *not* simply 'doing things': Adler and Pouliot (2011a: 5) note, in 'common parlance, the concepts of behavior, action, and practice often are used interchangeably', but conceptually practice refers to something very specific – as outlined here.

Objects are frequently central to practices, and should be seen as important as bodily or mental activities; indeed, undertaking a specific practice may entail making use of certain things in certain ways. Writing requires a pen; Reckwitz gives the example of playing a game of football requiring a football, and that the 'doing' of playing is inscribed into the object. Hence the football itself is as much a carrier of practice as the moving bodies kicking it, who enact and embody the 'rules of the game' (Reckwitz, 2002: 252-253). Materiality is, in many respects, the crux of practice theory: the distinct *materiality* of practices, either through objects or through corporeality, means that to effectively study security practices means engaging – first and foremost – with security practitioners, hence seeking 'proximity' to the

carriers (human or otherwise) of practice in given contexts. Following the likes of Mol (2002) who coined the expression praxiography, and more recently in IR Bueger (2014), turning to practices, and actually engaging with them means not just assuming a theoretical sensibility – recognising 'practices make the world' or similar – but means assuming a total change in perspective, and adopting a distinctive methodology. This is turn directs us to praxiography: in some respects similar to ethnography insofar as 'graphy' 'signifies the common task of describing, recording and writing about a distinct phenomenon' but distinct from 'ethnography, praxiography is less interested in ethno (culture) but in praxis (practice)' (Bueger, 2014: 385). The 'nuts and bolts' of praxiography and its application in this thesis will be unpacked in more depth towards the end of this chapter. Now though, more attention needs to be given to background knowledge.

2.2.1 Background Knowledge: Rethinking (Discretionary) Security Decisions

The above discussion established that practices should be understood as a combination of bodily movements and mental activities; material things; and finally the background knowledge that gives 'the social and political its stability and provides for meaningful action' (Bueger, 2014: 387). As noted, practice theory situates knowledge 'in practice', but this idea needs more attention. Whilst practice theoretical approaches share a number of commitments, their core claim is arguably that

> 'the social', 'the cultural', and 'the political' are *based primarily and in the last instance in implicit knowledge* and *meaning* […] a type of knowledge which is rarely verbalized and is hence not easily readable from signifiers, speech, and discourse. Practices are taken to be the mediator and carrier of such knowledge. Hence to understand social and political order, praxiography suggests studying practices which constitute these orders of knowledge. For praxiography explicit knowledge – such as norms or rules – and articulated meaning – for instance through speech – are of secondary relevance. (Bueger, 2014: 386 emphasis added)

Numerous scholars have made contributions regarding the knowledge underpinning practices. Schatzki (2002, 2005) advanced the idea of 'background knowledge', comprised of: a) practical, 'hands on' understandings or know-how; b) rules, and c) a teleological structuring. He suggests that rules are 'explicit formulations that prescribe, require, or instruct that such be done, said, or the case' (Schatzki, 2005: 471). The structuring he talks of 'is an array of ends, projects, uses (of things), and even emotions that are acceptable for participants in the practice' (Schatzki, 2005: 471). Similarly, Reckwitz's (2002: 249) take on background knowledge is 'in the form of understanding, know-how, states of emotion and motivational knowledge'. Both of these incisive takes on background knowledge have made inroads into IR's engagement with practice, and crucially both Schatzki and Reckwitz highlight a distinction between tacit and explicit knowledge. The IR engagement with practice *does*

acknowledge tacit knowledge (and its importance) – ineffable, practical know how. However, my feeling following the fieldwork is that current theoretical scholarship is on the one hand rather hazy about what tacit knowledge actually is, assuming it is aggregate; on the other hand, it has yet to elaborate on the full potential of tacit knowledge as an idea. (By aggregate, I mean understanding tacit knowledge by 'reference to its opposite' (Revill and Jefferson, 2014: 599), and reducing tacit knowledge to simply 'whatever is not articulated').

For STS scholars however, tacit knowledge has long been a 'fundamental concept' in thinking about scientific knowledge (re)production (Vogel and Dennis, 2018: 386). With this in mind, by drawing on the STS literature this thesis contributes to not only the health security literature, but also the IR literature on practice theory and on security decisions: it calls for *intuition* rather than necessarily individual discretionary judgements to be taken seriously. Security decisions – for example, practitioners' decisions regarding what does and what does not constitute a threat, in this case to public health – are at the heart of routine (health) security practice:

> A number of significant securitizing processes exist – among others, instances of the technologically mediated spread of surveillance and the folding of securitizing into everyday life – that are effacing speech acts with weighty decisionmaking significance. Speech acts of security seem to be displaced by the diffuse and associative securitizing work of what from the perspective of existential speech acts mostly appear as little security nothings, such as programming algorithms, routine collections of data and looking at CCTV footage. (Huysmans, 2011: 372)

> Decisions are taken all the time, but they are dispersed, and it is relatively difficult to assign critically significant actions to particular actors or to aggregate sets of actions into a limited group of actors who have the capacity to create an assemblage of security. Securitizing develops through a wide variety of mediators that connect data, people, sites and times, but in connecting also change the material they are connecting (Huysmans, 2011: 376)

I agree with Huysmans wholeheartedly. Security decisions *are* made all the time, and such decisions were witnessed first hand during the praxiography. However, one of the most striking findings of the fieldwork was that practitioners seemingly '*just knew*' that something 'didn't *feel* right' and '*just* knew' what course of action to take ('just knowing' was repeated to the point of beginning to feel like a mantra). On several occasions practitioners turned to me and said, 'yeah, this one will be fine' (or variations thereof), before starting the sanitary inspection of a ship. One participant described their work as 'more of an art than a science'. Initially, this took me by surprise and provoked (seemingly) unanswerable questions: how – if at all – is it possible to 'just know' something? Are (health) security decisions *really* predicted on gut feelings, and on hunches? Moreover, 'just knowing' something complicates reducing security decisions to *discretion* – the path frequently followed in IR (see, for example, Côté-Boucher, 2016; Hall, 2017; Kalman, 2015): 'when an official is empowered to

exercise public authority and afforded scope to decide how that authority should be exercised in particular circumstances' (Pratt and Sossin, 2009: 301). Following the interdisciplinary literature on decision-making, IR generally makes two assumptions: firstly, that 'rules' and discretion are *distinct* (Pratt, 2005: 54–55; see also Hawkins, 1983, 1992), and secondly, that 'rules' (i.e. law, for instance) are the main driver of social regulation, with discretion occupying the murky waters of the 'space between legal rules' (Pratt, 2005: 53).

As discussed above though, practice theory stresses a performative understanding of the world. In the 'world of becoming' explicit rules only 'are' and only 'hang together' *in and through practice*. Equating security decisions with discretion therefore presents us with a paradox as *tacit knowledge must be ontologically prior to explicit prescriptions* (i.e. 'rules', 'law', and so on). Moreover, both of the above assumptions regarding discretion/rules do come with an important caveat: the literature on discretion also acknowledges decision-makers can be influenced by various factors – personal, political, economic, as well as organisational/institutional factors such as professional socialisation or organisational culture (Hawkins, 1992: 15, 38).

> People's own beliefs may conflict with official policy or rules can be ambiguous, causing workers to follow the rules less strictly or to interpret them in a way that was not intended. (Dekkers et al., 2019: 4).

With these caveats in mind, what follows aims to a) correct the paradox of discretion, and b) account for, and further our understanding of, factors resulting in deviations from explicit prescriptions. Drawing on the STS literature, it presents a novel typology of background knowledge. This latter point is of particular importance for critical security studies – and indeed legal scholars – in light of increased automation and standardisation of decision-making everywhere. My overall point in going further than the existing practice literature in IR, and unpacking the intricacies of tacit knowledge – defined here in the 'classical' STS sense of uncodified, personal 'know-how' produced through trial and error, and/or apprenticeship, that is transmitted from person to person (Collins, 2010; Polanyi, 2005) – is to make better sense of these hunches, and therefore make sense of *how* everyday discretionary security decisions *actually operate* and the *knowledge informing them*: Huysmans' little security nothings. In other words, we are left with new insights into the continual enactment and (re)production of security knowledge, and the very *nature of said knowledge*. Given tacit knowledge is largely – by definition – *personal knowledge*, and the main driver of practice, there is good reason to suggest that considerably more attention needs to be given to *personal knowledge* in relation to security in IR. Security knowledge is seemingly not that different from science (or any specialised field): STS stresses that scientific knowledge production in

the public imagination is generally at odds with what takes place in the laboratory. The entire idea of 'learning on the job' – trial and error, and personal knowledge – is not consonant with ideals of reproducibility. As such, 'public accounts of science can differ considerably from informal accounts of how science actually takes place, and these public accounts frequently conceal the importance of tacit knowledge' (Revill and Jefferson, 2014: 601). Following the STS engagement with knowledge production, I suggest that in thinking about security practices, background knowledge should be understood as comprised of *explicit knowledge and 'the tacit dimension'* – rather than articulated meaning/explicit knowledge, and tacit knowledge. This is a more useful demarcation – particularly useful for thinking about everyday security decisions – as it accounts for intuition. In the following paragraphs, I outline some of the key ideas drawn from STS on i) explicit knowledge and ii) tacit knowledge and the 'tacit dimension'.

Explicit knowledge can be refracted, and should be taken to mean a combination of two things: a) 'explicit, fully articulable knowledge that can be conveyed from the knower to a recipient by means of language' (Revill and Jefferson, 2014: 599), and b) Schatzki's (2005: 471) rules: 'explicit formulations that prescribe, require, or instruct that such be done, said, or the case'. These though should not be regarded as mutually exclusive. For example, security practitioners may speak to one another either face-to-face or over the phone and offer each other guidance. (This did in fact happen twice throughout the fieldwork regarding an identified 'problem' on a ship.) In doing so practitioners may make reference to documents ('rules'), in the case of PHOs these might be documents such as the IHR/or WHO (2011) *Handbook for Inspection of Ships and Issuance of Ship Sanitation Certificates* (i.e. *codified rules*): 'explicit formulations that prescribe, require, or instruct that such be done, said, or the case' (Schatzki, 2005: 471), that give practices context and meaning.

Here, our attention turns to the tacit dimension, and in particular three insights from STS (which has gone significantly further than IR in elucidating tacit knowledge (Collins, 2010; Hutchins, 1995; MacKenzie and Spinardi, 1995; Mukerji, 2009; Revill and Jefferson, 2014; Vogel, 2006, 2013a; Vogel and Dennis, 2018)). First: there are a variety of forms of tacit knowledge. Second: tacit knowledge is not always individual, but can be communal or collective. Third: that tacit knowledge can be somatic – a 'sixth sense' that individuals have, but struggle to communicate linguistically.

A *variety* of forms of tacit knowledge can (or, rather, *should*) be taken into consideration when attending to security and/or international practices (hence the error of assuming tacit knowledge is aggregate). Collins (2010) for instance speaks of, inter alia, 'logistically

demanding knowledge', 'concealed knowledge', 'ostensive knowledge', 'mismatched saliences' and 'unrecognised knowledge'. These can all be regarded as forms of 'inadvertent' or 'weak' tacit knowledge': 'that which could, under certain circumstances, be rendered explicit but either through inability, unwillingness or practicality remains unwritten and implicit' (Revill and Jefferson, 2014: 599). So with the above example of PHOs, should the advice – the fully articulable knowledge – have been withheld (deliberately or otherwise) for whatever reason, that should be regarded as 'weak tacit knowledge'.

Emphasising the importance of interaction between experts and/or assimilation, other important nuances in the STS literature on tacit knowledge include 'communal' or 'collective' tacit knowledge (Collins, 2007, 2010), which translates into ideas such as 'local knowledge systems' and 'communities of practice' (Knorr-Cetina, 1991, 1992; Pickering, 1995)[15]. There are two broad conceptualisations of communal tacit knowledge in STS. The first is typified by MacKenzie and Spinardi (1995), who suggest that various types of expertise may be incorporated into a given community of practice working towards a common goal. The failure to adapt, and incorporate expertise as required into a community of practice has the potential to result in stagnation (or in practice theoretical parlance, fluidity or ordering). Second is the idea of 'communally synthesised tacit knowledge' (Vogel, 2006; Collins, 2010). This is borne out of ongoing interactions between experts: such interactions in turn give rise to 'new forms of knowledge that become integrated in the community, rather than residing in particular individuals […] the embedded nature of knowledge in the social and infrastructural environment' (Revill and Jefferson, 2014: 603). Both of these emphasise *expert interaction* – 'something that human individuals […] can acquire, because of their special and continual access to the location of the knowledge — which is the social collectivity' (Collins, 2007: 261). This dovetails with much of the interdisciplinary practice theoretical engagement with tacit knowledge. The practices – the prophylactic controls/checks – discussed herein are at least in part predicated on local knowledge, and can therefore only 'work' in the individual 'sites' – within the context of local systems of practice

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[15] For clarity: a focus on 'sites' was built into the research design, and attending to and empirically engaging with the individual organisations 'hosting' practices, hence a focus on PHAs (see the relevant section below). Notwithstanding, it is important to note that whilst PHAs have their own 'local knowledge' they should also be regarded as a part of a broader community of Port Health practice insofar as they are bound by very specific common goals, regularly and routinely interact within one another, and the upshot of this: are bound and cemented by the same 'explicit formulations that prescribe, require, or instruct that such be done, said, or the case' (Schatzki, 2005: 471) and the same communal tacit knowledge (e.g. Adler, 2005; Wenger, 1998). As Adler and Pouliot (2011: 27) note: 'Practices in a constellation [or community] are interconnected – they share an epoch, a geographical place, a common object, a similar disposition; they react to the same conditions or perform the same functions, etc'.

and, crucially, within the broader 'community of Port Health practice' (Knorr-Cetina, 1991, 1992; Pickering, 1995).

The final key idea from STS is *somatic* tacit knowledge. This is the corollary of the 'limitations of the human body and brain' (Collins, 2007) and is the 'sixth sense', exemplified by the oft-cited example of riding a bike: something our bodies do, but cannot be articulated and thus transferred to somebody else. Instructions along the lines of 'sit on the saddle and peddle' or 'try and balance yourself' have little to no purchase. Instead, riding a bike is something learnt through trying, inevitably falling off, and trying again; in other words, some actions cannot be learnt from (explicit) instructions. There is no 'bike-riding manual', for instance, that I know of. Somatic tacit knowledge – *learning by doing* – is, in many respects, *the* 'classical' STS take on tacit knowledge. Though all of the above takes from STS are incisive, I suggest that it is somatic tacit knowledge in particular that has profound implications for how we think about security practices and particularly security decisions. This guides us first towards the tacit dimension, and then on to intuition (Polanyi, 1966, 2005 [1958]).

For Polanyi (1966) the tacit dimension – *pre-logical knowing* – is comprised of not simply practical know how (though this *is* central), but also feelings, imaginings, *informed guesses*, and *hunches*: 'passions' – all of which may inform (scientific) discovery, and in the present case *security decisions*. Polanyi's phenomenology does – admittedly – sound at worst occult and deeply abstract; at best like highly subjective introspection. However, neurological and biological research *does* support a) the tacit dimension and b) 'the idea that knowledge is an embodied process and that all our conscious attention is dependent on a whole range of unconscious, tacit processes' (Nightingale, 2003: 162). Moreover, consciousness 'is a private, first-person-perspective, subjective phenomena that brings neural images (like smells, memories and sounds) from *tacit subsidiary awareness*s into conscious focal awareness' (Nightingale, 2003: 162 emphasis added). Echoing Edelman (1992) from a neurological perspective, learning, categorisation, and memory are hard to divorce one from each other and 'many forms of memory can only be recalled by *doing* [...] and these include many scientific and technical procedures' (Nightingale, 2003: 157 emphasis added; see also Anderson, 1983; Edelman, 1989).

Within Polanyi's tacit dimension, intuition is the direct product of tacit knowledge – practical know how – and can be taken to mean impulses about judgements or decisions: patterns that have been built up over time, and lead to making sense of a given situation, and what course of action to take, instinctively, without conscious, deliberate reasoning: the 'instantaneous

comprehension or apprehension of an object or an event in the past, present, or future' (Turro, 1986: 900).

To explain: 'Normal cognitive activity generates a set of mental states or beliefs that allow us to actively pre-empt the behaviour of the world' (Nightingale, 2003: 160). When predictions turn out to be accurate, this 'breeds [a feeling of] satisfaction'. On the other hand, when we fail to understand the world and cannot resolve problems we 'breed [feelings of] tension and conflict' (Turro, 1986: 882). These gut feelings are trained during scientists' apprenticeships so that 'students who learn to tolerate the tensions that normally accompanies the process of resolving such intellectual conflicts often feel an excitement that is stimulating and rewarding in itself' (Turro, 1986: 882). *As scientists learn to solve problems, they learn to follow their gut feelings* (Nightingale, 2003: 160). Hence for STS scholars, intuitive *gut feelings* are personal – being predicated solely on individual experience – and have to be learnt 'in the laboratory' and cannot be articulated. As discussed in the following chapters, there is no formal training for PHOs, so 'gut feelings' similarly must be learnt 'on the job'. Whilst 'decision frames' – 'the structure of values and meanings which the decision-maker as a human being brings to any choice' (Hawkins, 1983: 12) – are recognised in interdisciplinary accounts of discretion and decision-making, they, firstly reduce this to simply 'experience', typically speaking of 'prior knowledge' (Lurigio and Stalans, 1990: 260). Secondly, they fail to adequately (if at all) account for the pre-logical: tacit knowledge and/or the tacit dimension. Instead of experience alone, we should be talking about intuition, as this is how *experience is translated into action*; within the pre-logical 'tacit dimension', intuition is – following the STS literature – 'tacit knowledge in practice'.

In sum, the conventional take in IR on security decisions – i.e. linking them with discretion – is not necessarily 'wrong' but somewhat superficial. Accounting for the tacit dimension sheds light on how discretionary security decisions work. Tacit knowledge and its corollary intuition – the tacit dimension 'in action' – should be regarded as acting as an unconscious 'filter' prior to the moment of a conscious discretionary judgement. To reiterate, this is the case because from a practice theoretical perspective, the tacit dimension – *all pre-logical knowing* – must be *ontologically prior* to explicit 'rules' (i.e. law) as practice theory stresses a performative understanding of the world. In the 'world of becoming', articulated meaning and/or explicit (background) knowledge are contingent on practice as mediator or carrier.

2.3 Practising Practice Theory: Methodology

If turning to practice is as much an empirical pursuit as it is theoretical one – owing to the materiality of practices – how do we go about it, and moreover how did I engage with health

security practices at the UK border? This section expands on the concept of praxiography. In short, we can take praxiography to mean a research strategy, which is aimed at making sense of practices, rather than culture. For clarity, 'ethnography [which has made some inroads into IR] refers to the textual transcription/translation of holistic descriptions and experiences gathered through fieldwork' (Vrasti, 2008: 282; see also Schatz, 2009; Vrasti, 2010[16]). I refer to my research engaging with practices as praxiography rather than ethnography for several reasons. Aside from being concerned with practices rather than culture, the term a) nicely encapsulates and stresses the requisite shift in perspective needed to engage with practices, and b) stresses how theory and empirics cannot (or rather should not) be divorced. As Bueger (2014: 385) notes:

> Praxiography is first a useful term since it takes up the argument that the turn to practice is not primarily about theory, but about the practice of doing research. The term clearly indicates this shift in perspective. It clarifies that practice theory requires a distinct methodology.

In some respects praxiography is fairly straightforward. On one hand it entails direct observation of practices, with the researcher observing, watching, listening to the bodily movements and/or artefacts at play: in this sense, participant/non-participant observation is 'the' appropriate method for praxiographic research. On the other hand praxigography is tricky as, in addition to these movements and artefacts, the researcher is concerned with what is – by definition – not immediately accessible: implicit background knowledge. If the 'core claim of praxiography is that "the social", "the cultural", and "the political" are based primarily and in the last instance in implicit knowledge and meaning' (Bueger, 2014: 386) insofar as it is aimed at making sense of practices, and thereby reconstructing meaning, praxiography is therefore a firmly interpretative and qualitative research approach[17].

> Implicit meaning is not immediately accessible; it needs to be accessed indirectly. To reconstruct implicit knowledge will require considering articulated meanings, utterances, actions or the handling of objects and artefacts. (Bueger, 2014: 388)

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[16] A number of studies have employed participant observation in violent settings, and bureaucratic settings, though they a) are not necessarily ethnographic and b) are not praxiographic (Dimitrov 2010; Fenno, 1986; Gusterson, 2004; Wagenaar, 2004; Wodak, 2011). It is essential to keep the terms non-participant/participant observation and ethnography/praxiography entirely separate: participant observation as method is invariably equated with ethnography, which is wrong given that for anthropology ethnography would entail far more than observation, and quite the opposite: an ethnography could quite easily get by without direct observation (e.g., Yanow 2009). Praxiography refers to exactly what is outlined herein: direct observation coupled with attempting to reconstruct background knowledge.

[17] Given this, and for clarity, ontologically speaking, an anti-foundationalist position is assumed herein, given it takes (in)security not to be an axiomatic, 'fact of life', but instead a subjective condition propelled by and 'made' of socially meaningful patterns of action. Given this, an interpretivist epistemological stance is assumed: as (in)security is regarded as contingent and subjective, any understanding/knowledge of it can only be gained by way of interpretation. This in turn naturally lends itself to a qualitative methodology.

So, whilst for practice theorists articulated meaning is of secondary relevance, in undertaking praxiography the researcher has little choice but to draw on 'articulated meaning, such as in explicit rules, classifications, cultural codes, metaphors, speech acts, representational practices, or discourse' (Bueger, 2014: 389). Moreover, in an attempt to make sense of practices (as they may, or may not, speak for themselves) and to attempt to access background knowledge, aside from observation, methods such as expert interviews *may* have a role in praxiographic research; likewise the analysis of documents may be of use – not only elucidating practices, but also giving insights into background knowledge: 'a major type of document for praxiography is manuals and handbooks that provide guidance on how to carry out activities' (Bueger, 2014: 401).

With this in mind, twelve months between October 2018 and October 2019 were spent undertaking extended periods of non-participant observation of Port Health Officers (PHOs) across five *sites* in the UK:

- Manchester PHA (October 2018-April 2019; *17 weeks of observations*);
- Mersey PHA (January 2019-April 2019; *12 weeks of observations*);
- Manchester Airport (July 2019; *2 weeks of observations*);
- London Stansted Airport (August 2019-September 2019; *4 weeks of observations*)
- London Gatwick Airport (October 2019; *2 weeks of observations*).

PHOs are by training environmental health officers, but receive no specific formal training in 'port health'. Instead PHOs learn and internalise knowledge 'on the job'. Some PHOs work within local authorities (LAs) – as is the case at airports in the UK. So, time spent at Gatwick Airport was with the Port Health team within Crawley Council; Stansted Airport falls under the auspices of Uttlesford Council; Manchester Airport is within Manchester City Council. Otherwise, PHOs work in separate, autonomous bodies known as Port Health Authorities (PHAs), whose antecedents can be found in colonial and tropical medicine, and in the Port Sanitary Authorities of the nineteenth century (discussed in more detail in the next chapter). These latter bodies are responsible for prophylactic measures at seaports, including at Manchester and Mersey PHAs where observations were carried out. This LA/PHA distinction is largely academic, and reflects little more than quirks in English law (and parallel legislation in devolved countries). As such, whilst not 'technically' correct, I refer to both throughout as PHAs for the sake of ease. Following Schatzki (2002, 2005, 2019) my approach to the praxiography was to focus on specific *sites*. The idea of site ontology is now discussed in detail, as it was incorporated into the research design. The following discussion therefore justifies the focus on PHAs in England.

2.3.1 A Site Ontology Approach

In short, site ontology means orienting a praxiography around specific sites. A site here is understood as any specific organisation, locale or place comprised of practices and/or material arrangements: places hosting entanglements of physical and mental activities, material artefacts, and background knowledge. If the focus of research is specific sites where order and/or structure are (re)produced, *scale* can be transcended[18]. 'There is no global in the local-global contrast […] The global is an emergent dimension of arguing about the *connection between sites*' (Marcus, 1995: 99 emphasis added).

> Site ontologies maintain that social life, by which I mean human coexistence, is inherently tied to a kind of context in which it transpires. The type of context involved — called 'sites' — comprises contexts of which some of what occurs or exists in them are inherently parts. The thrust of site ontology, consequently, is that human coexistence inherently transpires as part of a context of a particular sort […] A site is a type of context. For present purposes, a context can be loosely understood as an arena or set of phenomena that surrounds or immerses something and enjoys powers of determination with respect to it. (Schatzki, 2005: 467-468)

On questions of scale, insights from STS are once again useful in thinking about sites and practices. Latour (2005: 176) is worth engaging with at this point:

> Macro no longer describes a wider or a larger site in which the micro would be embedded like some Russian Matryoshka doll, but another equally local, equally micro place, which is connected to many others through some medium transporting specific types of traces. No place can be said to be bigger than any other place, but some can be said to benefit from far sager connections with many more places than others. This move has the beneficial effect to keep the landscape flat, since what earlier, in the pre-relativist sociology, was situated 'above' or below remains side by side and firmly on the same plane as the other loci which they were trying to overlook or include. What is now highlighted much more vividly than before are all the connections, the cables, the means of transportation, the vehicles linking places together.

What does this mean then? How does focus on specific – in 'orthodox' terms, 'micro' – sites in the UK transcend scale and speak to the 'bigger picture' of (Global) Health Security? This research could have quite easily, and intuitively, have concerned itself with the workings of the WHO, which certainly seems larger, or 'more macro' in a physical sense than the port and airport sites I attend to in this thesis. This however would be to overlook the fact that the WHO only seems 'more macro' insofar as it is more connected: its multiple connections to other sites including inter alia: state agencies, other UN agencies and IOs, NGOs, regional bodies/organisations, and so on. These connections are stabilised and maintained in and

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[18] As (Miettinen et al., 2009: 1309) put it, practice approaches typically reject notions of natural scale: 'The orthodox language of social science […] carves up phenomena into three levels: from the very micro (what people say and do); to the meso (routines); to the macro (institutions)'. Practice is thus designed to enable 'the transcendence of the division between such levels, such as that we are able to understand practice as taking place simultaneously both locally and globally, being both unique and culturally shared, "here and now" as well as historically constituted and path-dependent'. As such, focus on sites actively redresses concerns of scale insofar as it seeks to interrogate how and where such 'levels' (i.e. structure) are made, thereby becoming empirical questions (Latour, 2005).

through devices: documents, and regulations (the IHR being a case in point) produced in the WHO itself (as a site) and in turn disseminated globally. As (Bueger 2014: 393) puts it: 'The key idea expressed here is that a structure becomes structural, and order becomes orderly, by practices of structuring and ordering. It leads to the investigation of the production sites of structure, that is, the sites in which successful ordering takes place'. Put differently, turning to practices begs the question: *where are order and structure made*? STS subfields known as 'laboratory studies' or 'laboratory constructivism' (e.g. Latour 1987; Rouse, 1987; Knorr Cetina, 1992, 1995, 1999) have long attested that whatever is made in the laboratory, has consequence far beyond the confines the walls of the laboratory as a site. This in turn gives rise to the more general idea of structure-making sites, which should not necessarily be viewed in isolation. As Knorr Cetina (1992: 115 emphasis added) eloquently suggests:

> The focus upon laboratories has allowed us to consider experimental activity within the wider context of equipment and symbolic practices within which the conduct of science is located without reverting to the traditional concerns of the study of scientific organizations. In other words, the study of laboratories has brought to the fore *the full spectrum of activities involved in the production of knowledge*. It showed that scientific objects are not only "technically" manufactured in laboratories but are also inextricably symbolically or politically construed, for example, through literary techniques of persuasion such as one finds embodied in scientific papers, through the political stratagems of scientists in forming alliances and mobilizing resources, or through the selections and decision translations which "build" scientific findings from within.

The laboratory metaphor *is* imperfect (for discussion see, Guggenheim, 2012; Marcus and Saka, 2006) and not entirely dissimilar from other structural analogies in the practice literature[19]. This thesis is not interested in 'scale making' in the Latourian sense, nor is it necessarily concerned with actor-networks (though as becomes apparent in the following chapters, there *are* connections between sites). The rationale behind unpacking and employing Schatzki's site ontology is that it stresses that the small and local site can (re)produce macro structural effects, and foregrounds 'the ephemeral and [stresses] that weight has to be put on empirical, situation-specific research in order to understand how ordered (or disordered) the world is' (Bueger and Gadinger, 2015: 456). In the case of the present research then, this gives rise to the following question: *where is health security made*? Or put differently: *in which sites, and where, is health security structured*?

Why focus on the UK? Firstly, the UK has emerged in recent years as one of the key exponents of health security: disease features prominently in the UK's *National Security Strategy* (Cabinet Office, 2010); and the latest iteration of the UK's *National Risk Register of*

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[19] For example: Schatzki's (2005) notion of 'meshes', 'bundles', 'nets', and 'arrangements'; the Latourian (2005) notion of 'actor-networks' being (crudely and very broadly) outlined here, Bourdieu's (1994) notion of 'field' – perhaps the most famous and most developed structural metaphor.

Civil Emergencies claims that pandemic influenza is the most significant civil emergency risk facing the UK (Cabinet Office, 2017: 9). As such, aside from making practical sense, given recent policy discourse, focusing on the UK was an intuitive choice. Answering questions surrounding 'why PHAs as sites?' means zooming out, and following the above theoretical discussion of practice theory, starting with a fixed conception of health security – that health issues have increasingly been securitised by state actors – and analysing the patterns of action thereby constituting it[20]. By and large, health security – and indeed security broadly conceived (Campbell, 1998; Walker, 1993) – may be regarded as, essentially, characterised by spatiotemporal dichotomies: inside/outside (or internal/external); self/Other; developed/underdeveloped; pure/infected; civilised/barbaric; identity/difference, and so on. Crucially, turning specifically to health security, securitisation not only constitutes threats and establishes appropriate ways of acting in relation to said threats, it also serves to delineate space – places of 'safety' or 'purity', as well as danger or 'infection', hence health security has been and continues to be contingent largely on the dichotomy of 'inside/outside'. This is shown with the ongoing response to COVID-19 (Ferhani and Rushton, 2020).

The threat from infectious disease is understood as inherently predicated on contagion: pathogens' ability to 'travel' from one 'place' (i.e. state or region) to another, *across borders*, thereby 'threatening' the social and political body. Given this, in terms of considering routine practice, an intuitive analytical focus is the ways in which states (in this case the UK) attempt to *manage health risk* to 'the inside', in turn rendering 'the outside' intelligible in terms of risk/potential health threats (for a similar points, see Bashford, 2006a, 2006b, 2006c; Ferhani and Rushton, 2020; Price-Smith, 2008). In other words, in this thesis I am exploring the patterns of action intended to protect the 'inside' on an ongoing basis: routine practices designed to *manage*, *exclude*, and *prevent* the introduction of disease at *borders* (conceived in the conventional, territorial limits sense of the 'border' as per the IHR's treatment of them (Ferhani and Rushton, 2020)). The two categories of site – PHAs at the seaport and the airport – were selected to encapsulate the dichotomy of 'inside/outside', and explore the processes and systems continually in place to protect the UK at its territorial limits from health security risks.

Put differently, these local – seemingly inconsequential – sites serve to structure health security: they have (macro) structural effects insofar as these sites are where the dichotomy is 'made'. In the case of the United Kingdom, management of health risks at borders is

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[20] By 'securitised', here I am meaning that health has been increasingly linked with security (rather than necessarily in the Copenhagen sense of the term). Hence, that health has come to understood as a national and international security problem.

undertaken by Port Health Authorities (PHAs) at air, sea, and land crossing points (in the case of Northern Ireland). Some of these function under the auspices of the revised IHR of 2005, which are intended to '*prevent*, *protect* against, control and provide a public health response to the international spread of disease in ways that are commensurate with and restricted to public health risks, and which avoid unnecessary interference with international traffic and trade' (WHO, 2016: Article 2 emphasis added). Those functions that do not function under the auspices of the IHR are part of a broader European-wide regime of border controls on imported products of animal origin.

2.3.2 Access: Negotiating Proximity

One of the major pitfalls of praxiographic (and ethnographic) research is typically linked with (lack of) *access* to sites (or the 'field'). Many of the (admittedly small number of) studies employing participant and/or non-participant observation in IR stress that access to security-related settings in particular is far from easy: the result of entrenched cultures of secrecy. At odds with existing accounts, perhaps somewhat surprisingly given the practices I attend to in this thesis are undertaken at points of entry (i.e. borders – perhaps 'the' obvious security domain shrouded in secrecy), gaining access to observe PHOs was astonishingly straightforward. In short, after months of chasing tails and dead ends (ignored emails and voicemails; attempts to negotiate access via the Home Office), in early 2018 I came across the Association of Port Health Authorities (APHA) – the professional association representing the interests of PHAs. A phone call later, APHA agreed to make arrangements for me to undertake extended periods of non-participant observation with Mersey, Manchester, and Heathrow PHAs. Heathrow fell through in early 2019 due to staff turnover, though the APHA then made arrangements with the parallel PHA teams at Stansted Airport, Manchester Airport, and Gatwick Airport – again on my behalf. After an exchange of emails and a few phone calls to the relevant PHAs, access had been negotiated. Owing to ethical issues/confidentiality, unfortunately the individuals involved in permitting me access cannot be named. However this research is truly indebted to the time and generosity of the APHA.

2.3.3 Being There: (Non-)Participant Observation

> The central tenet is to initiate the research process from the point of view of the 'natives', the practitioners or the actors participating in a practice. Rather than limiting oneself to conceptual development, the intention is to understand from within, to seek proximity to the mundane and to start the translation between theory and fact while standing knee-deep in empirical material. Hence, this is an invitation to security studies scholars to drag themselves out of the university and attempt to talk to the natives. However, the concern is not only with ordinary language, but also with the many bodily movements and artefacts which are part of social interaction. Knowledge claims are hence based on 'being there' – of having a grasp of the situations, structures and artefacts in which meaning is situated. (Bueger and Mireanu, 2015: 124)

The use of non-participant observation in this thesis was not entirely orthodox, as this section outlines (and the brackets in the subtitle are not a self-indulgence). Moreover, how I actually went about accessing tacit knowledge is perhaps a little unusual compared to most praxiographic studies, which typically rely on interviews. This lack of conformity though is not necessarily flawed. Praxiography does by its very nature tend to be quite erratic and organic, and is not in any way prescriptive – 'the field' itself will always define the research. As suggested earlier, non-participant observation enables 'direct recordings of bodily movement either using field protocols or audio and video recording devices. Observing with eyes centrally allows for recording practices which do not entail speech' (Bueger, 2014: 399). Though this – the direct observation of bodily movements and artefacts implicated in a practice – *is* at the heart of non-participant observation, there is more to it than simply 'watching', 'listening' and 'observing'. Moreover, it is technically participant observation that is equated with praxiography:

> Participant observation is often seen as the 'corresponding method' to practice theory as it allows for the immediate and un-negotiated recording of practice in real time […] In IR there has been a growing interest in this technique. Much of the discussion draws on ideas imported from anthropology. Similar to anthropology, also in IR, much confusion remains on what should count as participant observation and what not. Should, for instance, attending parliamentary assembly or the meeting of an international organization count as participant observation? How much should *participant observation be actual participation* in the practices and to what degree can it be the passive observation of them? To mild the confusion, we find Czarniawska's (2007) proposal helpful, to reserve the term 'participant observation' to studies in which the researcher has become an actual participant in the practice he investigates. For studies that are more inclined toward observation, she suggests the broader term of 'field work' – understanding the term 'field' as referring to a field of practice, and not in the restricted Bourdieusan sense. (Bueger and Gadinger, 2014: 85 emphasis added; see also Bueger, 2014)

I refer to the primary method as non-participant observation throughout this thesis, though now thinking retrospectively about what I actually did in the field, the picture is somewhat hazy. Was it participant observation? Or was it non-participant observation? I set out squarely in the non-participant observation camp: immersed, 'there', but firmly 'outside' and passive. Yet, over the course of the year, at numerous times the distinction between non-participant observation and participant observation became blurred: as rapport was built up, I was frequently, actively asked by participants to carry out certain practices, thereby simultaneously participating in a practice, *and* also observing – anything from taking and recording water temperatures, to checking paperwork, or in some cases carrying out veterinary checks and releasing 'high risk' objects 'into free circulation' (as discussed in the corresponding chapters). On some occasions practitioners sought *my opinion* on sanitary conditions on board ships. I was never referred to by PHOs as a researcher, but as a 'colleague' or as 'Adam who's doing some work with us'. The participants seemed to take me under their wing, and began to treat me almost as trainee or an apprentice – actively

encouraging me to undertake certain tasks thereby enabling me to *learn by doing*. In this sense, in terms of method, it was somewhere (quite unintentionally) between participant and non-participant observation, hence why I call it quite unorthodox. This also, partly, explains some of the original insights this thesis has to offer – particularly in relation to the 'tacit dimension'. Echoing Bueger's (2014: 339) discussion of participant observation: it 'is however not only observation, but also participation. Participation in a practice allows learning the implicit knowledge that underpins a practice. Through this process and the use of reflexive technologies such as field notes, praxiographers can explicate implicit meaning'.

> Over time the researcher learns what is needed to perform the practices which are required in the respective setting, how to master and adjust them across different situations, and how to evaluate the performance of others. (Bueger and Gadinger, 2014: 86)

As such, rather than anything occult and deeply abstract, my time 'in the field' offered a unique entry point for engaging with and critiquing the 'tacit dimension' underpinning health security practices: I too 'became native' and – much how the STS literature suggests – *learnt by doing*.

The initial intention had been to employ expert interviews alongside the observations, but I found over time that participants would not only encourage me to participate, but would be frequently very willing and happy (i.e. entirely without prompt) to talk about what they were doing, and how and why they were doing it – invariably *whilst* they were undertaking given tasks. In other words, for the most part, I did not actively have to ask participants questions of what, how, and why (or similar questions); on occasions I would ask such questions, though this was the exception rather than the rule. The upshot of the openness of participants was that formally interviewing them was rendered redundant. As touched on earlier, expert interviews frequently play a role in praxiographic studies (see, inter alia Andersen and Sending 2010; Pouliot 2010; Wagenaar 2004) and are useful in accessing, reconstructing, and explicating 'implicit meaning' – or in my terms the 'tacit dimension'. The good rapport with virtually all of the participants I speak of enabled some of the problems with relying on interviews in praxiography to be circumvented: namely, that speaking about practices in an interview are not *the practices themselves*, and offer – at best – little more than superficial, post-hoc insights (Pugh, 2013).

> Interviews about practices and their underlying knowledge *are not the practices themselves*. Indeed the method of interviewing has often been criticized to provide *primarily ex-post rationalizations* of an individual actor's behaviour which are worthless as data sources. (Bueger, 2014: 399 emphasis added)

That said, I do not necessarily think interviews are worthless. If used creatively they can offer invaluable insights into practices, and the tacit knowledge underpinning them. Nicolini (2009: 204) imaginatively suggests using interviews to ask participants to instruct an imaginary double how they would go about their day-to-day life, thereby inducing 'the interviewees to produce a highly idealized narrative description of the practice from a particular moral and normative angle'. Notwithstanding, there seemed very little point in formally interviewing participants as it would have been merely rehearsing what had already been articulated. Moreover, it may have even undermined the rapport I had built up with participants by 'reminding' them that I was there as a researcher not a trainee/apprentice, potentially resulting in participants being less open during the observations[21].

Put differently, tacit knowledge in this praxiography was accessed, first and foremost from participation, observation and *articulated utterances*. As such, for the best part of a year, extensive non-participant observation was undertaken in each of the sites, though as discussed above this was fluid and frequently morphed into participant observation[22]. As trite as it may sound, in being 'immersed' I very much spent a 'year in the life' of PHOs: anything from having coffee in office and discussing the headlines first thing in the morning, to having lunch and finishing at the same time, my routine was very much dictated by the rhythms of the working day; the particulars of this are drawn out in the following chapters. On occasions, time would be spent with one practitioner shadowing just them (see note 22); on others I would be observing a team of PHOs, or else sat at a work station in an office environment. What I actually observed varied wildly depending on participants' and authorities' workloads.

During the observations themselves, descriptive field notes were taken manually with pen and paper (or occasionally on my phone), and have been used as the primary source of data in the thesis, and supplemented with post hoc reflexive notes, which were made each evening over the course of the year. The latter were reflections on my frames of mind: personal, emotional responses to the interactions, movements, and situations. My own visual artefacts have been

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[21] Crucially, as interviews are essentially created in dialogue, interviewer and participant must basically access meaning together, in turn co-producing interpretations; the interpretations of practices outlined in this thesis are, then, for the most part, not co-produced.

[22] 'Technically', my own use of non-participant observation incorporated elements of *shadowing* insofar as during ship inspections – for instance, as discussed in the following chapter – I had little choice but to follow practitioners around given they too were actively moving around ships. The distinction between *non*-participant observation and shadowing is largely academic. The latter can be regarded as following actors (or objects) during their daily routines, and recording observations. Shadowing, though, *is* different from participant observation as 'compared to participant observation, shadowing is easier, because it does not require a simultaneous action and observation […] it permits one to preserve an attitude of outsideness, whereas participant observation creates many opportunities for "going native"' (Czarniawska, 2007: 55– 56). This 'inside/outisde' distinction is unpacked in the corresponding section below.

incorporated into this thesis, and the photographs serve three important functions. Firstly, they are for the reader: in recording and representing my research and my experience of the research, they are *an invitation to see what I saw* and are, in essence, a means of presenting data. Secondly, I regard photographs as an important analytical device (rather than necessarily object) and photography as key to the praxiographic method, which I used – paraphrasing Stephanie Bunn (2011) – to 'make a point of view'. Put differently, over the course of the praxiography I found that photographs enabled me to bracket and pay attention to the *material* particulars of a spatiotemporal moment, and by doing so forced me to 'look differently' during observations, thereby making me question what objects or embodiments I may have missed. It 'reframed' my foci, if you will, and was central to data collection. Finally, photographs enabled more rigorous reflections *post hoc* by helping my memory, allowing me to spot things that may not have seemed important at the time, and so on. In short, photographs were part of both data collection and data analysis.

As such, making use of all the human senses – seeing, hearing, touching, tasting – and revealing that which normally stays hidden, the following specifics were noted during the *ad hoc* observations, though given the theoretical underpinnings of the research, particular attention was be paid to *activities, utterances* and *objects*:

- Where/when: place, time and date of observation;
- Context/space: layout of setting, rooms and outdoor spaces/infrastructure – particularly important in view of some practices were in 'securitised' border spaces;
- Actors: names and details of people involved (in line with ethical requirements, all names and identifying details are redacted in this thesis);
- Activities: what practitioners were actually doing – for example 'checking emails';
- Objects: material elements either being actively used in a given practice or merely present within a given context;
- Acts: specific individual actions – so from the above example of paperwork an act nested in this activity might be 'replying to an email';
- Specific movements: smiles or similar gestures, for instance;
- What, if anything was said and listening to informal or otherwise speech;
- Timings: sequences of acts;
- Purpose or goals: what were the motivations behind act or events - typically following (prompted or otherwise) something participants said, and/or corroborated with documents.

2.3.4 Document Analysis

Whilst the primary means of data collection I employed was (non-)participant observation, this was supplemented and triangulated with document analysis. Typically, document analysis is employed in praxiographic research to garner important insights into implicit knowledge. Whilst the dynamics of the observation gave me unprecedented access to the *tacit dimension*, this by no means rendered document analysis superfluous:

a major type of document for praxiography is manuals and handbooks that provide guidance on how to carry out activities. It goes without saying that the descriptions in manuals are not the same as the practices themselves [...] the manual of a laptop tells us little about how such a device is actually used. Nonetheless, manuals and handbooks can give us important clues about practices and the knowledge that informs them. Interpreting these documents implies taking a reflexive stance towards the idealized character of the instructions provided and their silences and limitations. (Bueger, 2014: 401)

In this sense, document analysis was used first and foremost to access *explicit* formulations of background meaning: primarily the IHR and companion documents such WHO guidance on Ship Sanitation, as well as the European and domestic legislation and guidance (i.e. 'standard operating procedures') underpinning the imported food regime. In both instances, document analysis offered important insights into the *explicit background knowledge giving the practices meaning and context*, as well as some insight into how practices 'should' be carried out. In terms of tacit knowledge, in both the case of the Ship Sanitation regime and the imported food regime, there was a conspicuous *disconnect* between what 'should' be taking place – the 'idealised character' as per explicit formulations – and what I actually observed, particularly with the former regime. So what? Rather than giving rise to accusations of anything such as malpractice, the disconnect between the two stresses and foregrounds the role of communal tacit knowledge, and particularly *somatic* tacit knowledge: personal, practical knowhow learnt through trial and error on the job.

As noted earlier of scientific knowledge, 'public accounts of science can differ considerably from informal accounts of how science actually takes place, and these public accounts frequently conceal the importance of tacit knowledge' (Revill and Jefferson, 2014: 601). As such, the use of document analysis, triangulated with and in conjunction with field notes, enabled greater understanding of the tacit knowledge underpinning practices. In sum, much like other methods in qualitative research this 'worked' through identifying relevant key documents, thoroughly examining (i.e. quite simply in-depth reading) and interpreting them in order to elicit meaning (e.g. Rapley, 2007). This iterative process took place *post-hoc* during the period of data analysis, and was not entirely dissimilar from the content analysis discussed below, entailed organising findings from documents into categories related a) to my own findings from the field work, and b) the thesis' research questions.

2.3.5 Data Analysis

The observations yielded hundreds upon hundreds of pages of field notes: several notebooks' worth in total, many of which are yet to be used. Whilst time-consuming, I had no real wish to use coding software (despite being trained in it), and consequently the field notes – both descriptive and reflexive – were manually coded in order to identify patterns, and categorise

them by theme. The field notes were typed up on my computer and placed into separate folders contingent on category: descriptive – what was actually taking place, what objects were being used, and so on, and reflexive – reflections post hoc about the situations (Schwartz-Shea and Yanow 2012). These notes were then systematically coded: again an iterative process in which broad, general patterns were identified. This coding process 'worked' in two stages. Firstly, the typed up notes were printed out, and I went through the notes relatively quickly line-by-line simply circling and underlining key words and phrases. Secondly, this was repeated but in more depth and methodically this time: notes were made in the margins aiming to generalise my findings, topics and themes, but also highlighting recurrent 'sayings and doings'. This in-depth coding was repeated once more, though this time rather than just discerning emergent repetitions and patterns, the aim was to disregard (i.e. 'in practice' crossing-out) themes that were not actually addressing my research questions[23]. The final stage, having narrowed identified categories down, was to cross reference themes and infer relationships between them, in order to be left with a cohesive set of (relevant) notes.

2.3.6 *The Ethics and Politics of Proximity*

This research, owing to its commitment to practice theory, in many respects had little choice but to adopt an analytical sensibility of proximity and, as already noted, participant observation is 'the' corresponding method for praxiographic research. Notwithstanding, much like its close relative ethnography, praxiography and participant observation entails a very specific form of reflexivity to overcome problems surrounding positionality. Essential to participant observation is reflecting on 'the ways that a researcher's demographic characteristics and personal background may be critical' as positionality 'can profoundly affect what the researcher sees or does not see, learns and does not learn' (Schwartz-Shea and Yanow, 2012: 67-68). As such, being reflexive throughout the praxiography about positionality is essential: 'not only to increase trust in the narratives told, but also to be transparent towards any biases that participant observation entails' (Bueger and Mireanu, 2015: 130). As such, throughout the praxiography being conscious of, and reflecting on, my own biases was very much part of the research process. Echoing Schwartz-Shea and Yanow, my demographic characteristics – i.e. my positioning as a white man – will no doubt have been helpful to me as a researcher; likewise my personal background is worth taking into

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[23] For instance, I have inuumerable notes on gender, and what I came to call 'maritime masculinities': ships still being referred to as 'her' or 'she'; *all* ships' crews (bar two cadets) were male, and as a result, the maritime industry felt as 'masculine' as the military – the ranks and authority, the self-reliance, the risk associated with seafaring all speak to this. Though fascinating (and unsettling) this was ultimately irrelevant for this thesis – although these notes may be used as the basis for future contributions

consideration at this point. It would wrong to suggest that my own political proclivities and background in critical security studies will have had no bearing on this thesis: in particular 'what I saw and *did not see* in the field'. This was always in the back of my mind, and throughout the fieldwork I aimed to observe 'anything and everything', and not simply what I thought was relevant to the research questions. Put differently, and as daft as it may sound, I tried to look for, observe and write down what I thought my imaginary double (who had absolutely no background in IR/critical security studies) would write down, and, of course, always being aware of my positionality. This, however, is only part of the problem with observations, and perhaps '*the*' major pitfall of 'being there' is just that: the very presence of me, the researcher:

> While doing participant observation, the authors themselves become embedded in the vast array of social interactions that constitute the field(s) of research, and this embeddedness gets internalized and reflected in the experience of the fieldwork. Positionality also increases awareness towards the problem that the knowledge the observers bring to the field interacts with the local knowledge of the 'subjects' of research and with the resulting (published) knowledge in ways that are always contingent and unpredictable. Second, 'participation', goes beyond the immersion in situations with the aim of observing, recording and gathering data. If we take the argument that knowledge affects social relations a step further, we will have to ask the question of the *actual influence of the presence and participation of the researcher within the field(s).* (Bueger and Mireanu, 2015: 130 emphasis added)

I like to think that my initial calls to participants 'to forget I'm here' and 'to go about things as you would do normally' will have been heeded. However, it would be naïve to think that they will have entirely forgotten about the man in the corner with a notebook. As such, on the matter of the 'influence of the presence and participation of the researcher within the field(s)' (i.e. the observer effect), I obviously cannot categorically say how – if it all – my presence will have changed the research subjects' behaviour. To suggest that the findings should be 'taken with a pinch of salt' would grossly undersell the research, and undermines my methodological choices, which takes us back to the importance of reflexivity: an acute awareness of my presence was built into both the data collection and data analysis. Yes, there is little doubt participants will have been conscious of my presence and may well (or may not) have 'done things' differently. However, the discussion earlier in this chapter stressed that practices should not simply be regarded as 'doing things'. Instead, practices are a combination of mental and corporeal activities, background knowledge, and material 'things'. In this sense, there is good reason to suggest that my presence will have little to no bearing on *all* elements of practices – in particular the explicit prescriptions underpinning the practices I engage with.

Before moving on to the empirical findings in the following chapters, a final brief note on the matter of ethics. The University of Sheffield's Research Ethics Committee approved this

research. This approval was based on the understanding that informed consent from all participants was sought, and all data would be anonymised. Needless to say both of these conditions have been met and all data included in this thesis has been edited: all participants' names, and any means of identifying participants have been removed from the data. This in turn explains what might appear at times to be rather clunky phrasing, the use of gender-neutral pronouns, as well as the absence of specific dates/locations in the field note extracts which could have led to the identification of individual PHOs.

2.4 Conclusion

This chapter outlined the key tenets of practice theory (or, strictly speaking practice *theories*): a collection of conceptualisations that see value in focusing on practices as the core unit of analysis. In line with the interdisciplinary literature, this chapter has stressed that practices themselves are not simply 'doing things'. Instead, it suggested that practices are socially meaningful, routinised patterns of action and are a combination of: corporeal and mental activities; material 'things' or artefacts and the ways in which they are operationalised; and the background knowledge which gives practices meaning.

Secondly, drawing on the STS literature on scientific knowledge production, it was suggested that background knowledge should be understood as explicit and tacit, and from the latter comes *intuition*: the instantaneous comprehension or apprehension of an object or event in the past, present, or future. Intuition sheds light on the mechanics of discretionary judgements: how security decisions are made, thereby furthering our understanding of the forms of knowledge at play in (routine) security.

Thirdly, the chapter detailed the research methods used, in particular the praxiographic methodology which entailed seeking proximity to practitioners. The discussion of praxiography suggested that non-participant observation is the corresponding method for praxiographic research and explained how this had been conducted, in conjunction with other methods such as document analysis.

The thesis now moves on to engage with infectious disease controls at the border – the first of the two empirical chapters applying practice theory to health security and discussing the findings of the praxiography.

CHAPTER 3

A Fence Around Britain: Infectious Disease Control at the Border

Key Points

- Port Health Authorities (PHAs) in the UK have a clear lineage, and have their roots in empire, and colonial medicine;
- Non-participant observation of health security practices undertaken by PHAs at the UK Border reveals a cordon sanitaire operating continually at seaports, though curiously, not at airports;
- Colonial, exclusionary logics are still being enacted and stabilised, with risk and danger being linked intrinsically with place;
- Health security practice is performative, and many of the routine practices serve to constitute (*in*)security on a daily basis;
- Many everyday security decisions are seemingly predicated on intuition;
- Authority, sovereignty, and state power: many of the practices observed are seemingly more about 'the Border' than they are public health.

3.1 Introduction

The preceding theoretical and methodological discussion outlined a framework for the analysis of (health) security practice. Theoretically speaking, it stressed that practices should be conceived as socially meaningful, routinised patterns of action. These patterns of action, in turn, are a combination of: a) corporeal and mental activities; b) material things or artefacts and the ways in which they are operationalised, and finally c) the explicit background knowledge which gives practices meaning, and what I referred to as the tacit dimension: practical understandings and personal know-how. Practice must be understood as an assemblage of the three, and not simply a question of 'doing things'. To illustrate this reading of practice: the observations initially yielded what appeared ambiguous findings. The inspection of hygiene standards in ships' galleys, for instance, seemed to have little to no bearing on health security. However, this was without adequate consideration of the explicit background knowledge inscribing such inspections with meaning – in the present case the IHR.

Following Mol (2002), and more recently (and pertinently) Bueger (2014) in IR, the previous chapter advanced the idea of praxiography. Consdiering practice does not only mean assuming a theoretical sensibility. Instead, it means assuming a total change in perspective, and adopting a distinctive methodology. As such, remaining sensitive to the prior discussion of practices and 'practicing practice-oriented research', this chapter draws on praxiographic research with Port Health Authorities (PHAs) in the UK, which was undertaken from October 2018 to October 2019[24]. Though (as described in Chapter 2) document analysis was employed

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[24] Whilst considerable time was spent undertaking fieldwork at both airports (Manchester, Stansted, and Gatwick Airports) and seaports (Manchester Ship Canal, and Port of Liverpool), as will become

during the research, it is the lengthy periods of non-participant observation of daily activities that has given a unique, privileged insight into the bodily movements, artefacts, and implicit knowledge underpinning routine health security practice. Employing 'reflexive technologies such as field notes' (Bueger, 2014: 399), this chapter explicates the patterns of activity, materiality, and knowledge continuously at play at the UK border in the name of control and management of infectious disease.

Challenging existing narratives in the health security literature rooted in securitisation theory, this chapter suggests that routine health security practice is underpinned by implicit colonial and exclusionary logics. However, rather than purely being put in place in *response* to public health 'events', these logics manifest in a *selective cordon sanitaire that is enacted continually*. Given this continual cordon sanitaire, there is reason to suggest that the 'making' of health security is not necessarily aggregate, nor necessarily discursive. Opposing paradigmatic assumptions, the 'making' of health security should instead be understood as performative: continuous and dispersed, and propelled by everyday practices. Moreover, though there is clear evidence of 'routine health security practice' at the UK Border, the work being undertaken by PHOs on a daily basis is seemingly as much about exclusion in the name of 'the border' as it is public health.

This chapter is structured as follows. It begins with a brief historical sketch, which contextualises 'Port Health': outlining how it emerged, before considering what Port Health is today, and what functions it currently serves. This section will also outline relevant legislation. In the parlance of practice theoretical approaches, this subsection focuses on the explicit background knowledge underpinning routine practice: like Reckwitz's rules of football in the previous chapter. The chapter then moves on to paint a detailed picture of routine infectious disease management at the UK Border, which draws heavily on field observations written during the praxiography. This section is not aiming to present 'a day in the life' of PHAs as such, as authorities serve several functions in the UK. Instead it focuses on one of the primary functions of PHAs: infectious disease prophylaxis, manifesting in the Ship Sanitation regime, which works under the auspices of the International Health Regulations (IHR) (2005).

As practice is comprised of explicit and tacit background knowledge, mental and corporeal activities, and materiality, this section of the chapter firstly elucidates and analyses the

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apparent and be unpacked in this chapter, the major focus in this chapter is the routine management of infectious disease at seaports. Despite the supposed interplay between health (in)security and ever increasing air mobility, relative to seaports, airports are curiously devoid of routine infectious disease control practices.

corporeal elements of routine health security practice: the moving bodies and quotidian, prosaic interactions; secondly it considers the material elements of routine practice. However, many of the politically meaningful, regulated corporeal bodily actions scrutinised herein directly deal with artefacts: like Reckwitz's football in the previous chapter, or Bueger's (2014: 387) example of writing requiring a paper and pen. Consequently, these sections are not absolute, and at times become blurred: it would be difficult in following discussion of 'the morning routine' to separate the use of technology from bodily movements, as the two work and embody practice in tandem. The checking and scrutinising of emails, as a security practice, is much like the paper and pen. Conversely, in a section towards the end of this chapter on uniforms, distinguishing between the two is more straightforward: admittedly uniforms only become politically meaningful when worn because of the modes of being they embody, but they are far easier to discuss in isolation. Finally, the chapter concludes.

3.2 Port Health Throughout History

Given the theoretical framing of this thesis, considering the explicit background knowledge underpinning and conferring meaning to practice is essential. However, it is not enough to simply outline the relevant international or domestic legislation, which is enacted by way of routine practice. The background knowledge of health security has a clear genealogy (Rouse 1996), and the merging of mobility (and migration) into hygiene practices and health security has in many respects characterised and contoured modern history (Bashford, 2003). Moreover, 'one of the major modes by which "world space" was imagined and problematized was through "world health", its predecessor "international hygiene", and the problem of origin: quarantine' (Bashford, 2006a: 81; see also Bashford, 2006b). A clear trajectory from early quarantine practices linked initially with national borders and the liminality of the oceans (Bashford, 2006a: 81), to Global Health Security as we now understand it – still overwhelmingly underpinned by exclusionary quarantine logics – is discernable. Consequently, the following discussion should not be regarded simply as historical background. Instead, it is significant because given the lineage of explicit knowledge underpinning contemporary practice and inscribing it with meaning – especially given that the concern here is 'knowledge in practice' – there is reason to suggest that colonial, exclusionary logics are still being enacted (for comparable arguments see Bashford, 2003, 2006b). This is especially so given the lack of formal training for PHOs, who instead learn and internalise such knowledge 'on the job'. Most of the practitioners I worked with are probably not conscious of this genealogy. Nonetheless – even if inadvertently – this genealogy certainly informs their work. In sum, the aim of this subsection is twofold: a) to outline the historical dynamics giving rise to Port Health, within the broader context of Global Health Security's history/emergence, and, b) to outline the current legislation relevant to Port Health.

As noted previously, there is 'nothing new' about the convergence of health and national and international security, and as it is currently understood it can be traced back as far as the post-WWII period (Harman, 2011). This in itself though is perhaps somewhat parochial. Whilst not incorrect, to suggest this would be to neglect the central role health (or rather ill health), has played throughout human history, as well as the inordinately longstanding linkages being health and security: this is exemplified by lead poisoning being attributed to the fall of an entire civilisation – the Roman Empire (Waldron, 1973). As Kamradt-Scott (2015: 189) suggests of this:

> For millennia, humans suffered and died from disease with no knowledge or understanding of the aetiological cause. From time to time historians such as Herodotus and Thucydides recorded wars and conflicts where infectious disease outbreaks played a prominent role, but for centuries the microbial agents responsible for these mass casualty events were attributed to vengeful gods, meteorological conditions, spiritual and moral depravity, inclement weather, and foul-smelling mists […] This is not to suggest, however, that our forebears were oblivious or somehow unaware of the prevalence of disease – far from it. In fact, although their attempts to mitigate the impacts of disease were often misguided (i.e., sacrificing animals to appease gods, the practice of using leeches to bleed influenza sufferers), it is the trial and error of past generations to develop measures and systems intended to prevent, treat, or cure disease that ultimately contributed to the level of medical knowledge we now benefit from. Moreover, several historical approaches to combating disease – such as the quarantine practices of the late 14th century onwards – proved so effective that we continue to utilize equivalent methods today.

These linkages notwithstanding, it is from the fourteenth century though we can discern the emergence of conscious, deliberate attempts to protect or – more aptly – 'secure' against health threats. Following increasing European expansion, global trade and capital accumulation, the Venetian Republic, which had been badly affected by the Black Death, led the way. Following the onset of the Black Death in 1348, the Venetian authorities appointed three 'guardians of public health' whose responsibility was to 'detect and exclude ships which had infected people on board' (Delich & Carter, 1994: 285). Not only were these primitive forms of prevention and surveillance apparent, 1377 saw Venetian authorities introduce exclusionary quarantine measures for the first time (Delich & Carter, 1994: 285; Tognotti, 2013)[25]. Black Death had seemingly arrived by sea (i.e. on ships carrying goods owing to increased levels of trade). Consequently, 'the Venetian authorities mandated that all newly arriving vessels be prevented from unloading cargo or passengers for a period of 40 days, purportedly on the basis that it was the same length of time Christ and Moses had spent isolated in the desert' (Kamradt-Scott, 2015: 190). Moreover, this period also saw ships' captains being required to 'report whether any passengers displayed signs or symptoms of illness' (Kamradt-Scott, 2015: 190). Tognotti (2013: 255) eloquently describes this procedure and is worth quoting at length:

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[25] Quarantine is 'the restriction of activities and/or separation from others of suspect persons who are not ill or of suspect baggage, containers, conveyances or goods in such a manner as to prevent the possible spread of infection or contamination' (WHO, 2016: 9).

> The arrival of boats suspected of carrying plague was signaled with a flag that would be seen by lookouts on the church tower of San Marco. The captain was taken in a lifeboat to the health magistrate's office and was kept in an enclosure where he spoke through a window; thus, conversation took place at a safe distance. This precaution was based on a mistaken hypothesis (i.e., that "pestilential air" transmitted all communicable diseases), but the precaution did prevent direct person-to-person transmission through inhalation of contaminated aerosolized droplets. The captain had to show proof of the health of the sailors and passengers and provide information on the origin of merchandise on board. If there was suspicion of disease on the ship, the captain was ordered to proceed to the quarantine station, where passengers and crew were isolated and the vessel was thoroughly fumigated and retained for 40 days.

What can be suggested then, is that the Black Death gave rise to a) exclusionary measures, and b) health security more broadly, with measures such as quarantine becoming prevalent across Europe: Genoa, Milan, Marseilles, Majorca, and Florence all introduced similar procedures to protect their respective populations. Moreover, owing to the impact of the Black Death, over the following centuries, many European countries introduced not only quarantine to protect the healthy, social body from exogenous threats, but also measures such as fumigation of people and goods arriving from known 'infected' areas (regardless of assurances from ships' captains). Similarly, periods of 'convalescence' (i.e. extended periods of quarantine or isolation) were not uncommon throughout Europe.

The apparent emergence of health security throughout the post-Black Death period is not limited to Europe (Cipola, 1976, 1981). Lee (2009) notes measures such as quarantine are evident in the early nineteenth century in North Africa, Constantinople, and Persia[26]. In the words of Rod Edmond (2006: 141) 'a fence around Europe and around the European in the tropics' became established, and against the backdrop of increased colonial expansion, concern with the potential threats posed by incoming people and goods intensified throughout the seventeenth and eighteenth centuries. In tandem with this concern, measures to counter threats became prevalent globally:

> In ports in North America, quarantine was introduced during the same decade that attempts were being made to control yellow fever, which first appeared in New York and Boston in 1688 and 1691, respectively. In some colonies, the fear of smallpox outbreaks, which coincided with the arrival of ships, induced health authorities to order mandatory home isolation of persons with smallpox, even though another controversial strategy, inoculation, was being used to protect against the disease. In the United States, quarantine legislation, which until 1796 was the responsibility of states, was implemented in port cities threatened by yellow fever from the West Indies. In 1720, quarantine measures were prescribed during an epidemic of plague that broke out in Marseille and ravaged the Mediterranean seaboard of France and caused great apprehension in England. In England, the Quarantine Act of 1710 was renewed in 1721 and 1733 and again in 1743 during the disastrous epidemic at Messina, Sicily. A system of active surveillance was established in the major Levantine cities. (Tognotti, 2013: 255)

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[26] Turning specifically to England (as this predates the 1707 Acts of Union), the first formal quarantine regulations were outlined in 1663, aiming to confine suspected plague-infected ships along the Thames Estuary (Tognotti, 2013). This emerged to become the Quarantine Act of 1710, which was amended in 1721, 1723, and 1733.

Key for the development of health security within this period (and for the following analysis of contemporary health security practice in the UK), is empire and colonialism. The 'fence around Europe' may well have emerged initially because of the impacts of the Black Death, but European expansion from the fifteenth century onwards propelled health security both as an idea, and 'in practice'. Health security in this respect is analogous with colonial medicine (the two are not mutually exclusive): the former in reaction to the socio-political problematic emerging 'from the increased contact between Westerners and non-Westerners in colonial settings' (Nunes, 2015: 65); the latter apparently emerging from the threat posed by exogenous, incoming people and goods.

Medicine 'spoke to the anxiety regarding the protection of the Western self in a "hostile" environment, with the colonized being portrayed as the major threat for the health of colonizers' and the colonised themselves – as a source of contamination – 'were seen as threats to the colonial project' (Nunes, 2014: 65). Within the context of colonialism, illness and disease became underpinned by logics of exclusion and containment, and medicine itself 'assumed the role of a boundary-drawing and boundary-maintaining device' (Nunes, 2015: 65; Nunes 2013). Medicine was in many respects central to the (re)production and legitimation of difference between the 'civilised' and healthy West, and the 'uncivilised' and unhealthy non-West: health 'and disease were an important element in this refashioned grammar of difference, and tropical medicine played a significant role in naturalizing the basis upon which difference was constructed' (Edmond, 2006: 141).

Though burgeoning, propelled by the forces of increasing European expansion and colonialism and the corollary introduction of cholera into Europe, it was only in the 19th Century that health security became acknowledged formally internationally (Fidler, 2005). The advent of hygienic norms may well have been in the fourteenth century, however health security really began to contour modes of citizenship and become normalised during the nineteenth century. Cholera – the 'Asiatic Disease' – emerged in Europe in 1830, and the United States in 1832, owing to 'increasing globalization caused by technological changes in transportation, a drastic decrease in travel time by steamships and railways, and a rise in trade' (Tognotti, 2013: 256). As such, in Paris, France, in 1851, the first International Sanitary Convention took place. Bringing together medical and diplomatic representatives from twelve European states, the 1851 Convention sought to develop commonality across Europe in national quarantine procedures: it became acknowledged that the spread of infectious disease across borders demanded, at least in part, some level of international cooperation and a shift towards a harmonised approach to quarantine (Baldwin, 1999).

However, as Kamradt-Scott (2015: 191) notes of the 1851 Convention, despite negotiations lasting six months, and including forty-eight plenary sessions, 'the convention failed in its objective of developing a uniform system of quarantine, principally due to ongoing differences in opinion over how cholera was transmitted'. Between 1851 and 1944, fourteen further International Sanitary Conventions took place, which were intended redress the socio-political (and economic) impact of major outbreaks of infectious disease (Fidler, 2001). The eleventh of these Sanitary Conventions resulted in the Office International d'Hygiène Publique (OIHP) being established in Paris, France. This was dissolved and ultimately incorporated into the WHO in 1948, but nonetheless represented a move towards a worldwide system of reporting infectious disease, producing weekly epidemiological reports of incidence, and their position globally. These developments at the intersection of health, security, and politics more broadly culminated in 1948 in the constitution of the WHO, which decreed: 'The health of all peoples is fundamental to the attainment of peace and security and is dependent upon the fullest co-operation of individuals and States' (WHO, 2006: 1)[27]. Moreover, under Articles 21(a) and 22, the Constitution of the WHO confers upon the World Health Assembly the authority *to adopt regulations designed to prevent the international spread of disease* (WHO, 2006: 6). Having been adopted by the Health Assembly, said regulations will enter into force for all WHO Member States that do not affirmatively opt out of them within a specified time period (WHO, 2006: 6).

Against this backdrop it is possible to discern the beginnings of Port Health in the UK. Owing primarily to empire, throughout the nineteenth century ports in Britain were hubs of commerce and trade, being 'swarmed with vessels arriving daily from all over the world, loaded with goods and people and, frequently, with disease' (Maglen, 2002: 413). As the above sketch has shown, since the Renaissance, the potential introduction of infectious disease, along with the spoils of expansion and empire, had been a recognised consequence of international maritime intercourse, to which quarantine was seen as the primary solution. 'In Britain, by the turn of the nineteenth century, quarantine was imposed for up to 60 days on vessels which carried or arrived from ports infected with cases of plague or yellow fever' (Maglen, 2002: 413), as the 1825 Quarantine Act made mandatory. However quarantine measures a) proved unsuccessful in controlling the introduction and spread of cholera and b) 'its obvious interference with maritime trade led to a general and growing resistance towards

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[27] Innumerable scholars have, quite rightly, noted the apparent proliferation of quarantine measures, and sanitary conferences in the nineteenth century to be the direct precursors to the current governance architecture. See, for example, Fidler, 2005.

it, which was manifest throughout most of the nineteenth century' (Maglen, 2002: 413)[28]. Given Britain's commitment to free trade, the nascent resistance throughout the nineteenth century can be primarily attributed to quarantine hindering the colonial project, and undermining British trading interests/hegemony. Whilst quarantine continued to play a central role in the day-to-day operation of British ports for the reception of 'exotic' diseases, plague, and yellow fever, in 1872 Port Sanitary Authorities were established as an additional system of prophylaxis, which avoided lengthy delays to ships (Maglen, 2002). Their powers were assigned by the Local Government Board:

> From 1872, an alternative system of coastal disease prevention, more sympathetic to British requirements, was offered at British ports. Known as the 'English System', it was administered by the Port Sanitary Authorities. It dealt specifically with non-quarantineable infectious diseases. These referred to diseases not covered by the Quarantine Act and included smallpox, typhoid, scarlet fever, and measles. 'The English System' required that only those ships with visible signs of these diseases on board, as determined by a medical inspector, should be disinfected, the sick removed to an isolation hospital, and other crew and passengers who displayed no symptoms of disease be monitored after disembarkation. (Maglen, 2002: 414)

Following international developments (as discussed above) the Public Health (Ports) Act (1896) was instituted following the 1892 International Sanitary Conference in Vienna, and following the introduction of the 1886 Sanitary Act, ships fell under the jurisdiction of the Nuisance Authority. However, given that 'many ports extended over the area of more than one riparian authority [as ports/stretches of coastline can often straddle more than one local authority] the Public Health Act 1875 provided for the establishment of one Port Sanitary Authority for each Customs Port' (APHA, 2020). This legislation, in other words, allowed for each individual port to fall under the permanent jurisdiction of a single Port Sanitary Authority, who were in turn responsible for the control of exogenous health 'threats' (i.e. non-quarantinable diseases) at points of entry. Inspectors of Nuisances – forerunners of today's environmental health officers (EHOs) – would perform such duties.

The Port of Manchester Sanitar*y*'s *Annual Report* (1899, 1900) offers valuable insights into the early workings of Port Health. In line with legislation, the *Report* reveals that activities were primarily oriented around surveillance and the daily 'sanitary inspection of ships', thereby ensuring and enforcing ships' compliance with the Public Health Act[29]. Aside from offering advice to inspectors on recognising the symptoms of various diseases (in a

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[28] Following the repeal of the 1733 Quarantine Act and the introduction of the 1825 Act 'Britain had not yet experienced any domestic cases of cholera. The Act, therefore, did not specify cholera as a quarantineable disease' (Maglen, 2002: 413).

[29] Also key during this period is the Notification of Infectious Disease Act (1889). As the name suggests, this legislation made reporting of any case of communicable disease to the local Sanitary Authority mandatory; the corollary being the compulsory reporting of cases on incoming ships to Port Sanitary Authorities. As such, daily inspections would ensure effective reporting (ultimately to the Medical Officer of Health).

section of the annals ominously titled 'Sickness'), the *Report* offers guidelines for inspectors on preventing the introduction of disease into the country. Areas of ships to be inspected included: crews' quarters, ventilation, general cleanliness, the source and quality of drinking water, as well as details of any sickness on voyage or disease on arrival (MPSA, 1901: 10-11; 1900: 8). Should any defects be found, with the potential to cause a public health risk, the master of the ship was ordered to make alterations, in which case the Medical Officer would also visit the ship.

On the face of it, the emergence of Port Sanitary Authorities during the latter half of the nineteenth century would suggest a marked shift away from exclusionary, quarantine logic. Yet two points must be stressed: firstly, the 'English system' of infectious disease control continued to routinely employ quarantine measures at ports until 1896 when quarantine was finally abolished (McDonald, 1951). Secondly, it has been noted that the English 'dual system', and the Port Sanitary Authorities that succeeded it, became intrinsically bound up with immigration control, and that 'sanitary surveillance' is far from a more ethical alternative. In terms of non-quarantinable diseases, the daily workings of Port Sanitary Authorities would entail the movement of passengers suffering from infectious diseases to isolation hospitals, whilst 'healthy passengers and contacts were monitored in their place of destination by local [Medical Officers]' (Taylor, 2016: 513). This in itself – demarcation and separation – is tantamount to quarantine. Moreover, whilst there was no legislation in place to prohibit the entry of subjects on medical grounds, 'regulations put in place during the 1892 cholera epidemic made immigration to Britain more difficult and paved the way to greater control of migrants at the ports' (Maglen, 2005: 82). The regulations introduced as a result of the Cholera epidemic

> demanded information regarding the intended whereabouts of immigrants in the days following arrival. If an immigrant was unable to provide a legitimate address or name a lodging house registered as 'sanitary' they were detained by the Port Sanitary Authority in a manner comparable with some forms of quarantine. (Maglen, 2005: 82)

Aside from the early ship inspections, 'the ability to maintain a 'sanitary surveillance' over immigrants in the days after arrival was considered the most effective method of preventing the importation of cholera, acknowledged to be particularly prevalent among immigrants' (Maglen, 2005: 82; Maglen, 2014). This 'sanitary surveillance' of immigrants manifested in the requirement to a) provide accurate onwards addresses, and b) for onward addresses to be deemed 'sanitary'. Seemingly 1892 marked a shift in infectious disease control in Britain: away from diseases, to a focus on categories of person in the years preceding the 1905 Aliens

Act, and subsequent 1919 Act and 1920 Order (Maglen, 2014: 193; Taylor, 2016)[30]. In sum, if throughout European expansion it can be suggested that medicine was central to notions of difference, then health prophylaxis methods in Britain were a means of asserting (medical) superiority, reconfiguring and shaping collective understandings of immigration, and indeed contouring the construction of the modern border (Bashford, 2006; Taylor, 2016). This merging of health prophylaxis and borders is in itself particularly relevant for the scrutiny of the contemporary securitisation of health issues, and the broader socio-political conditions allowing for security framing. The emergent health/immigration/crime nexus in the early twentieth century potentially goes some way to explaining the contemporary emergence of infectious disease as a site of collective unease, and an arena of political intervention, given medicine had become conflated, apparently, with not just difference but expressly with criminality.

These broader socio-political developments, and specifically the Public Health Act 1875, gave rise to the contemporary Port Health Authorities (PHAs) functioning in the UK (Rotherham, 1999; Pocknell et al., 2011): the statutory powers initially established by the 1875 Act are now embodied in the Public Health (Control of Disease) Act 1984[31]. Throughout the twentieth century, Inspectors of Nuisances and Port Sanitary Authorities developed in tandem with broader developments in, and the reorganisation of, local government: the relationship between the two can be understood as bidirectional given that local authorities themselves grew initially out of the original local health authorities (Rotherham, 1999; Pocknell et al., 2011). PHAs today are the latest manifestation of these historical linkages between health and security: understood as the assumption that health insecurity – exogenous health threats to the social and political community – should be redressed by measures underpinned by logics of exclusion and containment. According to the Association of Port Health Authorities (APHA, 2020): 'Port Health Authorities (PHAs) are constituted with the primary objective of preventing the introduction into the country of dangerous epidemic, contagious and infectious diseases and ensuring the wholesomeness of

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[30] Unsurprisingly obscured, the 1919 Aliens Act and subsequent 1920 Aliens Order aimed to narrow and restrict, as far as was practicable, the admission of 'aliens' into the country. Giving rise to mandatory reporting to police, medical inspections of incoming 'aliens' at ports (undertaken under the auspices of Port Sanitary Authorities) were also introduced, these Acts 'presumed that a certain class of immigrant—aliens—presented identifiable and specific health risks to the British population and therefore should be controlled' (Taylor, 2016: 514). Whilst scholars quite rightly note the illiberal, arbitrary and dehumanising nature of the Aliens Acts/Orders, given the broader historical background in which they emerged – particularly give the confluence of health and colonialism – they perhaps should not come as much of a surprise.

[31] Though this is the principal legislation initially giving Port Health statutory powers, it is worth noting the Port Sanitary Regulations (1933) were instituted in the UK following the 1926 Sanitary Convention in Paris, consolidating existing prophylactic measures. The 1875 Act was re-enacted in the Public Health Act 1936.

imported food' (APHA, 2020)[32]. Today's PHAs (and local authorities performing Port Health functions) are comprised of environmental health officers (hence why Port Health may fall within the bailiwick of a local authority's environmental health department):

> Most of the work of a port health authority is undertaken by environmental health officers; where a district council is the port health authority, the work may devolve on a few specialists. The whole environmental health department may be involved, particularly where the port or airport is handling traffic outside normal hours. When the port health authority is constituted as a joint board [i.e. a riparian authority like Manchester PHA, for instance] it will employ its own environmental officers and administration staff and precept the constituent local authorities for any expenditure occurred. (Rotherham, 1999)

Crucial for this chapter (and thesis as a whole), beyond requisite formal qualifications in environmental health, *there is no formal, specific training for PHOs*: one participant recollected an (apparently pallid) single lecture on the subject as an undergraduate student. The specialist knowledge of Port Health is learnt and internalised through collective processes. In other words, learning is almost entirely 'on the job' training through interaction: two new PHOs were being trained in the 'rules of the game' at Mersey PHA during the period of observation. This stresses the centrality of tacit knowledge to (health) security practice (defined in the 'classical' STS sense, as discussed in the previous chapter). In terms of the broader bearing this has on health security (unpacked in greater detail later on), conceiving practices as 'repeated interactional patterns' – that are learnt by 'doing' – helps to explain the *ordering* of health security routines: the (re)production of rather narrow conceptions of the nature of 'problems' and appropriate 'resolutions'. As 'the need to engage one another forces people to return to common structures' (Swidler 2001:85; Revill and Jefferson 2014), it can be suggested that stability and (re)production are achieved, at least in part, because of this lack of formal training. This fact in itself bolsters arguments later on in this chapter: following the likes of Bashford (2006), the exclusionary practices I observed are not simply resonances of the colonial past. *Instead – owing to stability and ordering – those colonial, exclusionary logics are still being enacted.*

3.2.1 Port Health Today
Having offered a sketch of the broader historical dynamics giving rise to the emergence of Port Health in the UK, this chapter now takes a look at the current 'state' of Port Health, and situates its functions within the context of modern Global Health Security. Turning back to

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[32] This second primary function – the health/border controls applied to food – is the focus of the next chapter. It is, however, worth noting at this point that PHAs perform a number of tangential functions including: environmental protection (e.g. permits for the discharge of certain cargo or potentially polluting activities); water quality; the disposal of International Catering Waste (ICW), which will be touched on later in this chapter, and finally civil contingency/emergency planning. As Category One Responders within the Civil Contingencies Act (2004), PHAs are responsible for emergency planning – typically through or in conjunction with Local Resilience Forums, and are also core responders to any emergency.

the evolution of Global Health Security – as both a problem and resolution – the WHO is central to the workings of Port Health in its current semblance. Following the constitution of the WHO in 1948, the Fourth World Health Assembly initially adopted the International Sanitary Regulations in 1951, being renamed as the International Health Regulations (IHR) in 1969. Following the trajectory of Global Health Security over previous centuries – as outlined above – the IHR were instituted to monitor and control six quarantinable infectious diseases: cholera, plague, yellow fever, smallpox, relapsing fever and typhus (WHO, 2016: 1). The 1969 Regulations were amended in 1973 and 1981, and reflecting the eradication of smallpox, the number of diseases was reduced from six to just three: yellow fever, plague and cholera (WHO, 2016: 1). The IHR are a legally binding framework – on all member states of the WHO – for the management and control of communicable disease. They aimed to unify domestic preventative arrangements (as typified by the activities of Port Sanitary Authorities in the UK): This legal framework intended

> to ensure the maximum security against the international spread of diseases with a minimum interference with world traffic. Following the increasing emphasis on epidemiological surveillance for communicable disease recognition and control, the new Regulations are intended to strengthen the use of epidemiological principles as applied internationally, to detect, reduce or eliminate the sources from which infection spreads, to improve sanitation in and around ports and airports, to prevent the dissemination of vectors and, in general, to encourage epidemiological activities on the national level so that there is little risk of outside infection establishing itself. (WHO, 1983: 5)

Echoing Heymann and West (2014: 101), 'the IHR were aimed at stopping the spread of these four diseases by the application of preestablished control measures at international borders'. Seemingly assuming that infectious disease was conveyed and primarily spread by international marine traffic ('exogenous "threats" to be contained'), one of the central features of the 1969 IHR was the so-called Deratting Certificate: one of the key control measures, which aimed to reduce the international spread of rodent-borne diseases, especially plague. Whilst legislating primarily for the management of vectors[33], the Deratting Certificate emerged as one of the pillars of the IHR, and a key mechanism for the formal control of infectious disease globally. As the name suggests, a Deratting Certificate would be issued following the routine inspection of a ship (much like the Port Sanitary Authorities emerging in the nineteenth century), thereby certifying the vessel was free of vectors of disease; if issues (i.e. risks) were found on board, control measures would be imposed such as disinfection. In the case of the UK, the issuance of Deratting Certificates fell under the

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[33] 'Vector' being defined as 'an insect or other animal which normally transports an infectious agent that constitutes a public health risk' (WHO, 2016: 10).

jurisdiction of PHAs[34]. Over the course of the intervening fifty years, the intensification of mobility and the 2003 SARS outbreak resulted in the adoption of revised IHR on 23 May 2005, which came into force on 15 June 2007. Institutionalising the concept of Global Health Security, and like the legally-binding, original iteration, the revised IHR (2005) are designed to 'to prevent, protect against, control and provide a public health response to the international spread of disease in ways that are commensurate with and restricted to public health risks, and which avoid unnecessary interference with international traffic and trade' (WHO, 2016: 1). Whilst legally-binding, states

> have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to legislate and to implement legislation in pursuance of their health policies. In doing so they should uphold the purpose of these Regulations. (WHO, 2016: 10)[35]

The IHR (2005) saw Deratting Certificates being replaced by the much broader Ship Sanitation Certificates (SSCs), which

> are of particular importance for the prevention and control of public health risks on board ships on international voyages. They provide internationally recognized documentation regarding the sanitary conditions of a ship, while reducing the need for further and more frequent inspections of the ship during the period for which the certificate is valid (but with options for additional inspections under certain limited circumstances). (WHO, 2011: 15)

SSCs are best regarded as certificates confirming the absence of public health risks on board ships, the issuance of which follows the inspection of a ship's: galley; pantry/stores quarters; evidence of vectors/standing water; potable and ballast water; solid and medical waste; engine room, and medical facilities. (See Appendix 1 for a 'model' certificate as per WHO guidelines). 'When a public health risk exists, control measures that will reduce the risk to an acceptable level should be identified. The conveyance operator is responsible for controlling any onboard risks. Nevertheless, the competent authority should provide reasonable

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[34] The principal domestic legislation applying to international maritime traffic arriving from outside UK waters in England is the Public Health (Ships) Regulations 1979; Public Health (Ships) (Amendment) (England) Regulations 2007; Public Health (Aircraft) Regulations 1979 (under review) amended by the Public Health (Aircraft) (Amendment) (England) Regulations 2007. These Acts implement the provisions of IHR. Parallel legislation is in place in devolved administrations.

[35] As such, though legally binding, the IHR should be regarded as a baseline standard, which must be adhered to, but domestic legislation can build on. So, in the United States, for instance 'the authority to issue, inspect, and require [SSCs] within the United States or its territories resides solely with the Centers for Disease Control and Prevention's (CDC) Division of Global Migration and Quarantine (DGMQ), the "Competent Authority" under the IHR (2005) for U.S. ports of entry' (CDC, 2015). However in the United States, domestic legislation does not require a valid SSC to be granted for free pratique, but reserves the right to board and inspect a ship. Such variation and nuance in domestic legislation is beyond the scope of this thesis. (Free pratique is 'permission for a ship to enter a port, embark or disembark, discharge or load cargo or stores; permission for an aircraft, after landing, to embark or disembark, discharge or load cargo or stores; and permission for a ground transport vehicle, upon arrival, to embark or disembark, discharge or load cargo or stores' (WHO, 2016: 7). As per the IHR, free pratique cannot be denied on health grounds; it can however be subject to conditions.

assistance to identify suitable and relevant control options' (WHO, 2011: 34)[36]. In this case a Ship Sanitation Control Certificate (SSCC) is issued; should no risks be identified a Ship Sanitation Exemption Certificate (SECC) is issued (WHO, 2011).

> SSCs are designed to identify, assess and record any public health risks, and the consequent control measures that should be taken, while ships are in port. Public health risks are identified by *epidemiological evidence, direct observation or measurement (or any combination of these).* The competent authority should evaluate the risk in terms of the epidemiological situation and the severity of the risk. Control measures shall be applied at the point of entry, according to the conditions specified by the IHR (2005). If clinical signs or symptoms of illness or disease and factual evidence of a public health risk (including sources of infection and contamination) are found on board a ship on an international voyage, the competent authority shall consider the ship as affected and may: (a) disinfect, decontaminate, disinsect or derat the conveyance, as appropriate, or cause these measures to be carried out under its supervision; and (b) decide in each case the technique employed to secure an adequate level of control of the public health risk as provided in these regulations. Where there are methods or materials advised by WHO for these procedures, these should be employed, unless the competent authority determines that other methods are as safe and reliable. (WHO, 2011: 21 emphasis added)

As internationally recognised, and legally required (but not necessarily legally required for free pratique) documentation for any ship travelling within international waters, SSCs perform a crucial role within international maritime transport: an industry that has been, and continues to be absolutely paramount to the mechanics of global trade and capitalism. In the UK alone, according to Department for Transport figures (DfT) British seaports handled some 483.3 million tonnes of freight in 2018 (DfT, 2019). For the control/prophylaxis of infectious disease, then, what is apparent is a robust (though not necessarily to say effective) regime functioning globally as *all* international voyaging ships are required to hold a valid (i.e. 'in date') SSC[37]. As 'authorised officers', and acting on behalf of the competent authority (PHE), the issuance of SSCs in the UK forms a central part of PHAs' responsibilities (Rotherham, 1999). The workings of this regime in the UK is the focus of the remainder of this chapter. Before this, however, it is worth making a brief point about the IHR and (commercial) air travel.

Though this will be further scrutinised towards the end of this chapter, what is remarkable about the IHR (2005) and the SSC regime – as an observation in its own right, and for the subsequent analysis of contemporary routine practice in the UK – is that there is *no comparable regime globally for airports and aircraft.* Put differently, no 'Aircraft Sanitation Certificate' regime exists, and *the control measures for maritime traffic have no parallel.* Conceivably, this is the result of the development of Global Health Security over previous centuries and the centrality of international maritime intercourse to this trajectory. Despite

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[36] In England the competent authority is Public Health England (PHE), who PHAs act on behalf of, thereby rendering PHOs authorised officers.

[37] Globally, there are charges (based on the size of a vessel) for the issuance of SSCs. Domestic rates are agreed by APHA.

this, the IHR (2005) emerged following the SARS outbreak in 2003 and were revised – at least in part – because of increased mobility (not least, by air). This is strange given the supposed interplay between the transmission of infectious disease and (commercial) air travel[38]. On the one hand, the WHO *does* favour open borders and the revised IHR (2005) heralded a paradigm shift: 'away from border controls as a means of stopping the ingress of disease into individual countries toward a model of containment at source' (Ferhani and Rushton, 2020: 464) – so this absence is perhaps not surprising and is consonant with this shift. Yet, on the other hand, this fails to account for the robust edifice of controls at seaports. Moreover, the IHR

> did not completely remove the role of national borders in the functioning of the agreement. There were, for example, extensive guidelines on what health infrastructure states should put in place at points of entry […] on health screening measures for travellers arriving and departing from a country […] and on health documentation in relation to incoming vessels and cargo. (Ferhani and Rushton, 2020: 464)

As controls at borders *are* still central to the IHR, and given the regime in evidence at seaports, the lack of controls at airports is counterintuitive, and questions the veracity of post-millennium Global Health Security. In terms of legislation applicable to air travel – or explicit background knowledge – there are certain advisory clauses and procedures within the IHR which apply expressly to airlines and airport operators (with parallel domestic legislation applying to air travel). However in terms of routine practice – understood as background knowledge, the corporeal, and the material – there are procedures in legislation (i.e. there is evidence of background knowledge), but these are overwhelmingly reactive, rather than proactive (in contrast to the Ship Sanitation regime).

The advice offered in the WHO's *Handbook for the Management of Public Health Events in Air Transport*, for instance, concerns itself overwhelmingly with the management of outbreak events, rather than prophylaxis: how to best '*respond* in a consistent manner to *events* and to make decisions on interventions that are commensurate to the risks while avoiding unnecessary interference with international traffic and trade' (WHO, 2015a: 14 emphasis added). The notable exceptions, typifying prophylaxis rather than response, are the routine disinsection of aircraft and the *Health Part of the Aircraft General Declaration*. The former is the use of insecticide to remove potential vectors: a public health measure routinely applied at airports that have been identified as a potential source of infectious insects. This measure is used to prevent the importation of pests that may affect agriculture and fisheries as well as introduce diseases that affect the human population. This routine preventative measure

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[38] Brownstein et al., 2006; ECDC, 2009, 2020; Kotila et al., 2016; Lycett et al., 2012; Mangili and Gendreau, 2005.

reduces the potential for the transmission of malaria or other diseases to people and countries where certain insect species and diseases are not endemic (WHO, 2015a: 48). The latter, according to Article 38 of the IHR, is the requirement of pilots to complete and submit a report of the state of health on board.

> The pilot in command of an aircraft or the pilot's agent, in flight or upon landing at the first airport in the territory of a State Party […] to the best of his or her ability, except when that State Party does not require it, complete and deliver to the competent authority for that airport the Health Part of the Aircraft General Declaration […] The pilot in command of an aircraft or the pilot's agent shall supply any information required by the State Party as to health conditions on board during an international voyage and any health measure applied to the aircraft. (WHO, 2016: 26).

Whilst not necessarily part of a preventative regime per se (as with SSC), the workings of these will be unpacked towards the end of the chapter.

3.3 Practising the Ship Sanitation Regime

Having outlined the background knowledge underpinning health security practice – the explicit 'rules of the game' (and their emergence) – this section of the chapter engages with the day-to-day 'workings' of the Ship Sanitation regime: the corporeal and mental activities, and the material things at play continuously. Based on the periods of non-participant observation at Manchester and Mersey Port Health Authorities, routine infectious disease prophylaxis can be separated into two quite distinct elements, which in turn contour the working day: the bureaucratic, clerical side of the regime; and the actual boarding and inspection of vessels. The morning sees the majority of administrative duties/paperwork being completed in the respective offices, with the late morning and afternoon being occupied by ship inspections[39]. (Interestingly, the WHO also makes a distinction between the administrative and inspection elements of the 'regime' (WHO, 2011: 17)). Intuitively, the discussion herein follows the rhythms of the working day. Consequently, this initial subsection discusses the morning routine, whilst the proceeding subsection engages with the afternoon routine.

3.3.1 A 'Virtual Cordon Sanitaire'? The Morning Routine

> [First day of observations.] Arrive at the office for just before 09:00, which is located on the high street in Runcorn above a shop. The office itself is what could be described as a 'very standard' office environment: a separate room to the left with a large boardroom table appears

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[39] This distinction between the morning routine and the afternoon routine is more acute with Manchester PHA, owing largely to infectious disease control being the primary (if not sole) function here. As Mersey PHA is also responsible for import controls, the working day there tends to be less tightly structured. Despite this, the order of practices (preparing the paperwork for ship inspections in the morning, then undertaking inspections later on) remains much the same at both.

to be seldom used: book shelves; on the wall is the Manchester Port Health Authority coat of arms in a dark wooden frame along with framed pictures of ships along the Ship Canal. The main office has four workstations each with telephone and PC, filing trays stacked with paperwork. There are three shelving units with box files; two cabinets again with box files. Files labeled 'The Ship Captain's Medical Guide' and 'Ship Inspection Guidance' stand out. Houseplants, photocopier/printing unit, nautical hats pinned up on the wall alongside an antique framed map of the Port of Manchester. Beyond minor nuances, this could quite easily be an accountant's office or similar: deeply banal and in no way suggests 'health' and certainly does not suggest '(in)security' (Field observation, October 2018)

After the first three weeks, it is apparent that the morning is concerned primarily with preparing paperwork for the ship inspections, which generally take place later on in the day: administration includes checking notification emails sent from Peel Ports[40]; checking requests for the issuance of SSCs sent from shipping agents[41], as well as requesting the collection of water samples (when appropriate) and filling in basic details on SSCs and report forms to save time later on. This clerical work typically takes one to two hours each morning. It is 09:30, and the PHO is checking the 'pre-arrivals' and allows me to sit with them and observe whilst they check. An email is sent from Peel Ports informing the PHA of ship movements: a list of vessels arriving and vessels departing, along with estimated times. A CERS [Consolidated European Reporting System – see discussion on pp. 80-81] workbook for vessels is also submitted when relevant by the shipping agent (i.e. when a vessel is arriving into a UK port). PHO shows me the crew list for one of the vessels with details of nationality, gender, role on board et cetera. Age is also included. So as [the officer] explains – if somebody is listed as a cadet there is an assumption that they will be younger, if they are older questions would be likely to be asked and may be 'referred'. Apparently anything slightly 'unusual' equates somehow to risk. This seems strange – unclear what, if anything, this actually has to do with health. (Field observation, November 2018)

Arrive at the office for just before 09:00; ring the buzzer and go upstairs. Both of the PHOs, the Technical Officer [TO][42], and administrator are already in. Quiet chatter; sense of calm. The Chief PHO is busy sending/replying to emails – to whom I am not sure; the other PHO is chatting to the TO about 'who is doing what' today; TO is on the internet looking at the location and movement of ships along the Ship Canal[43], who informs me that there are three ships that have come into the canal overnight and offers me coffee. As one was apparently boarded and inspected recently (Falmouth, Cornwall), only two of the three are being informally inspected[44].

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[40] The port operator in this case is Peel Ports, but the procedure would be much the same regardless of the port and/or operator.

[41] Shipping agents/agencies deal with all transactions of a ship in every port of call, and in turn essentially act as a representative of the owner/operator of the ship. Agents are responsible for a ship's needs/legal requirements: for example providing local currency, arranging repairs when necessary, and liaising with relevant authorities. Should a SSC be required, the request will be from the master via a shipping agent. At both Manchester and Mersey PHA there would be a PHO on call overnight: in case of emergency, and should a SSC be required (obviously ship movements are dictated by weather).

[42] A nuance within Port Health is the Technical Officer. This refers to personnel who carry out many PHO duties, but do not possess the full (i.e. registered) status, as approved by the Chartered Institute of Environmental Health (CIEH).

[43] All international voyaging ships of 300 gross tonnage (GT) or more (a ship's internal volume) are required under International Maritime Organization's (IMO) Convention for the Safety of Life at Sea (SOLAS) to be fitted with an Automatic Identification System (AIS). Intended initially for avoidance of collisions (and indeed this remains one of its main applications), the tracking technology enables access to information such as the course, speed, and position of ships. Rather than relying purely on pre-arrival notification emails, PHOs crosscheck websites (which openly publish live data) to aid intelligence and monitor marine traffic. (See, for example: https://www.marinetraffic.com; http://www.shipais.com/).

[44] Even though many SSCs are in date and identify no public health risks (and are therefore valid) PHAs frequently and routinely board ships, and carry out 'informal inspections'. Known within Port Health as *a boarding inspection*, what follows – much like in a 'formal' SSC inspection discussed in the Afternoon Routine – is a document review, and then an inspection of the ship's 'sanitary conditions', followed by a debrief. A report is issued to the master, a photocopy of which returns with

[The officer] shows me the morning's emails and – as usual – an astonishing amount of information is submitted. Peering over [their] glasses [the officer] is scrutinising the CERS workbook. Everything about the crew is listed: point of embarkation; age; nationality; passport number; role; age gender. The last ten ports of call show several outside Europe. Voyage notes oil is being discharged at Stanlow [one of Britain's largest refineries]. Waste declaration outlines oil, plastic, paper, and food being discharged. Though not required, an MDH has been submitted as is apparently typical. All is apparently well on board. (Field observation, February 2019)

Arrive at the office and [the PHO] invites me to take a seat in [their office] and offers me a coffee; the radio plays in the distance, quiet chatter in the main office. One of the vets and PHOs are on their way down to the BIP [Border Inspection Post]. [The PHO] returns, and begins checking pre-arrival notifications and also refers to one of the tracking websites. Kindly asks if I would like to watch. Whilst several ships are due into the Port today, there have been no requests for SSCs. The ship movements are being crosschecked against a local and European database, and [the PHO] says that this forms the basis of the 'local' risk assessment process. The local database is colour coded and contains details about each ship, as well as 'sanitary conditions' on board during last inspection/SSC; same set up with the European database though it is not colour coded. The local database is basically a Microsoft Excel spreadsheet and apparently contains the details of hundreds – maybe more – of ships. On entering the details of [the ship] including its port/country of registry, operator and so on, the 'sanitary conditions' are apparently fine, so is coded green. [The PHO] explains that this combined with the pre-arrivals submitted forms the 'daily risk profile' and 'amber', and 'red' ships being 'ones to look out for'[45]. (Field observation, January 2019)

On arriving at the office (slightly late because of traffic: 10:00) I am informed by [the PHO working on ships this week] that a SSC request came in over night; as it is not due to be sailing until tomorrow will be inspected most likely in the early afternoon. Apparently no other requests have come in for SSCs, and there are no pre-arrivals 'of concern'. Thinking about this, though this was not expressed as such, given the past few months, presumably 'nothing of concern' equates to ships carrying European flags, or else ships having not – within the past ten ports – been somewhere deemed risky by [the PHO] as per the risk assessment. (Field observation, January 2019)

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the officer to the office. In line with the Public Health (Ships) Regulations (1979: 6): 'The authorised officer may, for the purposes of these regulations, inspect any ship on arrival or already in the district [and] inspect any ship already in the district when he has reasonable grounds for believing that there is on board a case or suspected case of infectious disease […] For the purposes of this regulation, the inspection of a ship may include the taking from the ship of samples of food and water for the purposes of analysis or examination with a view to the treatment of persons affected with any epidemic, endemic or infectious disease and for preventing the spread of such diseases'. Though 'informal', form a central role in the daily routine of PHOs. Routine, unannounced boarding inspections function in tandem with the SSC regime (WHO, 2011: 131-134). Ultimately boarding inspections are a surveillance, and therefore preventative, instrument insofar as they attempt to identity (and when relevant impose remedial measures) new/emergent potential public health risks in line with the IHR. Decisions about which ships will be boarded are predicated on the judgment of individual PHOs, based on pre-arrival documents. Unlike an inspection for the issuance of a SSC, there is no charge for such an inspection.

[45] Local databases are records held at each PHA, and the information is not routinely shared. The 'European Database' refers to the EU Shipsan Act Information System (SIS), an online service that comprises: a) communication network platform enabling ship-to-port, port-to-port and port-to-national authority communication; b) Information system for recording and issuance of SSCs as per the IHR for all types of ships sailing in the EU; c) database for recording inspections conducted and communicable disease surveillance on passenger carrying vessels. The Shipsan Act is a European Joint Action funded by the European Commission under the Health Programme (2008-2013) in which twenty-four European countries participate. Whilst the UK is a participant, this 'Act' is not legally binding; its main purpose is to facilitate communication/reporting across the EU. The entry of data into these databases typically follows the inspections later in the day, or else, seemingly, as and when time permits.

The morning routine in the office is oriented around dealing with the formal reporting of ships, by way of pre-arrival notification. PHOs also use the morning to ascertain ship movements (using AIS data) to corroborate the formal notifications, or else identify any discrepancies/unknown or unidentified movements. The morning practices thereby structure the working day: should a request have come through for the issuance of a SSC, this would take priority. Though banal and initially seeming to be of little concern, in some respects the activities taking place during the morning are as significant for the present contribution as the routines at the physical border.

The submission of the CERS (Consolidated European Reporting System) workbook mentioned in the field observations is to ensure compliance with the so-called 'single window requirement'. This was introduced with the intention of harmonising and standardising maritime reporting – in line with the International Maritime Organization's Convention on Facilitation of International Maritime Traffic (FAL Convention) – across European Union member states. (This in turn was to bolster efficiency and competitiveness.) Official reporting may be electronic, via facsimile, or via paper copies, however this was invariably emailed by the relevant shipping agent overnight to the PHA, and takes the form of various Microsoft Excel spreadsheets containing requisite information. Reporting includes the obligatory notification of entry into port; notification of carriage of dangerous and polluting goods; notification of ship generated waste and cargo residues; and notification of security information. This results in the submission of a 'General Declaration', which includes details such as: voyage number; ship's IMO number; flag state of ship; last port of call, last ten ports of call, purpose of call, and so on; a crew list (and crew change if applicable); passenger list; cargo and stores declarations; crew's effects declaration ('effects ineligible for relief from customs duties and taxes or subject to prohibitions or restrictions'); voyage details; waste declaration[46], and finally a dangerous goods declaration[47]. Reports must be made at least twenty-four hours prior to arrival at a port in the UK, and data is made available to PHAs in accordance with The Public Health (Ships) Regulations 1979 (as amended). Aside from

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[46] Within the CERS workbook itself, the Waste Declaration is the only information submitted that has any real bearing on health (in)security. Whilst ultimately the responsibility of the owner/operator of an aircraft/ship, and falling under the jurisdiction of the Animal and Plant Health Agency (in turn an executive agency of the Department for Food, Environment and Rural Affairs) but enforced by PHAs, International Catering Waste (ICW) is regarded 'high risk', and is controlled at the UK Border (and indeed all European borders). The intention of this is to prevent animal byproducts from entering the food chain, thereby minimising the risk of outbreaks of notifiable diseases in animals – such as foot and mouth disease. Legally, ICW is regarded as food waste from any international transport vehicle that travels outside European territory (with ships, this would mean it has travelled outside Europe within its last ten ports of call). This is governed by Regulation (EC) 1069/2009, and The Animal By-Products (Enforcement) (England) Regulations 2011.
[47] Legislation governing reporting is: the European Union (EU) Directive 2010/65/EU on reporting formalities for ships arriving in and/or departing from ports of Member States.

officially reporting to PHAs, this data is also made available to relevant maritime traffic/port operations/security offices, port/counter-terror police, HMRC, and the Home Office (i.e. Border Force). This data is submitted to the Maritime and Coastguard Agency (MCA) who collates this information and forwards it to the European Maritime Safety Agency (EMSA). Along with this CERS workbook, the other key document submitted to PHAs is – in accordance with the IHR – the Maritime Declaration of Health (MDH). Whilst not required by domestic law, this was invariably also submitted as part of pre-arrival documentation[48]:

> [The] master of a ship, before arrival at its first port of call in the territory of a State Party, shall ascertain the state of health on board, and, except when that State Party does not require it, the master shall, on arrival, or in advance of the vessel's arrival if the vessel is so equipped and the State Party requires such advance delivery, complete and deliver to the competent authority for that port a Maritime Declaration of Health which shall be countersigned by the ship's surgeon, if one is carried. (WHO, 2016: 26)

> [The master shall] notify the authorised officer immediately of any circumstances on board which are likely to cause the spread of infectious disease, including in his notification particulars as to the sanitary condition of the ship and the presence of animals or captive birds of any species, or mortality or sickness among such animals or birds, on the ship […] Provided that in the case of a ship which during its voyage has not been in a foreign port other than an excepted port, and has not during the voyage met a ship which has proceeded from a foreign port outside the excepted area, the master shall not be bound to comply with the provisions of this regulation unless he has been notified by the medical officer that compliance with those provisions is necessary on account of danger to public (Public Health (Ships) Regulations (1979): 8-9)

The Maritime Declaration of Health (MDH) is a document completed by the ship's master (see Appendix 2 for a 'model' MDH as per WHO guidelines)[49]. It offers assurance (or otherwise) that there is no illness on board – in particular infectious disease – and that no symptoms have been presented throughout the duration of its current voyage. The document will contain details of the ship (name; registration/IMO number; nationality/flag of the vessel), as well as whether or not a valid Sanitation Control Exemption/Control Certificate carried on board (including details of when and where it was issued). Moreover, the 'health part of the MDH' will include questions to be answered by the master, typically including variations on the following (WHO, 2016: 56): Has any person died on board during the voyage otherwise than as a result of accident? Is there on board or has there been during the international voyage any case of disease, which you suspect to be of an infectious nature? Is there any ill person on board now? Was a medical practitioner consulted? Has any sanitary

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[48] English law does not require submission of Maritime Declaration of Health, however the requirement to submit it varies from PHA to PHA: Mersey, for instance, always required it ahead of arrival.

[49] An interesting point worth noting at this point is that the initial judgment of ill health on board a vessel does ultimately rest with a ship's master. As such, whilst this may be having consulted the *International Medical Guide for Ships* (the carrying of which is mandatory as per the Maritime Labour Convention (2006) it does seem striking that the 'diagnosis' of illness as stated on the MDH is not necessarily contingent on medical expertise.

measure (e.g. quarantine, isolation, disinfection or decontamination) been applied on board? The following statement precedes the signature of the master:

> In the absence of a surgeon, the master should regard the following symptoms as grounds for suspecting the existence of a disease of an infectious nature: (a) fever, persisting for several days or accompanied by (i) prostration; (ii) decreased consciousness; (iii) glandular swelling; (iv) jaundice; (v) cough or shortness of breath; (vi) unusual bleeding; or (vii) paralysis. (b) with or without fever: (i) any acute skin rash or eruption; (ii) severe vomiting (other than sea sickness); (iii) severe diarrhoea; or (iv) recurrent convulsions. (WHO, 2016: 56)

3.3.2 (Inadvertent[50]) Border-work

The *morning routine* reveals numerous important insights into routine practice. Firstly, and perhaps most striking, is that most of the requisite pre-arrival information submitted to PHAs, and in turn scrutinised by PHOs, does not in any way associate with disease: the corollary therefore is that this particular practice seemingly has no real bearing on health security. In particular, specific details about gender, age and nationality of crew, along with passport numbers all seem to be of very little (if any) concern with prophylaxis: the exceptions here are the MDH and waste declaration (as discussed above). Rather than preventing the entry of infectious disease into the country, instead, such details are seemingly more concerned with 'bordering' – the enactment and performance of geopolitical, territorial limits – than they are with health security. The PHOs could be regarded, in other words, along with privatised security operatives, immigration and border officials, as 'petty sovereigns' (Butler, 2004: 56): their work a modality of, and enactment of, arbitrary state power. PHOs are seemingly exercising a very specific modality of sovereign power, and to borrow Chris Rumford's (2008) expression, 'border-work'[51].

Whilst not necessarily suggesting that contemporary Port Health is analogous with early Port Sanitary Authorities, which were functioning under the auspices of the deeply oppressive Aliens Act/Order (thereby conflating infectious disease with criminality), it is striking that much of the morning administrative work is more about the 'border' and the flow of potentially risky subjects, than it is about health/prophylaxis (hence in the case of the latter, subjects would be understood as risky insofar as they may be potential carriers of infectious

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[50] This 'border work' is not formally acknowledged, and it does seem that this 'border work' is not in any way conscious. However, 'social action is not necessarily preceded by a premeditated design. A practice can be oriented toward a goal without being consciously informed by it' (Pouliot, 2008: 261). In other words, the 'pre-arrival checks' as a practice constitute border-work, albeit inadvertently.

[51] The fact that the MDH is not automatically required by domestic legislation arguably speaks volumes about perceived levels of risk to public health. Whilst the MDH *generally* is submitted along with the requisites of the CERS reporting system (and of course can be requested if deemed appropriate – i.e. if the vessel is in any way linked with a 'risky' or 'unsanitary' place), given that law does *not* require it would suggest that the risk posed by incoming maritime traffic is deemed to be negligible to low. This view – that ultimately the level of risk is understood or perceived to be low is corroborated later in the chapter in the discussion of the PHOs' uniforms.

disease). The information made available to and assessed by PHOs is a means of filtering: identifying and separating legal and (potentially) illegal subjects, and ultimately managing flows of people. Taking the above example, for instance: 'if somebody is listed as a cadet there is an assumption that they will be younger, if they are quite a bit older questions would likely to be asked'. Though tacit, the 'filtering' process, therefore, apparently works essentially by identifying *potentially* untoward/'out of the ordinary' things. Though not observed, following conversations with PHOs at both Mersey and Manchester about this, it does indeed seem that should anything 'suspicious' present itself in the pre-arrival notifications, it would be escalated and referred to either the UK Border Force, or else Counter Terror Policing North West (what was once known as 'Special Branch', who are also partly responsible for the policing of borders). In such an instance either of these two (or potentially both) would be responsible for 'interception' at the physical border.

Though not shedding light on some of the more innovative, recent developments in the management of borders – for instance the European preoccupation with 'securing the external' underpinning much contemporary European foreign policy (see, for example, Browning and Christou, 2010) – the morning routine of PHOs demonstrates their (accidental) function in the 'policing' of migration. Indeed, various commentators (Didier Bigo most notably) have noted how European bordering – mirroring its dispersed security architecture more broadly – is made up of numerous institutions and actors, and is 'virtual' (Bigo and Tsoukala, 2008). That PHAs are privy to such intelligence, and are able to act on it, would suggest they are one of Bigo's myriad actors and agencies 'bordering'. This view of PHOs undertaking border-work is substantiated by: a) the perceived low level of risk to public health (see note 51) and b) the use of AIS technology for maintaining surveillance over maritime traffic. Risk and geography – the former understood as risk to public health – being conflated and thus (re)produced during the morning routine, will be the focus of the following subsection.

3.3.3 All Ships are Risky, but Some Ships are Riskier than Others, or: Geographies of Concern

This section explicates how colonial, exclusionary logics are still enacted and stabilised. The morning pre-arrival checks and resulting risk assessments (re)produce clear delineation of space: places regarded as 'sanitary' and 'healthy', and conversely places deemed 'to be of concern'. Put differently: an exclusionary, colonial 'fence' around the UK (and arguably Europe given the Shipsan Act – see note 45) still persists. The risk assessments that form the foundations of PHAs' morning routine shed light on the mechanics of: a) communicable disease surveillance and reporting, and b) the interpretive dimension of health security that

the likes of Weir and Mykhalovskiy (2010: 128) talk of. The entry point afforded by actually observing the process of 'assessing risk' highlights how public health risk *is* inherently subjective: something as socially and politically significant as the potentiality of exogenous threat is constituted quite casually, and with seemingly no protocol, by PHOs at the start of each working day. Suggesting 'risk is subjective' or is 'made' socially and politically is hardly radical. However, much like early manifestations of 'quarantine logic' during European expansion and colonialism, and the drive to establish a 'fence around Europe', as well as earlier iterations of Port Health in the UK, public health risk continues to be problematised overwhelmingly by space. In other words, public health risk at the border is contingent: how it is defined, and the appropriate courses of action ascribed to it are based principally on the ad hoc decisions of PHOs. This is *largely* predicated on, to quote one of the PHOs: '[looking] at *voyages* and always asking what *risks* are associated with *particular countries*'[52]. The scrutiny of pre-arrival documentation and corollary risk assessment – as a practice – directly informs decisions about which ships to inspect (i.e. not for the issuance of SSCs but for routine spot checks or 'boarding inspections'). These decisions are apparently based on the nature of its current voyage and its last ten ports of call, as well as where crew have embarked. Where the ship is registered[53], and where the ship's current SSC was issued seem to be of less concern[54]. Put differently, as risk is contingent on interpretation, the 'fence' or cordon sanitaire around the UK's territorial limits is contingent: the *potential* exclusion of ships is based on a 'sifting process'.

Turning to the links between risk and the nature of a vessel's current voyage, its last ten ports of call, and points of embarkation: regardless of an ongoing, current public health 'event' or

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[52] 'Largely' is italicised here because other factors – for example if a particular ship or shipping line is regarded as 'risky' (i.e. not necessarily linked with geography) – will also inform notions of risk.

[53] As per International Maritime Organization (IMO) requirements, the flag state of any seafaring ship refers to whichever country the ship is registered in, thereby falling under that country's jurisdiction. That country in turn is the flag state of the ship. As such, a ship registered in France would carry the French civil ensign, and may therefore be referred to as a 'French ship' insofar as the flag a ship carries determines its 'nationality'. The flag state has the authority to enforce regulations registered under its flag. One of the quirks of international maritime law is that within the shipping industry there are what is known as 'flags of convenience' (FOC). This refers to the practice of deliberately registering a ship in a state different to that of its owners – with no 'genuine link'. The rationale is twofold: a) the nationality or flag of a vessel normally has bearing on taxing jurisdiction; b) it enables reduction in costs due to lower workers' rights, and more lax regulations and laws. Panama and Liberia are two of the most common, but countries used as FOC are largely 'developing' countries, and almost exclusively in the Global South. Flag states and flags of convenience have a fascinating history, and remain deeply contentious in international shipping (Deepwater Horizon, registered under the Marshall Islands, is a good, recent example of the latter).

[54] The regularly changing *List of Authorised Ports* is issued by the WHO and lists ports globally that are authorised by the WHO to issue SSC. Whilst seemingly of less concern to PHOs than the nature of its voyage, where a ship was last inspected/issued a SSC did nonetheless seem to inform risk assessments. Ships need a SSC to enter ports in the Global North, but even a ship has one, if the certificate was issued in the Global South it is less likely to be trusted and consequently the ship more likely to be inspected.

outbreak being associated with a country and/or region, there is a far greater likelihood that a ship would be routinely inspected (i.e. an unannounced boarding inspection) if it has travelled outside Northern/Western Europe within its last ten ports of call. In other words, if a ship has not traveled outside European waters, the perceived level of risk is low. Conversely, regardless of its port of registry, if a ship had travelled from a place regarded as unsanitary or risky, there is a far greater likelihood that an inspection would take place. In this instance, if the ship were to be boarded and inspected, there is the assumption of potential public health risk. As such, in line with both the IHR and The Public Health (Ships) Regulations 1979, irrespective of notification otherwise (i.e. the MDH gives reason to suspect infectious disease may be introduced) PHOs can 'inspect any ship already in the district when he [sic] has reasonable grounds for believing that there is on board a case or suspected case of infectious disease' (PHSR, 1979: 6). So as an example: if a ship carrying the Dutch civil ensign (a country – so I was told repeatedly over the course of the year – with 'very good sanitary standards') had called at only European ports, it is highly unlikely it would be inspected. If it had called outside Europe there is a far greater likelihood that an inspection would take place. As the excerpt from field notes dated January 2019 suggested: 'nothing of concern' equates to ships carrying European flags, or else ships having not – within the past ten ports – been somewhere deemed risky by the PHO. Or the following, which is from the tail end of the observations, and presumably 'in the area', does not mean in or around the North West:

> [The PHO working on ships] invites me over to their desk; does seem they are starting to be more open with me. A pile of paper work on the desk to be inputted: SSCs reports from the past couple of weeks; all are marked 'sensitive confidential'. We begin talking and I ask about the movements. They show me the emails from overnight; going by the CERS notifications it appears busy for early in the week. Ask whether there are any SSCs due and [they] say no – 'it's been a quiet few days on that front'. Then ask if there are any boarding inspections due, to which they say no, as 'they've all been in the area'. (Field observation, March 2019)

What is in evidence therefore, is indeed a cordon sanitaire. However, it is one that is highly selective, predicated on risk assessments, which in turn are predicated on where ships have sailed. As such, we can discern how risk assessments (re)produce clear delineations of space: places regarded as 'sanitary' and 'healthy', and conversely places deemed to be of concern/risky. Put differently: a colonial 'fence' around the UK. Is this claim empirically dubious? The short answer is no; the slightly longer answer entails briefly rehearsing the STS take on tacit knowledge.

As I suggested earlier in this chapter, what is taking place at the border routinely should not simply be regarded as *colonial resonances*: the specialist knowledge of Port Health is learnt and internalised through collective processes. There is no formal training, and there is absolutely no record of any formal training (after four years I am yet to come across any). In

other words – and as I described in the previous chapter's theoretical discussion – Port Health is almost a textbook case of why considering 'communal' or 'collective' tacit knowledge is so important (Collins, 2007, 2010; Knorr-Cetina, 1991, 1992; Pickering, 1995). MacKenzie and Spinardi (1995) suggest that various types of expertise may (or otherwise) be incorporated into a given community of practice working towards a common goal. *The failure to adapt, and incorporate expertise as required into a community of practice has the potential to result in stagnation (or in practice theoretical parlance 'ordering').* Similarly, the idea of 'communally synthesised tacit knowledge' (Vogel, 2006; Collins, 2010) is the product of ongoing interactions between experts: such interactions in turn give rise to 'new forms of knowledge that become integrated in the community, rather than residing in particular individuals […] the embedded nature of knowledge in the social and infrastructural environment' (Revill and Jefferson, 2014: 603). Both of these emphasise expert interaction – 'something that human individuals […] can acquire, because of their special and continual access to the location of the knowledge — which is the social collectivity' (Collins, 2007: 261). The previous chapter also noted that part of the research design entailed, following Schatzki (2005), a site ontology and orienting the praxiography around different 'structure-making' sites. The PHAs are this praxiography's sites and each has its own context-specific, local knowledge system (Knorr-Cetina, 1991, 1992; Pickering, 1995).

So what? My point here is that yes, this study focuses on specific sites each with its own local system of (collective or communal) knowledge. However, the previous chapter also noted that sites should not be viewed in isolation. Through 'Latourian connections', local, site-specific knowledge is shared between sites in a broader community of practice. In practice, the mechanics of knowledge being stabilised 'works' through the work of the Association of Port Health Authorities (APHA) (founded in 1898, and constituted in 1899 to represent the interests of Port Sanitary Authorities). The Association's main aim is, and always has been, to actively promote 'consistency amongst member authorities by developing policy, enforcement guidance, and identifying and disseminating good practice [and] effective co-ordination, cooperation and collaborative arrangements' (APHA, 2020). For example, during the 'seeking access' phase of the fieldwork I was able to be added to the APHA mailing list, and consequently am privy to such sharing of information. Similarly, APHA organise informal training courses that are delivered by PHOs: I attended one such course in early 2018 on Ship Sanitation inspections, which was delivered by PHOs from Suffolk Coastal PHA (i.e. the team at Port of Felixstowe) and, in line with APHA's remit, was intended to 'maintain consistency'. Aside from the dissemination of knowledge through APHA, this works through more informal channels in – to quote one PHO – the 'incestuous' web that is Port Health: 'yes we all know each other'. The upshot of Port Health being a relatively niche

profession and made up of relatively few specialists, is that it does seem that frequent interaction between Authorities is ingrained in the culture of Port Health: throughout the praxiography phone calls, emails, and so on were frequently exchanged between PHAs; at Manchester PHA 'what does [the officer at Heysham] want now?' and at Stansted 'what do East Midlands want now?' were running jokes.

In this sense, Port Health can be regarded as a broader community of practice with its own form of embedded communal tacit knowledge: 'something that human individuals […] can acquire, because of their special and continual access to the location of the knowledge — which is the social collectivity [i.e. Port Health]' (Collins, 2007: 261). Owing to the lack of formal training, this communal tacit knowledge *must* be learnt through 'repeated interactional patterns', and it is these interactions that give rise to stability and *ordering*: the (re)production of narrow conceptions of the nature of 'problems' and appropriate 'resolutions', as 'the *need* to engage one another forces people to *return* to common structures' (Swidler, 2001:85 emphasis added; Revill and Jefferson, 2014). This is precisely why, following the likes of Bashford (2006a, 2006b), I suggest speaking merely of resonances is flawed, and instead, owing to the ordering of interactional patterns, that colonial and exclusionary logics are still being enacted. Put differently, Port Health's communal tacit knowledge – explicit formulations or 'rules of the game' – is passed from practitioner to practitioner, hence why so little seems to have changed from the days of Port Sanitary Authorities. This in turn explains why I suggested earlier in this chapter: a) that the lineage of explicit knowledge or 'rules' underpinning contemporary practice and inscribing it with meaning is important, and should not simply be regarded as 'historical background', and b) this genealogy informs, albeit unconsciously, PHOs' work.

Turning to the broader upshot of this analysis: much has been made in literature of the exclusionary nature of securitised responses to health issues, and turning to practice furthers our understanding of how this is possible. Examples of exclusionary responses include the construction of an 'imagined geography of African HIV/AIDS' (Campbell, 2008) or else the framing of the 2014/2015 Ebola crisis as a discrete, racialised, 'African' problem, and Nunes (2016: 550) is worth quoting at some length here:

> The reduction of Ebola to a discrete crisis event – and a risk potentially leading to a catastrophic scenario – was heightened by the underlying process of securitisation that was visible in the call for military intervention. According to the securitisation perspective, an issue is securitised when it is framed or emerges as an existential threat demanding extraordinary (normally undemocratic) measures. The securitisation narrative is underpinned by a fear-based imaginary, which is concerned with the protection of the integrity of the political body in the face of exogenous elements. The presence of a securitisation modality goes a long way in explaining the preoccupation with securing borders, controlling international circulation and establishing

sanitary cordons that characterised the response to the out-break – which in turn echoes a long tradition of demarcation and self/other distinctions in the history of international health.

Such readings are not necessarily wrong. They are, however, superficial: aside from overlooking 'everyday exclusion', focusing on singular events through the securitisation lens fails to answer two important questions. Firstly, with Nunes' reading in particular: questions surrounding *how* exclusionary logics/responses to outbreak events – 'the protection of the (Western) self *vis-à-vis* a threatening other' (Nunes, 2016: 550) – come to emerge are unanswered. They cannot appear out of nowhere. Secondly, if answers to this question are 'a long tradition of demarcation', the continuation of historical discourse, and/or an abstract 'fear-based imaginary' underpinning health (see, for example, Bankoff, 2001; Nunes, 2013), then what sustains them? The above discussion can be taken further: owing to this thesis' theoretical position and performative ontology, if health security should be understood as performative – synonymous with Butler's work on gender – the product of 'regulated processes of repetition' (Butler, 1990: 145), then it is routine practice that stablises and reifies the longstanding linkages between self/Other. In other words the clear trajectory from colonial medicine and Port Sanitary Authorities to contemporary Port Health described above has sustained connections between self/Other. Moreover

> To situate our understanding in practices is to see it as implicit in our activity, and hence as *going well beyond what we manage to frame representations of*. We do frame representations: we explicitly formulate what our world is like, what we aim at, what we are doing. But much of our intelligent action in the world, sensitive as it usually is to our situation and goals, is carried on unformulated. It flows from an understanding which is largely inarticulate…Rather than representations being the primary locus of understanding, they are similarly islands in the sea of our unformulated practical grasp on the world. (Taylor, 1993: 50 emphasis added)

The point here, then, is that engaging with practices – in this case health security routines – is to engage with the nature and dynamics of the 'micro', foundational building blocks of broader (i.e. global) social relations. This is because from a practice theoretical perspective knowledge is situated in practice, and as practice is 'the site of the social, then routinized bodily performances are the site of the social and – so to speak – of "*social order*". They give the world of humans its visible orderliness' (Reckwitz, 2002: 251 emphasis added). As such, hierarchies and demarcation cannot be reduced to abstract representation: they 'are' primarily *in and through practice*, which transcends abstract representation alone.
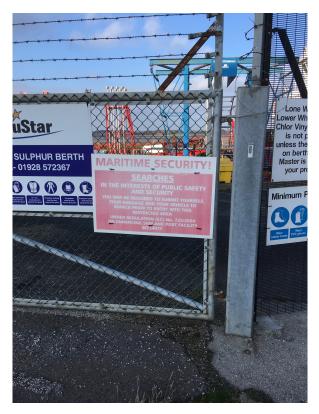
3.4 'Sir, Quarantine on board, sir': The Afternoon Routine

Having outlined the morning routine, with the pre-arrival documentation and office checks playing a crucial function within the Ship Sanitation regime, this chapter now engages with the mechanics of boarding and inspecting ships. The following field note extracts are all taken

from separate days at Manchester and Mersey PHAs, respectively, but are intended to be read as if they were all taken during a single ship inspection. The rationale behind this is twofold: firstly, to show commonality across the regime. Secondly – for sake of ease – the intention is to paint a detailed picture of a typical ship inspection. As over seventy ships were boarded and inspected during the praxiography, it would be impossible to outline the particulars of each and every one in any meaningful detail. As such, any apparent inconsistencies (for example jumping from location to location, or moving from one area of the ship to the same one) are entirely deliberate.

> We arrive […] and go straight to the central, brutalist office block where I need to sign in; my passport details are noted down along with host organisation and car registration number. Having signed in we get back in the car and drive to the second security check point (which allows for entry into the ISPS area). My temporary pass is shown and is handed over with my passport; am then issued with an ISPS pass. The car is searched and we drive to a small car park close. We walk down a gangway and wait for the ferry to take us over to […]: we both need to sign in again. A hostile, bleak environment, and there is an overwhelming sense of this being a securitised space: ANPR cameras; CCTV cameras; barbed wire; car searches; having to sign in multiple times; sense of suspicion from the security personnel; no phones; no cameras. The level of security is surprising given how little is typically made of maritime security. We [the PHO and myself] both jokingly say it makes security at the airport seem lax as we make our way from the second security check post (ISPS) to the berth[55]. (Field observation, November 2018)

> We get out of the car, put on high visibility jackets, hard hats, and the PHO takes their rucksack with them. We board the ship and introduce ourselves as Port Health, which apparently doesn't register with the crew. The PHO shows [their] name badge and says 'quarantine: we're here to do your Ship Sanitation Certificate'. 'Quarantine' immediately elicits recognitions and we sign in (for the fourth time) and are given passes. As always the crew are ineffably obliging, respectful. On this particular ship they come across as almost obsequious. As usual we are both addressed formally as 'sir'. Walking along the deck the officer is having a very good look around – particularly at some small collections/pools of water on the deck. I ask about them and [they] explain about reservoirs/vectors. We are offered coffee as soon as we get into the ship's office where the master, first officer and chief engineer are waiting for us: there is almost a 'sense of occasion'. The three of them, despite being officers, are obliging and there is a sense of – not necessarily being intimidated or scared – but the PHO certainly commands respect: clear hierarchy. A feeling or atmosphere of a police interview, almost: this scene would not be out of place in some police documentary given the striking power asymmetry between the ship's crew and the PHO; very much a feeling of acting on behalf of the state/exercising state power. Authority. (Field observation, November 2018)

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[55] Being an oil refinery, the Stanlow facility is an extreme example, but with all the sites – at both Port of Liverpool and along the Manchester Ship Canal – there is an overwhelming, and surprising, level of security. Implemented in 2004 in the wake of the events of 9/11, and the attack on *MV Limburg*, the International Ship and Port Facility Security Code (ISPS) stipulates the minimum security requirements for both port facilities and ships. Enacted domestically in the Port Security Regulations (2009), and across Europe in EC Regulation (EC) No 725/2004, ISPS aims to mitigate disruption to maritime transport. The secure, restricted areas require a pass, subject to DBS checks. In short ISPS restricted areas can be understood as the equivalent of 'airside' at airports. The seaport (rather than the border generally, or the airport) as an exceptional space is worth further scholarly engagement.

Figure 1. Though the picture suggests otherwise, this is one of the more lax ports in terms of security, but is nonetheless still surrounded by barbed wire, CCTV cameras, and requires an ISPS pass to proceed through the turnstile into the restricted ISPS 'secure area'. Taken November 2018.

Ship Sanitation Certificate has been requested by the captain [via the agent]: a general cargo ship a few miles away. On boarding we introduce ourselves as 'quarantine' and are directed to the ship's office, and once there we are invited to take seats by the master who shakes our hands and offers us coffee. [The PHO] asks to see the following documentation: the ship's particulars; the last SSC; crew list; MDH; last ten ports; garbage log; waste declaration; last potable water sample; ballast log[56]; sickness log and the ship's medical certificate[57]. The PHO explains that water samples need to be taken, which is met by resistance from the master. An exchange ensues as he insists it will cause a problem with the ship's owners and operators – presumably they are typically reluctant to pay. The PHO gets out the WHO SSC Guide from their rucksack and shows him that it is a requirement as per IHR; he capitulates saying 'okay, okay'. After the document review in the office, a series of questions are asked, the answers to which are recorded down on an ERF form[58]: 'How is the ship, are you all well?', 'Any sickness on board?', 'Any animals or pets onboard?', 'Where was you last port of call?', 'Where is your next port of call?' Having reviewed the documents and had an initial chat with the captain, we begin the inspection by taking water samples: four in total – two are being tested specifically for legionella, the other two for any microbiological 'hazards'. The water is being taken from various locations around the ship: one from the furthest point from the source (the bridge

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[56] In line with WHO guidance, ballast logs form a central area of control: 'many species of bacteria, plants and animals are able to survive as "stowaways" in the ballast water and sediments carried by ships, even over long ocean voyages. Discharge of the ballast water and sediments in port waters can result in the establishment of harmful aquatic organisms and pathogenic agents that may pose a threat to human life, the environment and ecosystem balance'. (WHO, 2011: 117)

[57] Whilst most of these documents have already been reviewed as part of the pre-arrival checks (i.e. during the morning routine) without fail, they are viewed again on board the ship as per WHO (2011: 139-140) guidance. Additional documents may be requested: for instance a ship's management plan for vector control. Interestingly, though recommended by the WHO, the *International Certificate of Vaccination or Prophylaxis* was never requested nor viewed.

[58] Evidence Report Form (ERF) is a separate document to the SSCC/SSEC, and as the name suggests is simply used to record any additional findings and so on from a ship inspection.
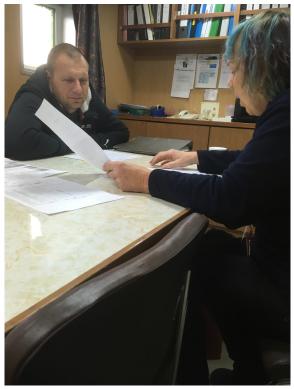
(microbial)), two from the galley (microbial and legionella), finally one from 'a tap that isn't used often' – so we collect a sample from a pilot's cabin (legionella). Each tap is sterilised with (having asked) Sodium Hypochlorite [*Milton* in lay terms] to ensure samples are not contaminated, before a small, labeled bottle with red lid is filled direct from the tap. (Field observation, January 2019)

Having taken water samples, we return these to the ship's office with the bottles, mark them with date, time and location of sample, and then begin to make our way around the ship. Carrying a torch with [them] and thermometer, we inspect initially the 'sanitary conditions' in the crew's quarters. [The officer] asks to look in a lower ranking room. Entering the officer looks around, holds [their] hand up to the air conditioning duct, and then takes a look in the bathroom. It is ambiguous what, if anything [they] are actually looking for: the room is untidy, but beyond that it seems unclear what could possibly pose a 'public health risk' in here. Leaving the cabin I ask [the PHO] what it is [they] are looking for. For once I get a reply: they reply saying '*well it's getting a sense, a feeling for generally how clean the ship is and how well it is managed. Obviously as well, you know, any reservoirs or any signs of pests. We have ships riddled with them.*'[59] We then move on to the ship's hospital, where [the officer] asks to see the medical log and certificate once again. Looks through both, and questions the first officer about a recent case of 'fever' for which the captain prescribed paracetamol – 'Oh it was nothing. Too hot'.

The officer continues to looks around much like during the inspection of crew's quarters. [Officer] sniffs the bed sheets, then look up at me and says 'it's often the best way to tell how clean something is'. Goes into the bathroom and opens the tap and brown water runs out: 'you need to make sure that all your taps are opened regularly – stuff like legionella grows when the water isn't moving'. We go down to the engine room: again [the officer] is looking around – what for isn't entirely clear. Finally we move on to the galley/mess room, as well as the stores. [The officer] asks to see the cleaning schedule and logs, purchasing records of the food as well as 'in/out records', pest record which [the officer] asks them about – 'any cockroaches or anything within the past six months?' and finally asks to see temperature records for the fridges. (Field observation, January 2019)

[The PHO] opens all of the cupboards and looks through them using a flashlight. I ask why they're using a torch and they reply telling me that it makes it much easier to see any 'pests such as cockroaches or any signs of vermin'. [The officer] is thoroughly examining the galley – and uses a (so I am told newly calibrated) temperature probe to take readings of the hot water in the galley sinks – they are coming up at 60.1°C, which is apparently fine. [The PHO] then tells the cook and accompanying first officer 'that cleaning isn't up to standard – it could be a bit cleaner in here', and then explains to them about cross-contamination (there is meat being prepared alongside salads). Explains that the kitchen is 'basically fine but try and keep on top of the cleaning; make sure food contact surfaces are disinfected'. Admittedly, though not 'dirty' as such, the kitchen does appear to be rather messy. It does appear that a disproportionate amount of time is spent in the galley of the ship [this is the case with *all* inspections]. Though I assumed (wrongly) this focus was because of the professional backgrounds [PHOs are, of course, by training environmental health officers] on leaving the galley and climbing back up to the bridge, I ask the PHO about this, and this focus is indeed to ensure compliance with IHR, as per the WHO *Handbook for Inspection of Ships and Issuance of Ship Sanitation Certificates*. Having carried out the inspection, we all return to the bridge. [The officer] says that everything is fine but to make sure that the kitchen gets a 'good clean'. A new Ship Sanitation Exemption Certificate is issued: a thick sheet of paper, the PHA seal is adhered in a corner, and finally stamped. Copies are taken; handshake with the captain; we are escorted off the ship: 'goodbye, sir'. (Field observation, November 2018)

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[59] In line with WHO guidance: 'On board, mosquitoes, rats, mice, cockroaches, flies, lice and rat fleas are all capable of *transmitting disease*. Also, rodents are well established at port areas and are considered vectors for many diseases, such as plague, murine typhus, salmonellosis, trichinosis, leptospirosis and rat-bite fever. Monitoring and control of vectors and reservoirs is necessary to maintain health on ships. Standing water caused by heavy rainfall or overflow can act as breeding sites for mosquitoes. This can then increase the potential for exposure to vector-borne diseases such as dengue fever, malaria and West Nile fever.' (WHO, 2011: 125 emphasis added)

Figure 2. Showing a fairly typical document review/interview onboard a merchant vessel, forming the initial stages of a ship inspection. Taken November 2018.

Figure 3. A typical ship being boarded. Taken November 2018[60].

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[60] Another one of maritime transport's exquisite (and very significant) quirks: though not especially clear in the image, note the yellow flag flying. Within the International Code of Signals (ICS) the

Figure 4. Water temperatures being taken in the galley. Taken April 2019.

Figure 5. General cargo vessel with rat guards (i.e. a prophylactic *object*) on mooring lines. Taken April 2019.

'Quebec' or 'Q' flag – derived from historical quarantine practices – is still used in shipping, albeit infrequently. Initially this flag was indeed used to signify quarantine (hence 'Q'), but modern usage denotes the opposite: that the ship declares itself to be free of quarantinable disease, and thereby requests free pratique. In other words the yellow flag signifies holding a valid SSC. This is to be contrasted with the 'Lima' or 'L' flag: a black and yellow-checkered flag, which signifies that the ship is under quarantine. Anecdotal evidence from discussions with PHOs suggests the 'L' flag is sometimes referred to in maritime circles as the 'yellow jack' another name for yellow fever. This demonstrates how demarcation and delineation between 'healthy' and 'unhealthy' has been stabilised and normalised over time; moreover this also shows the continuation of colonial logics.

As the above extracts from field notes demonstrate, there is (apparently) a rough 'approach' to undertaking the inspection of a ship, and order in which it is undertaken: the initial 'interview'; the inspection, and finally a debrief/closing interview and issuance of a new SSC (or otherwise). This rough structure of the inspection is in line with WHO guidance, which expressly recommends that an 'inspection usually includes a preliminary discussion with the ship's operator or agent and the master on matters relating to the ship's sanitation systems and procedures (WHO, 2011: 27). Moreover, guidance specifies that as part of this 'preliminary discussion' (having observed numerous, 'interview' is a far more appropriate term given the power dynamics) there is a review of documentation, which has been sent in advance to Port Health:

> Generally, the inspector starts the inspection by introducing the team and outlining the objective of the inspection to the master. The inspector then receives information about operating conditions and safety rules on board from the master. This exchange should occur in a private space, if available. The inspection process is then outlined to the master, and the documentation in place is reviewed. (WHO, 2011: 29)

This is before continuing the inspection, which entails primarily direct observation of areas of the ship. Without the context of the IHR and the Ship Sanitation regime, on the face of it such observations are deeply ambiguous (and this probably comes across in some of the above extracts), but of course the observations are intended to identify any potential public health risks, and to ensure 'that all points of control have been correctly identified, and that any appropriate control measures have been implemented or corrective actions taken' (WHO, 2011: 28): in other words, a prophylactic, 'policing', mechanism. As discussed above, risk assessments form the basis of the administrative side of the Ship Sanitation regime during the morning routine, and at the core of moving around and inspecting ships is risk assessment. For the most part, this in turn is based on – in line with WHO guidance – direct observation, rather than 'scientific' (i.e. measurement) or epidemiological evidence.

3.4.1 The Ship Sanitation Inspection and Intuition: 'My inspection starts as I get out of the car – you just know before you even get on'

> We can know more than we can tell (Polanyi 1966: 4)

This section discusses 'intuition in practice'. How is it possible to 'just know' that a ship is unsanitary and therefore risky before you get onboard? Throughout the praxiography there was an overwhelming sense of PHOs quite simply 'looking around' vessels and making judgements based on their intuition and hunches. As outlined in the previous chapter, linked closely with tacit knowledge – uncodified, hands-on, know how – intuition here is taken to mean gut feelings, which are personal, predicated principally on individual experience, and

have to be learnt 'in the laboratory' or 'on the job'. As such, they cannot be articulated: the 'instantaneous comprehension or apprehension of an object or an event in the past, present, or future' (Turro, 1986: 900).

The WHO *Handbook for Inspection of Ships and Issuance of Ship Sanitation Certificates* is nearly one hundred and fifty pages long, and '*the*' official reference on how ship inspections should be undertaken. In line with analysis in the previous chapter, the *Handbook* can be regarded as an explicit formulation of prescribed 'rules'. Aside from suggesting a broad order in which inspections should be carried out, it also 'proposes a sequence of inspection areas' (WHO, 2011: 135): in other words, which areas to inspect first, second, and so on (for instance, the guidance suggests starting with crew quarters, before moving on to the galley, pantry and service areas). The *Handbook* also suggests 'technical equipment that could be available to ship inspectors to help them inspect ships' (WHO, 2011: 137) – including devices such as protein-detecting swabs ('to check appropriate cleaning of surfaces'), vermin indicator spray, to more banal objects such as rubber examination gloves, and a watertight apron.

The WHO *Handbook* has checklists for inspection of particulars in some thirteen areas: quarters; galley, pantry and service areas; stores; child-care facilities; medical facilities; swimming pools and spas; solid and medical waste; engine room; potable water; sewage; ballast water; cargo holds; and finally other systems and areas (WHO, 2011). The galley, pantry, and service areas alone have a list of some forty-three specific 'sub-areas' to be inspected. Some of these are documents (e.g. ensuring there is a food safety plan in place) that would generally – though not consistently – be reviewed. Some '*required*' areas such as identifying 'food handlers or galley crew members [with] exposed cuts and wounds' and in turn ensuring the wound is covered with a waterproof dressing/treated accordingly (WHO, 2011: 49) was never once observed; likewise identifying 'evidence of accumulated soil and grease on previously cleaned food contact surfaces' (WHO, 2011: 50). Cargo stores were never inspected, and consequently no risks were identified. Evidence of medicines that have passed expiry dates in the ships' hospitals was never identified. Galleys and medical facilities that seemed 'sanitary' to me were invariably regarded as 'in need of attention' by PHOs; conversely on one ship what appeared to me to be rodent droppings were either not seen, or overlooked (hopefully the former). Technical equipment, most notably devices such as protein-detecting swabs (which work as protein residues equate to contamination) was never carried. Examination gloves were never worn. The sequence of inspections varied depending on the PHO. The *International Certificate of Vaccination or Prophylaxis* was never requested nor viewed (see note 57). This is a vanishingly small number of examples of myriad.

My point in detailing official guidance (and compliance – or otherwise – with it) is that with this strand of health security practice there is seemingly a conspicuous disconnect between explicit background knowledge and what is actually taking place on the ground during ship inspections. This is not to suggest that explicit background knowledge is irrelevant: the IHR (2005) and written 'rules' inscribe meaning and give context to ship inspections as practice. Similarly, this is not to suggest that inspections were not robust: on the face of it, the suggestion of a disconnect could be construed as my suggesting that PHOs are lax in undertaking ship inspections, or that months of prophylactic malpractice were observed. I, after all, am no expert and am in no position to pass judgement on the rigour of inspections (although practitioners often did ask for my opinion). Instead of suggesting anything such as malpractice, this disconnect instead highlights the role of tacit knowledge – particularly somatic tacit knowledge and intuition (as discussed in the previous chapter). In sum, the routine practice attended to herein is predicated chiefly on personal, practical know how.

Beyond instances of looking for specific evidence of public health risk on board vessels outlined by the WHO (for example signs of vermin or other vectors, or looking over required documents), it is primarily looking around – and to quote one PHO – 'getting a *sense* [or] a *feeling* for generally how clean the ship is' at play. *Decisions* regarding the issuance of SSC (Control or Exemption), or *deciding* during a routine boarding inspection that remedial measures must be taken, therefore cannot be simply reduced to discretionary judgements alone based on the discernment (and application) of explicit rules. As PHOs 'get to know what's what' over time – which *does* make sense insofar as there is no formal training and instead they learn 'on the job' – then 'just knowing' that something 'doesn't feel right' can be construed as tacit knowledge in practice. This just knowing – rather than anything occult – is *intuition*, which is the direct upshot of tacit knowledge: patterns of practical knowledge built up over time ('on the job'), and making sense of a given situation (public health risks on board vessels), and what course of action to take (deciding to issue a SSC or otherwise), instinctively, without conscious, deliberate reasoning.

Gut feelings are personal – based entirely on individual experience – learnt not 'in the laboratory' but instead in the office, on the bridge, in the galley, or on the deck, hence why they cannot be articulated. This pre-logical knowing within the tacit dimension is ontologically prior to explicit knowledge (in this case the IHR, WHO *Guidance*) it acts an unconscious 'filter' before, and therefore contouring conscious discretionary judgements. The disconnect between the Ship Sanitation regime's explicit background knowledge and the actual inspection of a ship is commensurate with the STS example of riding a bike: '[most] humans can demonstrate their knowledge of bike-riding only by bike-riding' (Collins, 2007:

258). Here, the fact that PHOs struggled to articulate what they were actually looking for on board is not because it could not necessarily be formalised. Instead, it remained tacit because their knowledge could only be demonstrated by *doing*: in the *act of undertaking a ship inspection*. That PHOs' knowledge could only be *shown by doing* emphasises how attending to practice must be both a theoretical *and* methodological project: divorcing methods (i.e. praxiography and thus non-participant observation) from theory would miss such insights.

Given that the observation of 'sanitary conditions' forms the foundation of onboard risk assessment, it is fair to suggest that much like the administrative side of the regime, this offers further, deeper insight into the *interpretive dimension* of health (in)security (Weir and Mykhalovskiy, 2010: 128). As with the earlier discussion, the entry point afforded by actually observing the inspections of ships, stresses how this process *is* subjective: risk and danger are again ad hoc and predicated primarily on the individual PHO. Although the WHO expressly suggests that 'Public health risks are identified by epidemiological evidence, direct observation or measurement (or any combination of these) (WHO, 2011: 21), it does seem that subjective observation (and interpretation) is '*the*' primary means of determining risk. The noteworthy exception to this is water sampling[61]. Markedly at odds with the subjective observations underpinning ship inspections, according to the WHO, water sampling is necessary in the presence of 'technical or operational' problems, or when required by national law (i.e. the flag state requirements of a vessel). However

> samples may not be required in all inspections according to the IHR. Whether a sample should be taken and analysed depends on factors such as the particular circumstances […] the evidence found by the inspectors; the nature of any potential public health risks; and the adequacy, in a

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[61] Below is the WHO (2011: 92) microbiological sampling scheme for potable water on ships, which rationalises the above extract from field notes:
Special sampling bottles and special procedures (as defined in ISO 19458) must be used. Sample testing needs to be done using suitable methods by accredited laboratories. An internationally accepted laboratory quality standard is defined in ISO 17025. An example for a reasonable microbiological sampling scheme is given below. It should be considered that the quantity of samples depends on the size of the water installation.
• Sample A: One sample should be taken from the potable water tank. This sample represents the water quality at the beginning of the ship's potable water system. Sampling should be performed as described in ISO 19458 ("purpose a"). Ship operators should be advised to install water sampling taps at the tank so that samples can be taken properly.
• Sample B: The next sample should be taken from the tap farthest from the potable water tank. It represents the influence of the distribution system. Sampling should be performed according to ISO 19458 ("purpose b").
• Sample C: If there is evidence of stagnation or other contamination in medical areas, an additional sample should be taken according ISO 19458 ("purpose c"). This sample represents the water quality for the consumer because sampling taps are not disinfected before sampling. It would be reasonable to test for P. aeruginosa at this sampling point.
• Sample D: Whenever cold water temperature is above 25 °C or hot water temperature is below 50 °C (or both), additional testing for Legionella is recommended. In this case, at least one cold and one hot water sample should be taken. It can be useful to test more sampling points (e.g. at the calorifier) to get even more information.

particular context, of the usual inspection techniques that do not involve taking samples. For example, if the cold potable water system shows temperatures above 25 °C, the risk of Legionella contamination increases. Therefore, this temperature is a trigger for taking a water sample. (WHO, 2011: 29)

Improperly managed water on ships is an established route for infectious disease transmission. Furthermore, water may be a source of index cases of disease, which might then be transmitted via other routes. Most waterborne outbreaks involve ingestion of water that was contaminated with pathogens derived from human or animal excreta. Contamination is associated with spoiled bunkered water, cross-connections between potable and non-potable water, improper loading procedures, poor design and construction of potable water storage tanks, and inadequate disinfection. Space is often limited on board ships, and therefore potable water systems are likely to be physically close to excessive heat, or close to hazardous substances such as sewage or waste streams. Avoiding cross-contamination is one of the major challenges of keeping water safe on ships. (WHO, 2011: 88-89)

Invariably samples would be taken onboard during the inspection of vessels (mostly, though not necessarily also for Legionella), and may in some cases (for example due to fails) be taken during routine boarding inspections. In terms of the sampling process: samples are taken, and are collected by courier later the same day and taken to the PHE Food, Water and Environmental Microbiology Laboratory, Sand Hutton, York. Epidemiological results, as per ISO (International Organization for Standardization) and WHO guidelines for water quality[62] are sent to relevant PHAs, who in turn forward results to individual ships (via their respective agents). The results are simplified and presented in the form of a 'certificate'. In case of failure (i.e. the detection of microorganisms), 'follow-up' samples/inspections are undertaken, in which case 'remedial measures' are imposed: generally in the form of 'super chlorination'. Strikingly, water systems, and potable water itself onboard ships – contingent on sampling and testing – are indeed amongst the few 'areas' inspected onboard ships that are constituted as potential 'objects of danger' based on 'measurement', rather than the 'judgment' of PHOs. On this note – the constitution of danger – the discussion will now consider the broader (ontological) upshot of the Ship Sanitation regime.

3.4.2 The Ship Sanitation Regime, Performativity, and (the making and remaking of) Health Security, or Health Security and the Myth of the Exception?

The motivation for this thesis was, first and foremost, to scrutinise health security beyond singular, exceptional events, and the responses to them: how it plays out continuously in the liminality of such events. Conceiving health security as practice means foregrounding and engaging with 'the practices themselves, the moving bodies, artefacts and technologies' (Loughlan et al., 2015: 23). The above extracts offer unique insight into *some* of health security's patterns of action: its mechanics in given 'sites'. Moreover, as discussed earlier in this thesis: health security should not be regarded as the upshot of a singular, aggregate

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[62] Appropriate levels of microorganisms (coliforms; escherichia coli (E. coli); intestinal enterococci; clostridium perfringens, respectively) are zero (0) per 100ml of water (WHO, 2011: 91).

'securitising move'. Instead, in line with one of the central commitments of practice theory, it should be understood as 'the product of ongoing establishment, reenactment, and maintenance of relations between actors, objects, and material artifacts' (Bueger and Gadinger, 2015: 453). This construction 'is never complete. Objects, structures, or norms […] exist primarily in practice. They are real because they are part of practices, and are enacted in them' (Bueger and Gadinger, 2015: 453). In sum, health security should be understood as performative – synonymous with Butler's path-breaking work on gender – the product of 'regulated processes of repetition' (Butler, 1990: 145). Though the primary driver of this research was to consider the everyday moving bodies, artefacts, and background knowledge at play, owing to its theoretical position and performative ontology, the motivation was – de facto – also to rethink the socio-political 'making' of health security.

The above field observations offer an alternative reading of the 'securitisation of infectious disease'. The paradigmatic assumption in health security research that securitisation is an aggregate process is not necessarily flawed, but somewhat superficial. As prior discussion noted, securitisation theory (and consequently much of health security research) concerns itself with singular, critical decisions resulting in 'securitising speech acts' in which (*in*)security is constructed. As the ever-growing body of literature attending to the nature (and normative upshot) of governing through pre-emption and risk notes, in 'the dispersed practices of the contemporary security apparatus, we may never know if a decision is a decision' (Amoore and De Goede, 2008: 180). In other words, because security *is* so dispersed, the authentic political 'moment' of securitisation – culminating in 'rupture', and thus 'the exception' – cannot be empirically identified. As Huysmans (2011: 372) notes:

> Speech acts of security seem to be displaced by the diffuse and associative securitizing work of what from the perspective of existential speech acts mostly appear as little security nothings, such as programming algorithms, routine collections of data and looking at CCTV footage […] From the perspective of 'speech acts', this associating will mostly look unspectacular, unexceptional, continuous and repetitive; instead of speech acts, we get the securitizing 'work' of a multiplicity of *little security nothings*.

Without rehearsing 'the speech act' or Huysmans' (2011) 'security acts' again, what can be suggested at this point is that the praxiography and the extended periods of non-participant observation afford critical leverage on such little security nothings: dispersed, impalpable instances of establishment and health (*in*)security being 'made' and 'remade'. In terms of the reification of knowledge in and on the material world, there are clear moments when banal, impalpable acts are not only 'ordering' by (re)producing and stabilising narrow understandings of health (*in*)security as an 'idea' (exogenous 'threats' coming from 'elsewhere'; 'places of concern' and so on), they also apparently '*securitise*'. From the above observations, the instance of the PHO instructing the cook to 'deep clean' the kitchen –

without the meaning given to it by the IHR – initially appears to be of little interest. Though mundane and unspectacular (certainly relative to the histrionics as dictated by securitisation theory), these moments on board ships are not simply bidirectional 'exchanges'. Rather, particularly given the broader context (i.e. the explicit background knowledge of the IHR) they should be understood as embodied acts of establishment: instances in which risks or potential 'dangers' are identified, as are appropriate means of rectifying them: PHOs are – whether deliberately or otherwise – constituting danger. The PHOs, in other words, are routinely making 'security decisions', and in turn are calling for, and imposing, 'action' (manifesting as not only verbal, informal 'advice' but as an Evidence Report Form, or even a SSCC): security decisions are being made and actualised; threats to public health are constituted. In line with the theoretical commitments of this thesis, it should be noted, 'social action is not necessarily preceded by a premeditated design. A practice can be oriented toward a goal without being consciously informed by it' (Pouliot, 2008: 261). For the most part there was no sense of PHOs 'consciously constructing (*in*)security'. Yet the above instances (of myriad) would certainly suggest that (*in*)security *is* routinely, continually constructed.

Aside from not necessarily being premeditated as such, given the prior discussion of the role of tacit knowledge and intuition, there is good reason to suggest that health security's 'little nothings' I attend to are, if not necessarily arbitrary, then certainly ad hoc. Though suggesting risk and/or danger/threat are subjective – and not objective – is almost trite given the post-Cold War trajectory of IR and critical security studies, if health security is to be regarded as performative, this analysis sheds light on the quotidian, 'micro' interpretations of danger, which enable health security to 'hang together'. To paraphrase David Campbell (1998: 1-14, 3) the ability – on a broader, 'macro' level – to represent things as 'alien, subversive, dirty or sick' is central to the articulation of danger, which in turn is predicated on interpretation: health security falls squarely within this reading of exogenous 'danger'. As such routine practices stabilise exclusionary, subjective understandings through daily 'interpretation': this analysis highlights not only the inherently subjective nature of 'danger', but also how it is ad hoc and founded principally on tacit knowledge and intuition.

Whilst on the matter of performativity, and everyday establishment, now is an intuitive point to offer some thoughts on the tension between conceiving practices as dynamic, displacing, and emergent, or as stable, organised, and regulated patterns, which in turn give rise to reproduction and ordering (Schatzki, 2002:101). The practices attended to in this section, as with the practices discussed in the thesis as a whole, are performative, repetitive patterns. Moreover the previous chapter noted that practice theorists tend to 'take sides' stressing either

the emergent nature *or* the reproductive nature of practices. Some theorists have, methodologically, suggested instead focusing on 'moments of rupture and crisis to learn about practices which are adjusted, replaced or newly emerge in such contexts' (Bueger, 2014: 391). To reiterate:

> The dual nature of practices requires attention to the interaction between both the emergent, innovative and the repetitive, reproducing sides of practice [and] this issue needs to be turned into the analytical question of *which practices, under which conditions*, take on an erratic or a reproductive nature. (Bueger and Gadinger, 2015: 456 emphasis added)

Given the apparent, dispersed nature of establishment (or 'the (*in*)securitising process'), it *is* within the capacity of PHOs to escalate issues on board ships regarded as 'serious'. If an issue were serious enough that it could not be 'remedied locally' – with the issuance of an ERF or SSCC – in extreme instances (i.e. should 'serious' public heath risk be identified on board a ship, in line with the IHR and relevant domestic legislation), in both the cases of Liverpool and Manchester, both the local and the *PHE Northwest Seaport Health Plan* would be activated, ultimately resulting in the detention of a ship in conjunction with the Maritime and Coastguard Agency (MCA). Given this, the everyday routines certainly (re)produce the status quo, but also have the potential to contribute to the instigation of rupture. Put differently, in practice theoretical parlance, there is the *potential* for these practices to instigate change to the very *conditions* that *may* give rise to 'minor' or 'major' adjustments to practices themselves (Schatzki, 2002) – as discussed in the previous chapter.

What happens though to the practices themselves under *certain conditions?* The obvious contextual factor that would give rise to flux and erraticism would be the 'emergency conditions' of a public health event. This is something highlighted by the 2014/2015 Ebola outbreak in West Africa, and more recently COVID-19. Typically, under such conditions, guidance (i.e. explicit background knowledge) is issued to PHAs. What is striking about guidance is the fact that during an 'emergency' – in this case the 2014/2015 Ebola outbreak – for PHAs apparently *very little else changes*. Additional questions are asked during the 'interview stage' of a ship inspection, and risk assessments during the morning routine will be conducted slightly differently. However, otherwise the day-to-day remains essentially as it would have been during my observations. Consequently, rather than seeing the introduction of 'new practices' with a public health event, what is discernable is simply a continuation of the everyday: the assumption therefore that 'securitisation' somehow 'changes everything' is flawed (see the literature review for detailed discussion). At the UK Border during the Ebola outbreak – and discussion with PHOs confirms this – for the 'first line of defence' it was very much 'business as normal' and was 'no different for us'.

Similarly, and perhaps astonishingly, much the same is the case with COVID-19, though I have been asked not to reproduce the COVID-19 algorithms. What I can reproduce though is an excerpt from the *Joint Statement on medical certificates of seafarers, ship sanitation certificates and medical care of seafarers in the context of the COVID-19 pandemic 22 April 2020* (WHO, IMO and ILO, 2020: 3) – an explicit prescription, which was issued by the WHO in conjunction with the IMO and ILO. (This in turn was brought to my attention via APHA correspondence.) This confirms that beyond (very) minor adjustments to background knowledge, seemingly little changes:

> The Ship Sanitation Control Exemption Certificate/Ship Sanitation Control Certificate SSCEC/SSCC are regulated in articles 20 and 39, and Annex 3, of the International Health Regulations (IHR) (2005). These certificates are valid for a maximum period of six months. This period may be extended by one month if the inspection or control measures required cannot be accomplished at the port.
>
> *Extraordinary temporary measures*
>
> Governments are invited to request the submission of the Maritime Declaration of Health by all arriving ships. In the absence or information of valid suspicion or confirmed active case(s) of COVID-19 on board reported through the Maritime Declaration of Health, or by the Master, or their agents in accordance with Article 28(4) of the IHR (2005), issuing Administrations are encouraged to accept an exceptional extension of the above-mentioned certificates, and to notify shipowners, seafarers and relevant Administrations accordingly. They may:
>
> Provide for the extension of an existing Ship Sanitation Certificate by one month under Article 39(1) of the IHR (2005) on one or more occasions as necessary, provided that no authorized port along the ship's route is able to conduct ship inspection and issuance of sanitation certificates; and provided that such exceptional extension does not extend beyond the termination of the current public health emergency of international concern by the WHO Director-General.
>
> Exempt from national restrictions of movement the inspectors and key personnel responsible for ship inspections and issuance of Ship Sanitation Certificates.
>
> Ensure that they can perform ship inspections and implement health control measures in good conditions and appropriate protective measures against COVID-19. These personnel should receive training and sufficient resources (personal protective equipment, cleaning and disinfection products) as per WHO interim guidance for Rational use of personal protective equipment for coronavirus disease 2019 (C0V1D-19) and Operational considerations for managing COVID-19 cases/outbreak on board ships.

In the case of health security practices at the UK Border, then, there is sufficient reason to suggest that stability, repetition, and ordering have primacy over erraticism and emergence, or, in the parlance of securitisation, and at odds with studies highlighting exceptional emergent practices, the routine and the exception are seemingly much the same, and should not necessarily be viewed as being in opposition. So in addressing the 'analytical question of which practices, under which conditions, take on an erratic or a reproductive nature' (Bueger and Gadinger, 2015: 456) it can be suggested with confidence that beyond minor adjustments

to explicit prescriptions, the health security practices attended to herein are reproductive regardless of conditions[63].

3.4.3 Power, Authority, and the Border

Whilst the MDH is invariably submitted and scrutinised during the morning routine, it is not required by domestic law (see note 51). Consequently, it does seem that the level of risk to public health onboard vessels is assumed to be low (to negligible). As such, beyond performing health security, the everyday practices at the physical Border are more about enacting and performing sovereign power. This adds further weight to earlier analogies between PHOs and privatised security, immigration, and border officials: 'petty sovereigns' acting on behalf of, and thereby performing, the state (Butler, 2004: 56). Routine practice may well be a prophylactic mechanism, and the boarding of ships for either routine inspections/surveillance, or the issuance of a SSC to identify and rectify public health risks performs, enacts, and stabilises spatiality – manifesting in a cordon sanitaire. Any cordon sanitaire is, by definition, the confluence of 'border work' and health security. However, despite the stability of this cordon sanitaire operating continually, the practices at the UK Border are also (re)producing difference and (re)producing the UK Border as much as they are (re)producing health (*in*)security. In light of the prior discussion of 'inadvertent border work' taking place in the office and much of the (largely irrelevant in terms of health) pre-arrival information forwarded to PHAs, there is reason to suggest the physical, corporeal presence at the 'border itself' (i.e. at territorial limits) is also regulating and monitoring the movement of people and people and goods.

Whilst not technically within the jurisdiction of PHAs to actually enforce immigration law, there is a sense that the work being undertaken – in particular the practice of boarding and to all intents and purposes searching/inspecting vessels (as well as the morning risk assessments) – serves, albeit inadvertently, to perform some of the functions of UK Border Force: 'gathering intelligence, patrolling the coastline, and searching vessels' (Home Office). If the morning risk assessment can be understood as a 'filtering' process, identifying the potentially untoward/'out of the ordinary', the inspection of ships confirms this. Put differently the physical presence – the inspecting and searching of vessels – is part of Bigo's 'virtual', dispersed border. As with the pre-arrival checks (or the first 'layer' of 'the border'), should anything 'suspicious' present itself on vessels, this would be escalated and referred to either

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[63] For clarity, this reproductive nature also applies to practices at UK airports discussed later in this chapter. Similarly, the same can be said of the practices attended to in the following chapter: the crisis conditions of COVID-19 have instigated markedly little change beyond nuances in background knowledge.

the UK Border Force, or else Counter Terror Policing North West. Again, discussion with PHOs at both Manchester and Mersey PHAs confirms this. In such an instance either of these two (or potentially both) would be responsible for 'interception'. This– as with any serious public health risks – would entail port state control (i.e. the MCA detaining the vessel).

> A feeling or atmosphere of a police interview, almost: this could scene would not be out of place in some police documentary given the striking power asymmetry between the ship's crew and the PHO; very much a feeling of acting on behalf of the state/exercising state power. Authority. Austere atmosphere. (Field observation, November 2018)

Dovetailing with the above discussion, one of the most striking aspects of the ship sanitation regime is the tangible power asymmetry between PHOs and ships' crews, which thereby bolsters the idea of PHAs acting on behalf of the state, and performing state power. Whilst there were certainly times – particularly during discharge or loading – when the crew perhaps seemed mildly inconvenienced, the authority and respect commanded by PHOs was at times astonishing. Ships' crews (including senior officers and/or the captain) were overwhelmingly acquiescent. Beyond simply suggesting there was marked power asymmetry onboard vessels, if 'practices are the site of the social, then routinized bodily performances are the site of the social and – so to speak – of "*social order*". They give the world of humans its visible orderliness' (Reckwitz, 2002: 251 emphasis added), then the Ship Sanitation regime (re)produces and stabilises broader, *structural* racial and socioeconomic hierarchies. This is especially so given *every* PHO shadowed throughout this study was not necessarily 'middle class' (suggesting this would be pure conjecture), but certainly 'professional', white, and British. Beyond suggesting a lack of diversity with the Port Health profession itself, this 'whiteness' can be contrasted with ships' crews: the overwhelming majority of whom were from the Global South (invariably Filipino or Indian). It would be wrong to insinuate that this (re)production of structural social and racial hierarchies is in any way conscious, and it must be stressed that at *no* point did PHOs say or do anything expressly racist[64]. Moreover, the hierarchical power dynamics on board were not necessarily oppressive. However, the hospitality (the often endless stream of coffee, the frequent offers of lunch[65]), the almost Victorian etiquette ('sir', 'madam'), and the general subservience was rather unsettling. Myself, dressed in casual clothes and (I thought) quite clearly not an 'authorised officer', was treated with utmost dignity and respect on board virtually every vessel. Beyond advances in

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[64] Pouliot 's (2008: 261) observation is worth rehearsing once more: 'social action is not necessarily preceded by a premeditated design. A practice can be oriented toward a goal without being consciously informed by it'.

[65] A ravishing pumpkin curry, with spicy beetroot relish enjoyed on a ship at Ellesmere Port is a particular highlight of the non-participant observation (though participant-observation is certainly a more apt description in this instance).

technology and changes in cargo, the observations of innumerable Ship Sanitation inspections could quite easily have taken place in the nineteenth century or early twentieth century.

The point here, then, is that engaging with practices – in this case health security routines – sheds light on the nature and dynamics of the 'micro', foundational building blocks of broader (i.e. global) social relations. Hierarchies are not the upshot of abstract representational practices: they only 'are' in and through practice, which transcends representation alone. To rehearse Taylor's (1993: 50) words: 'To situate our understanding in practices is to see it as implicit in our activity, and hence as going well beyond what we manage to frame representations of'. The practices, habits, human behaviours observed are not ephemeral, but routine, daily occurrences. As such, whilst not necessarily premeditated or conscious, because the hospitality, etiquette, subservience and so on seems to be embedded in the fabric of the Ship Sanitation regime (in the UK at least) it can be said to (re)produce and stabilise broader social hierarchies. This chapter will now turn to some of the distinct, material elements of routine practice.

3.5 Objects of Security

3.5.1 The (WHO Approved) Toolkit

Perhaps the most notable objects – as carriers of health security practice – are those that form part of the 'toolkit' carried during every ship inspection. Firstly, and in line with WHO guidance, PHOs typically inspect ships with *some* of the recommended PPE, as described below (life jackets, bizarrely, were never worn; nor were earmuffs and gloves):

> While performing inspections on board or in port areas, inspectors must wear appropriate identification, clothing and PPE, including, but not limited to, life jackets, safety helmets, safety boots, high-visibility clothing, respiratory and noise (ear) protection, rubber gloves, protection goggles, face masks (FFP3) [in case of outbreak investigation] and single-use overalls, as required. (WHO, 2011: 29, 136)

Clothing, uniforms, and the conspicuous lack of PPE are all unpacked in detail in the following subsection. Aside from PPE though, the WHO enumerates 'technical equipment useful for ship inspections', and below is an edited version of the list as per the *Handbook for Inspection of Ships and Issuance of Ship Sanitation Certificates*. With this list, the WHO makes a distinction between a 'normal inspection', and an 'outbreak investigation': all of this equipment is recommended for both scenarios except the foldable ruler, and the protein-detecting swab: presumably because in this scenario prophylaxis (or the 'policing of sanitary standards') is deemed futile. (Sample containers are only recommended for outbreak investigation).

Flashlight; **calibrated food-probe thermometer** (contact or infrared) to measure food temperatures; **vermin indicator spray** to cast out cockroaches from sealed spaces; **white cloth** to find vermin (e.g. fleas); double-faced **adhesive tape** to detect crawling insects; **seals and stamps** to authenticate certificates; **pens, clipboard and notepad** to facilitate paperwork; **dictionary** to facilitate communication between ship operator and inspector; **screwdriver kit** to open devices for inspection where necessary; **first-aid kit** for *personal* safety; **laptop and mobile printer** can be useful to print certificates or define line lists directly from a database or other software; foldable **ruler** or measuring tape to measure the size of air gaps, other dimensions and so on; **smoke pen** or other smoke-generating devices to test exhaust hoods and ventilation systems; **ultraviolet (UV) flashlight** to detect urine contamination by human and rodents**; water-testing kit** to estimate risk of possible contamination of the onboard potable water system and to be able to survey disinfection measures; **water sampling kit** to take water samples at a high enough quality to be analysed; **protein-detecting swab** to check appropriate cleaning of surfaces (e.g. in galley); **sample containers** to collect samples of different possible sources of contamination (e.g. water, food, human, surfaces, equipment); **camera** (ideally digital) to capture evidence. (WHO 2011: 137-138 emphasis added).

Based on the fieldwork, *much of this equipment was never actually used during inspections*: vermin indicator, adhesive tape, smoke pen, and the banal white cloth may have been used at some points, but this was never actually observed; similarly, water temperatures and samples were frequently taken but the actual testing of potable water was, without fail, the responsibility of an accredited laboratory (PHE, York). I have no recollection of seeing a screwdriver kit let alone being used (nor is there reference to it in my field notes). Moreover, much of the equipment that *was* used on ship throughout the observations is not really what could be described as 'technical', or aiding '*measurement*' in any way. Most of these objects – the laptop, stationery, and so on – do little beyond aiding (and in some instances facilitating) the inspection of a ship, whilst the seals and stamps (to authenticate certificates) do little beyond performing authority. As such, this bolsters previous analysis, which suggested that health security decisions are predicated *largely* on intuition, whilst seals and stamps performing authority corroborates notions of the Ship Sanitation Regime being a modality of state power. Largely is italicised here because dovetailing with previous discussion of water sampling, the noteworthy exception to the lack of measurement equipment is the use of a thermometer – generally making an appearance during inspections to check water temperatures:

> Clean drinking-water is essential for health [and water] temperature should always be either below 25 °C or above 50 °C. In temperatures of 25–50 °C, a high risk of bacterial growth (especially Legionella spp.) exists, and water safety testing should be performed. (WHO, 2011: 88-89)

Consequently, as the thermometer is one of the few forms of measurement employed, and a key carrier of practice, any security decisions pertaining to water are *not* based on intuition. Aside from the thermometer, the other key bit of the toolkit is the *Hygeina ATP Cleaning Verification System*. This is essentially a means of 'measuring cleanliness', and in line with WHO guidance is a protein-detecting swab, which gives a practically instant reading of

'adenosine triphosphate (ATP), the universal unit of energy in all living cells [thereby immediately determining] if surfaces and reusable medical equipment are truly clean' (Hygeina, 2020).

> Contaminated surfaces and equipment can quickly lead to microbial contamination, and ultimately, the infection of patients or personnel. ATP cleaning verification provides accurate and meaningful results that can help a healthcare facility define and monitor a cleaning standard to make sure that standard is maintained. (Hygeina, 2020)

This piece of equipment in particular would suggest the use of *measurement* to identity public health risks, rather than 'observation'. However, although – having asked – both Manchester and Liverpool had these in their inventory, its use during an inspection was *never* observed. In sum, it would seem that in terms of materiality, and the prescribed 'toolkit', there is more to be said about the absence of technical equipment, than there is about objects as carriers of health (in)security practice. This corroborates analysis earlier in this chapter: that security decisions – the 'little security nothings' that enable health security to 'hang together' – are by and large predicated on intuition: observation and interpretation. This is turn suggests the inherently subjective nature of health security more broadly.

3.5.2 Uniforms: Functionalist or a Modality of Power?

There is more to the materiality of health security practice than the 'tools of the trade'. Beyond the PHO toolkit (or lack thereof) some of the most striking material objects are PHO uniforms. Whilst an extensive analysis[66] of the uniforms worn by officers at Manchester and Mersey PHAs is beyond the scope of this thesis, it is worth giving some attention to the significance of clothing/uniforms, and their function within health security practices at the Border[67]. Admittedly, what follows could quite easily be said of *anybody's* clothing in *any* context, given the acknowledged signification of social and/or cultural positions through clothing (see, for example, Barthes, 2010). However it does seem that uniforms in particular – whatever the context (the military, the police, border agencies and so on) – seem to carry particular socio-political significance:

> Uniforms have, of course, been part and parcel of human society especially where group identity has been crucial, as a mark of distinctiveness (e.g. religious orders), as markers of social status (e.g. rulers, aristocrats, castes, those in authority or wielding power—and those

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[66] The uniforms themselves are certainly worthy of in depth chromatological or else semiotic analysis in their own right, and would no doubt yield fascinating results (see, for example, Guillaume et. al., 2016).

[67] Interestingly, it is worth noting at this point that there is no 'standard' uniform in the UK for PHOs. Uniforms vary by PHA/LA, though from the praxiography there is apparently a degree of commonality/shared 'conventions' amongst authorities, with all officers being smartly attired (formal shirts; black tie), and invariably sporting epaulettes. The seemingly unpopular black uniforms discussed herein were introduced at the behest of management.

subjugated) and as markers of group membership (e.g. as citizens, clans, occupations, party members). (Craik, 2003: 131)

Echoing Tynan's (2013: 27) marvelous discussion of British military uniforms, 'what soldiers wear is central to the public image of the military'. Moreover, beyond contouring broader societal understandings of the military, uniforms play a vital role in modalities of *being* and *action*, and to the meaning of the battlefield itself (Tynan, 2013). In this sense, any uniform (military or otherwise) should be regarded as potentially significant for research within International Political Sociology (IPS), particularly given that 'visuality plays a vital role in both the conduct and rationalization' (Gregory, 2010: 266) of security practices. Though seemingly banal, uniforms are of particular importance in this study given that clothing should be understood as an artefact: one element of the materiality of health security practice. Uniforms can certainly be regarded as functional, but in the same vein as the above commentators, this subsection will focus primarily on how uniforms convey (symbols of) authority and status, and how uniforms are inherently interlaced with power and politics, thereby nicely supporting the above discussion. The following excerpts are taken directly from field notes:

> We are all seated in the office: coffee/morning paperwork/pre-arrivals/usual chitchat. Two of the officers are wearing black work boots; black trousers; a dark navy blue polo shirt embroidered with the Port Health Authority coat of arms in yellow; dark blue fleece with same embroidery. One of the officers is wearing a formal white shirt. Thinking about it, if not wearing one of the embroidered polo shirts, officers will be wearing a formal white shirt. Most striking though is that white shirts will be adorned with epaulettes/insignia. Very formal, 'nautical' hats are on display in the office though presumably are seldom worn. All look very smart, formal; in particular white shirts with insignia have a 'presence' about them; sense of authority. (Field observation, November 2018)

> New uniforms are being delivered at the minute, and much was being made in the office this morning about new shirts not fitting, trousers being too long and similar complaints. The vet was most irritated. There was clearly a period of change when I started at Mersey as quite a few of the PHOs and Technical Officers were wearing their own clothes. What struck me today though was the new uniform design: it is entirely black. Black shirt and tie, black trousers, black work boots. The black shirts much like the old white ones are adorned with epaulettes. In the office at lunch, several of the officers commented on the resemblance to Border Force uniforms (they cross paths occasionally at the Border). I, however, was taken by how much like a police uniform it resembled – especially given the apparent, recent, militaristion of police uniforms. This is particularly so when combined with high visibility jackets or vests (orange ones generally, though there are yellow ones in the office): the officers look incredibly authoritative and powerful. The entirely black uniform feels almost intimidating. (Field observation, March 2019)

These should be contrasted with field notes taken from two of the numerous SSC inspections observed during the praxiography.

> We walk up the gangway and are greeted by the (so I am informed by the PHO) Southeast Asian deck watch. The officers – as usual – introduce themselves as 'quarantine' and both hold up their name badges. The deck watch informs the captain by walkie-talkie that we are here; we all sign in and are given security passes. The deck watch, wearing a filthy, oily blue boilersuit

and scuffed hardhat, addressing us 'sir' and 'ma'am' leads us to the starboard entrance where the Chief Engineer meets us. He greets us warmly; also in blue overalls and takes us to the ship's office where the second officer is waiting for us who asks us to sit and offers us coffee. Overwhelming feeling of awkwardness/unease at being offered a coffee and addressed formally. (Field observation, November 2018)

Ship Sanitation Certificate is to be issued on tanker at […]; request came through late last night from agent. The three of us drive out in blue van – twenty minute drive. We arrive at […], and […] is a bleak and hostile environment; there is a low frequency hum in the background; sense of industry/'productivity'; sense of being a highly 'securitised' space: barbed wire, innumerable CCTV cameras, jetty man in red boilersuit drives the three of us to the gargantuan oil tanker (we are not allowed unaccompanied despite authority to be there). We get out of the minibus and we climb the gangway. Two crewmembers in blue boiler suits greet us cautiously; we introduce ourselves as quarantine, sign in, are given security passes. We are accompanied to the harshly lit ship's office where we a told to wait. There is a strong smell of cigarette smoke. The PHO takes off their fluorescent orange waterproof jackets and are seated entirely in black; apart from epaulettes on display. They get out fresh SSCs [Ship Sanitation Certificates], ERFs [Evidence Report Forms] (which were filled in with ship's particular in the office), torches, stationery and sit in silence. After several minutes the captain and second officer come into the office: former in khaki shirt, chinos, and deck shoes; latter in blue polo shirt, jeans, socks and sandals. (Field observation, March 2019)

From the above extracts, uniforms are indeed a seemingly functional phenomenon, and in some respects they are. Elements of what PHOs wear on duty – the Personal Protective Equipment (PPE) worn such as safety boots, hard hats, and high visibility waterproofs – are undeniably utilitarian, and are perhaps to be expected given the hazards present at both seaports and airports (HSE, 2002: 16-17). Throughout the fieldwork I was expected to wear hard hat, safety boots, and so on for this reason. Aside from protection (from trips and falls, and so on), on a functional level PHO uniforms clearly also perform identification and distinction, with high visibility jackets having 'Port Health' in large black lettering on the back, for instance. However, as the preceding analysis suggested, one of the most striking aspects of the boarding and inspection of a ship (whether for issuance of a SSC, or a routine boarding inspection; control measures to be enforced or otherwise) is the manifest power asymmetry between ships' crews and PHOs. Indeed, officers are apparently held in high regard by crew and command a great deal of 'respect' (the behaviour of crews – the politeness, the cooperation, and so on – also suggests this). In terms of infectious disease control, PHAs – as acting on behalf of the 'competent authority' – are responsible for the enforcement of the legally binding IHR, as well as domestic legislation. Therefore given the modes of being and action embodied in, and attached to them, PHO uniforms – as material objects – can be regarded as communicative statements, functionally performing identification and distinction, yet also symbolically performing authority, status, and hierarchy.

Given this, PHO uniforms can be regarded as inherently political. Though it would be erroneous to suggest that power asymmetries, authority and status can be attributed solely to

uniforms, it is irrefutable that they certainly contribute to it: given the outward appearance of authority, knowledge and professionalism, uniforms undoubtedly inform crews' perception of Port Health (Johnson, Schofield, & Yurchisin, 2002). From the above passages for instance, the distinction between the crew of ships in blue boilersuits, and the PHOs dressed formally, and professionally entirely in black is striking. This distinction in uniforms – certainly within the context of the Ship Sanitation regime – is important if we regard the crew of ships as the 'audience' for such deliberate shows of formality and authority: relative to the plain, utilitarian clothing worn by ships' crews[68], PHOs appear professional, and authoritative, with the uniforms performing 'unity, regulation, hierarchy and status' (Craik, 2003: 128). Immediate power relations between crew and PHOs notwithstanding, echoing Guillaume et al. (2016: 56 emphasis added): 'uniforms do not exist in *societal vacuums*: [they] express *societal relations* such as *class, ethnicity* and *gender'*. Given this, there is reason to suggest that PHO uniforms (re)produce racial and socioeconomic hierarchies more broadly, and in Global Health in particular. Aside from being exclusionary, routine infectious disease control is largely predicated on where incoming ships have travelled, or else the flag state: the bidirectional, co-constitutive relationship between quotidian activity, and tacit, background knowledge – 'geographies of concern' – can be said to be (re)produced and entrenched by the status and authority being performed by PHO uniforms[69].

Aside from the inherently political nature of uniforms, consideration of the clothing worn by PHOs during routine activities is important for this thesis insofar as it is completely at odds with what we might expect, especially given the images of health security we are invariably presented with: this is particularly visible (pun intended) at the time of writing with the COVID-19 pandemic, and mass media being replete with images of hazmat suits and facemasks. It is almost difficult to imagine it 'looking' any different. Whilst there has been some scholarly engagement with 'uniforms' in relation to health security, this is typically concerned with the performative nature of PPE worn during the response to major outbreaks[70]. For example, in her 2016 *Third World Quarterly* article, Polly Pallister-Wilkins offers analysis of the role of PPE during the *response* to the 2014/2015 Ebola 'crisis' in West

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[68] A tangential, though interesting point is that even though shipping is an incredibly hierarchical industry, officers would seldom be seen wearing formal clothing; likewise the insignia of officers would seldom be on show.

[69] Particularly given that port health seemingly emerged under the auspices of empire and colonialism, there is also a sense of these historical relations being expressed and (re)produced by PHO uniforms. (For an analogous discussion of military uniforms and historical relations, see, for example, Abler, 1999).

[70] In light of the prevalence of securitisation theory in the health security literature, and focus on public health 'events' this is perhaps to be expected. It must be noted at this point that engagement with PPE in the health security literature is *not* conceiving it as done in this thesis, (i.e. the use of safety boots, hardhats and so forth); it is concerned more with the use of hazmat suits.

Africa, with 'humanitarian workers clad in plastic clothing with their faces obscured by masks [becoming] an easy visual cue for the virus itself and the complexities of the public health and biosecurity response' (Pallister-Wilkins, 2016: 507). Suggesting how PPE serves to 'produce humanitarian subjects', Pallister-Wilkins notes the exclusionary nature of PPE:

> PPE is designed to perform security by preventing bad circulation – the transmission of the Ebola virus through bodily fluids – and enabling good circulation – the life-giving forces needed by the caregiver, such as oxygen. As such, PPE is a selectively permeable barrier working at both the bodily level of the individual and also at the molecular level, distinguishing between 'bad' liquids and 'good' gases. (Pallister-Wilkins, 2016: 512)

In this sense, PPE is exclusionary, and performs health (in)security insofar as it mediates risk by providing protection to personnel, thereby facilitating life-giving care. In other words PPE as an artefact or device was necessary to intervene in the Ebola 'crisis' (thereby producing humanitarian subjects). As 'health (in)security' (broadly conceived) – particularly following the 2014/2015 Ebola 'crisis' – typically does evoke iconic images of 'plastic clad' humanitarian workers, it would be erroneous to suggest that such a take (on PPE) is somehow flawed or inaccurate. Yet outside 'exceptional' events, it is striking how markedly different clothing is during routine preventative/'control' practice, with PPE worn by PHOs being altogether more prosaic: figures 6 and 7 below clearly show the disparity between the two. If in the time of a public health 'event' uniforms can be said to exclusionary, but ultimately enabling care by giving 'hermetic isolation [to] the caregiving individual' (Park and Umlauf, 2016: 3), what can be said about uniforms, and the lack of PPE (as described above) during routine practice? As there is no physical 'barrier' present, there is clearly no intent to provide 'life-giving' care, nor are the material provisions present during an inspection to facilitate such care. Within the context of the Ship Sanitation regime, intended to 'identify and record all areas of ship-borne public health risks, together with any required control measures to be applied' (WHOa emphasis added), there is seemingly a tacit assumption that unless otherwise notified, there are no ill persons on board vessels who are in need of assistance or care. As such, this corroborates prior analysis in this chapter, which noted that routine health security practice is ultimately a preventative, 'policing' mechanism. Moreover, the earlier analysis suggested that routine practice is exclusionary, due to the continual (re)production of a cordon sanitaire essentially ensuring potential health risks are not able to leave the vessel and/or enter the country[71]. The use of uniforms therefore (as they perform authority), and the *absence* of

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[71] In terms of the broader implications of notification, refer back to the earlier in-depth discussion and analysis in the morning routine. As noted, in many respects the submission of pre-arrival documentation by shipping agents acts as the first 'layer' of the continuous cordon sanitaire in place. The health assurances of prior notification notwithstanding, note the emphasis in 'all areas of ship-borne public health risks'. The use (or non-use) of PPE therefore raises important points about the exclusionary nature of the regime: given the MDH but also the intent to account for 'all areas', the lack
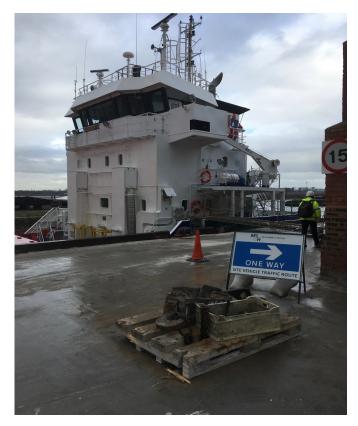
'care-facilitating PPE', would support this perspective[72]. Whilst it is intuitive to suggest that the use of uniforms does suggest a) routine practice is preventative, and b) serves to (re)produce a cordon sanitaire, there is arguably more to be said of the use of uniforms, and absence of PPE during infectious disease management beyond these two points. Given no protective equipment is worn, presumably the envisaged levels of risk posed by both crew and conditions on board (to PHOs and public health more broadly) are very low. This, coupled with the uniforms' performance of authority and performance of the state, would support one of the key ideas discussed earlier in this chapter: that routine health (in)security practice is apparently far more concerned with policing the 'border' than it is with public health. Of course, any cordon sanitaire is, by definition, the confluence of 'border work' and health security. Despite this, there is an overwhelming sense that much of the work carried out by PHOs serves to (re)produce difference and to (re)produce the UK Border more than it actually improves public health: so much of routine practice – albeit unconsciously, and not within the legal bailiwick of Port Health – regulates and monitors the movement of people and goods into the country.

Figure 6. WHO guidance on 'Strengthening health security by implementing the International Health Regulations (2005): Public health at ports, airports and ground crossings'. Although there is no caption, this is presumably depicting personnel during a training exercise. This image is to be compared with an analogous image taken during this study's non-participant observation. Source: https://www.who.int/ihr/ports_airports/en/

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of PPE during ship inspections would suggest that human subjects are deemed the most significant public health risk.
[72] Further, given that PHOs are not medically trained to deliver 'care', this certainly does make sense; moreover, as discussed towards the beginning of the chapter, this would fall outside the bailiwick of Port Health.

Figure 7. PHO boarding vessel November 2018 during a routine boarding inspection. In stark contrast to Figure 1, note the conspicuous absence of PPE (beyond the high visibility jacket and hardhat).

3.6 Infectious Disease (Control) at the Airport (or Lack Thereof)

Two months were spent undertaking non-participant observation of PHOs at Manchester, Stansted, and Gatwick, and Port Health has a strong, 'active' presence at all three airports. Despite this, there is vanishingly little to say about what was observed, for one simple reason: for the entirety of the two months spent with PHOs at the respective airports, beyond sporadic mosquito surveillance (in conjunction with PHE)[73] *no prophylactic measures were observed.* Relative to the robust mechanisms in place at seaports manifesting in the SSC regime, routine infectious disease management at the airport 'works' very differently, and sure enough – in line with the IHR – there is no 'aircraft sanitation regime' to speak of: no 'first line of defence' as with the highly regulated shipping industry[74]. Broadly speaking the *daily routine*

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[73] For the sake of completion this has been included, though the extent to which it should be regarded as routine (or indeed prophylactic) is questionable. In conjunction with PHE, PHAs are involved in the seasonal (i.e. during warmer months) monitoring of mosquitoes, which entails setting 'traps'. Should, any be found they will be subject to laboratory testing. To (politely) paraphrase several PHOs, this is largely 'not good' and 'ineffective' insofar as: a) mosquitoes are rarely caught, and b) if they are caught, are invariably native/European species.

[74] Several PHOs noted that the closest thing to an 'Aircraft Sanitation regime' can be found in industry regulation and stanards (and even they admit this is tenuous). *IFSA and AEA World Food Safety Guidelines* suggests how aircraft are in some respects – owing to the nature of commercial air travel – treated as food premises; meaning commercial aircraft that serve food must comply with industry hygiene standards. European food law applies to EU registered airlines, and UK registered airlines

at airports is far more oriented around the second key function of modern PHAs – dealing with health controls on imported foods. As such, airports as sites of health security practice will be discussed in far more depth in the following chapter[75]. Whilst there is little to offer in the way of field notes, the conspicuous absence of routine practices is worth engaging with. To reiterate, as noted in the discussion about background knowledge, the IHR and the parallel domestic legislation, are overwhelmingly reactive rather than proactive when it comes to air travel/mobility: the SSC regime should be understood as precautionary, aiming to prevent the introduction of infectious diseases into the country. Conversely, the reactionary-based 'logic' of the IHR in relation to air mobility is nicely summed up by one of the PHOs during the praxiography: 'No, no it's not really something we do much of, but we probably should. Though obviously should anything come up we will respond along with PHE'. *(It is worth highlighting that at the time of writing, as with seaports, these practices (or lack thereof) have remained essentially the same in light of the COVID-19 crisis: see discussion pp. 101-104).*

3.6.1 Who Determines Risk? Who Decides the Exception?

Whilst the management of infectious disease at airports is largely underpinned by a reactionary logic (given the lack of equivalent to the Ship Sanitation Regime), there are elements of the IHR that are prophylactic: in particular the *Health Part of the Aircraft General Declaration* and the disinsection of aircraft. Beyond the centrality of a reactive logic, there are other significant reasons as to why there was nothing substantive observed. Firstly, the *Health Part of the Aircraft General Declaration* is something of a grey area (as will become apparent). The *General Declaration* can be essentially understood as air travel's equivalent to the MDH: a document giving assurance that no illness is present onboard the aircraft (see Appendix 3 for a model copy). This *is* completed by the aircraft's captain and *is* submitted; however it is submitted to aircraft ground handling agents (hence why it was not observed)[76]. Initially it would seem that this should *not* be regarded in the same way as the

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must be registered in turn as food business with a local authority (i.e. environmental health). Aircraft (if the airline is under the jurisdiction of a given local authority) *may* be inspected; moreover, cleaners and catering companies are audited (*very*) occasionally.

[75] This, of course, can only really be said of Manchester, Gatwick, and Stansted: it obviously goes without saying that there may be nuances in everyday practice elsewhere. From discussions with PHOs at these three airports, what was observed is essentially 'the norm'. *It should be noted that Heathrow, in particular, owing not to passenger or freight volume, but to destinations served may potentially see more in the way of infectious disease control.*

[76] As per International Air Transport Association (IATA) standards for best practice, or recommended 'standard operating procedures', this is seemingly an industry standard for arriving aircraft (though presumably the Health Part of the General Declaration is forwarded to the appropriate authority, assuming it is a requirement under domestic law). Interestingly, IATA guidance for checking-in/handling passengers recommends ground staff be 'on the lookout for overall fitness to fly, including potentially contagious diseases, medical conditions, intoxication, etc. Further questioning may be

MDH: as performative, and as a key means (if not 'the' means) of determining and assessing risk, and determining appropriate courses of action (thereby, in more orthodox terms a key '(*in*)securitising' instrument). This understanding would be intuitive given that 'assurance' is given to *ground handling staff* at airports – the teams generally responsible for refuelling, baggage handling and so on – before being forwarded to relevant airlines' administrative departments. Whilst as with the MDH, the captain ultimately makes the initial judgement of 'ill health' or potentially risky conditions onboard, it would seem that routine risk assessments with air travel are left in the hands of ground handlers (see note 58). As such, in the case of England and devolved administrations, although submitted, the *Health Part of the General Declaration* is *not* submitted to authorised officers (i.e. PHOs). Because of this, there is reason to suggest that no routine risk assessment is taking place for air travel, unlike with maritime traffic, as described in the morning routine. However, turning briefly back to the IHR, which stipulate:

> A State Party may decide to require the submission of the Health Part of the Aircraft General Declaration under a recommendation concerning aircraft arriving from affected areas or to require it from aircraft which might otherwise carry infection or contamination. (WHO 2016: 26)

> [If] a source of infection or contamination is found on board, the carrying out of necessary disinfection, decontamination, disinsection or deratting, or other measures necessary to prevent the spread of the infection or contamination. (WHO, 2016: 23)

The IHR clearly state the 'pilot in command of an aircraft or the pilot's agent shall supply any information required by the State Party as to health conditions on board during an international voyage and any health measure applied to the aircraft […] except when that State Party does not require it, complete and deliver to the competent authority for that airport the Health Part of the Aircraft General Declaration' (WHO, 2016: 26). Sure enough, as per the Public Health (Aircraft) Regulations (1979), the *Health Part of the General Declaration* is *not* required under UK domestic law, unless there is suspected illness onboard. In other words, the *General Declaration* can be, and apparently is, requested by PHOs, but again is contingent on risk, and where aircraft are departing from. This is neatly surmised by: 'Unless we have reason to, we don't bother. Obviously here […] it's primarily European flights and not really high risk for that stuff.' In other words, highlighted by the absence of it during the praxiography, the requesting of this document is conflating geography and risk in the most palpable of ways: authorised officers only request it if the aircraft has come from high risk, or 'unhealthy' countries (certainly outside Europe).

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required to assist with passenger assessment. (a) When you identify a potential problem passenger, notify your supervisor. (b) The supervisor will contact the appropriate local authority for assistance' (IATA, 2014: 5).

If the prophylactic cordon sanitaire with maritime traffic is both virtual and physical – routinely delineating, and demarcating based largely on space, and in turn imposing remedial action(s) – the cordon sanitaire 'working' at airports does not necessarily impose remedial action, however it does perform and (re)produce a very narrow understanding of health (in)security. Moreover its absence, or failure to request it from ground handling staff, (re)produces and performs the 'geographies of concern' in much the same way as the Ship Sanitation regime: delineation between 'healthy' and 'unhealthy'. Should the *General Declaration* be requested by PHOs (at no point during this research – at any of the airports – was it so), this could be regarded (much like the MDH) as having the potential to instigate 'rupture'. Further, if requested during the everyday – i.e. outside 'the exception' in 'normal conditions' – and contingent on the details provided therein, health measures/remedial action would be imposed: the 'standard' action apparently being the isolation of ill subjects, followed by transferring them to hospital isolation units if necessary (quarantine, in other words). Failing that, in line with the IHR, though free pratique must be granted (as with ships) regardless of health onboard ships or aircraft, it can be granted with 'conditions', such as disinfection, decontamination, disinsection or deratting. What can be suggested therefore, in sum, is that in the case of the UK, the *Health Part of the General Declaration* and preventive measures are entirely predicated on the links between perceived risk, and geography – arguably more so than with maritime transport. As the Heath Part of the General Declaration is one of the key processes resulting in 'change' – or at least an accelerant towards 'the exception' – there is clearly a far greater likelihood of this occurring with aircraft arriving from countries in the Global South[77].

Turning now to the (enforcement of) aircraft disinsection. One of the most striking findings of this research is that the enforcement of this is something that – by and large – airlines themselves are entrusted with. Owing largely to lack of resources within local authorities (and therefore PHAs), there is an element of trust at play: 'we've fallen behind with it but now hopefully that there's more of us we'll pick it up again'. At the time of writing, three relatively new members of staff had joined the team at Stansted; Manchester and Gatwick

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[77] A brief note about public health events or 'emergencies' at airports. Quite distinct from routine prophylacic practice, it must be noted that formal notification of 'sick passengers' is not necessarily via a *General Declaration*, but instead is typically by way of notification to air traffic control (ATC). (In other words information regarding a suspected health event on board an aircraft – and thereby instigating or else accelerating rupture – would most likely be via ATC). This is primarily due to the *General Declaration* not being required under domestic law. Should there be notification of 'sick passengers', procedures are in place: initial risk assessments are undertaken by PHOs before referral to PHE; contingent on the risk assessment patients are transferred by ambulance to hospital (isolation unit or otherwise); appropriate decontamination and so on is undertaken. At Gatwick, for instance, in early 2020 incoming flights from China were required to submit the *General Declaration* to Port Health and contact ATC in advance. This is the only discernable (very minor) adjustment in routine practice in light of COVID-19.

Airports had *no* involvement at all in disinsection. Whilst 'trust' does come into the picture – to a point – insofar it is 'assumed that airlines do comply', the enforcement of the IHR is not as straightforward as simply PHAs 'trusting airlines'. Given that, as per Regulation (EC) No 785/2004, which stipulates minimum insurance requirements for aircraft operators, both public liability (i.e. third party) insurance, and more relevantly passenger liability insurance are mandatory, compliance with the IHR and relevant domestic legislation is in the interests of airlines. Aside from the fact insurers routinely audit airlines, in the unlikely event of a public health incident occurring onboard an aircraft (relating directly to vectors or otherwise), should an aircraft be found to *not* be disinsected, passenger liability insurance would be void[78]. In other words, disinsection is governed and enforced by risk.

Beyond the role of trust and insurance, unsurprisingly, disinsection is predicated (yet again) on geography. With Stansted and Gatwick, for instance, though extremely busy in terms of passenger numbers and freight movements, both deal primarily with 'low cost carriers' (the former being a major hub for the likes of Ryanair and easyJet) and therefore primarily serve European routes; though the latter does serve some long haul routes, these are primarily in the Global North (Orlando, Miami, and so on). As such, as one PHO suggested, 'there is simply no need as we're far from a long haul destination'. When this is something resources allow for – or else enforcing disinsection is regarded as requisite due to the nature of arrivals – it is predicated, yet again, entirely on delineation of space, and geography. Much like the logic underpinning the *Health Part of the General Declaration* (i.e. quiescence) disinsection checks are only undertaken on *some* incoming flights, and curiously are in line with emphatically 'Western' advice: not WHO guidance, but as is the case at Heathrow Airport, the *CDC Yellow Book: Health Information for International Travel.* In short, the curious absence of practice in terms of disinsection again suggests a continued 'fence around Europe', predicated principally on where aircraft have departed from: the lack of practice thereby performs delineation and demarcation between places (i.e. the Global North and the Global South insofar as 'safety' and 'health' are assumed.

3.7 Conclusion

The upshot of unrivalled access and months spent 'in the field', this chapter has offered unique insights into routine prophylactic practices at the UK Border undertaken by PHOs: measures that take place continually in the underexplored liminality of 'the space between' (responses to) public health events. In line with this thesis' theoretical approach, this chapter began by outlining the explicit prescriptions that give these practices meaning and context:

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[78] Sincere thanks to one of the PHOs for highlighting this.

whilst contemporary practice functions under the auspices of the IHR (2005), such prescriptions, the broader edifice of Global Health Security, and PHAs themselves all have a clear lineage, and all have their roots in empire, and colonial medicine. In sum, this chapter began with a brief historical sketch, which contextualised Port Health, outlining how it emerged, before considering what Port Health is today, its location within Global Health Security, and what functions it currently serves, and in the parlance of practice theoretical approaches, this subsection focused on the explicit background knowledge underpinning routine practice: the rules of the game. This chapter then moved on to engage with the empirical findings of the periods of non-participant observation. As 'practice' is comprised of explicit and tacit background knowledge, mental and corporeal activities, and materiality, this section of the chapter firstly elucidated and analysed the corporeal elements of routine health (in)security practice: the moving bodies and quotidian, prosaic interactions; secondly it considered some of the distinct material elements of routine practice.

Contra existing securitisation-informed accounts of health security, this chapter suggested that non-participant observation reveals a cordon sanitaire operating continually at seaports, though, curiously, *not at airports*. Owing to practice theory's performative ontology, and given this continual cordon sanitaire, there is reason to suggest that the 'making' of health is not aggregate, nor necessarily discursive. Opposing paradigmatic assumptions in literature, the 'making' of health security should instead be understood as performative: continuous and dispersed, and propelled by everyday practices, and everyday security decisions, which in turn are seemingly predicated to a great extent on intuition. Throughout the praxiography there was markedly little evidence of rational calculation, and for the most part PHOs 'just knew' something 'wasn't quite right'. Aside from highlighting the role of somatic tacit knowledge – personal, practical know-how – and the role of intuition, thereby stressing the largely ad hoc nature of routine health security practice, this chapter has stressed the role of collective tacit knowledge. For the most part, many of the practices I engaged with link risk intrinsically with place.

As such, this chapter showed the role of embedded communal tacit knowledge: 'something that human individuals […] can acquire, because of their special and continual access to the location of the knowledge — which is the social collectivity [i.e. Port Health]' (Collins, 2007: 261). Owing to PHOs' lack of formal training, this communal tacit knowledge is learnt through 'repeated interactional patterns', and it is these interactions that give rise to stability and ordering: the (re)production of narrow conceptions of the nature of 'problems' and appropriate 'resolutions', as 'the need to engage one another forces people to return to common structures' (Swidler, 2001:85; Revill and Jefferson, 2014). This is precisely why,

following the likes of Bashford (2006a, 2006b), I suggest that (neo)colonial, exclusionary logics are still being enacted. Finally, though there is clear evidence of 'routine health security practice' at the UK Border, and whilst not necessarily premeditated or 'deliberate' per se, the work being undertaken on a daily basis is seemingly as much about exclusion in the name of 'the border' as it is about public health. This thesis now engages with the second key function of PHAs in the following chapter: the management and control of imports.

CHAPTER 4

Food for Thought: Health Security, Imported Food, and the Border

Key Points

- Aside from the infectious disease controls discussed in the previous chapter, PHAs are responsible for enforcement of stringent European and domestic legislation controlling a variety of imports – namely, though not exclusively, foodstuffs;
- Health security beyond infectious disease: markedly at odds with prevailing narratives in the IR engagement with health security, which focuses primarily on infectious disease, the twelve month praxiography reveals that foodstuffs are routinely controlled due to their (potential) impact on animal and public health, but not necessarily because of their potential to be carriers of zoonotic/epizootic infection;
- Given the above, the IR engagement with health should also be speaking of *foodborne disease* as a health security problem;
- Products of animal origin (POAO) are controlled due to their potential to be carriers of zoonotic/epizootic infection. This chapter therefore highlights and stresses the centrality of veterinary medicine and expertise in health security practice: something largely missed by the IR literature;
- There is a distinct materiality to this line of 'PHA work': seemingly banal, everyday 'things' or objects (from green beans to pet food) are treated in UK health security practice as (potentially) threatening to public health;
- Again, these practices should be understood as performative, and (re)producing: a) health (in)security by constituting threats on a daily basis; b) the assumption that threats are exogenous, and the corollary c) another (deeply selective) cordon sanitaire.

4.1 Introduction

The previous chapter engaged with the everyday workings of infectious disease management at the UK border, manifesting in critical analysis of the workings of the Ship Sanitation regime. It highlighted that engagement with routine health security practices undertaken by PHAs at the UK Border reveals a cordon sanitaire operating continually at seaports; perversely, airports are more or less devoid of such practices. Chapter 3 also highlighted how colonial, exclusionary logics are still being enacted: risk and danger are linked intrinsically with *place* (particularly *places outside Europe*). Management of infectious disease is one of the primary functions of contemporary PHAs – whose antecedents can be found in colonial and tropical medicine, as well as in the Port Sanitary Authorities of the nineteenth century. The other primary function of PHAs is the management of imports: the intention being to ensure the 'wholesomeness' of foodstuffs (as will become apparent later in this chapter, a misleading phrase). This chapter engages with this latter regime operating at the UK Border. Again remaining analytically sensitive to 'practicing practice-oriented research', this chapter draws on the praxiographic research undertaken with PHAs across the five sites in the UK,

from October 2018 to October 2019[79]. Periods of non-participant observation gave insight into the bodily movements, artefacts, and background knowledge underpinning this 'strand' of everyday health security practice: in many respects there is reason to suggest that it is only through having sought proximity to practitioners that this is able to be discussed at all, let alone meaningfully. Given the overwhelming focus on infectious disease as a 'threat' in health security research (which can be attributed – at least in part – to the prevalence of securitisation theory) there is scant (if any) literature discussing the 'food/health security' nexus. As such, without direct experience of what actually takes place at the coalface, the following chapter could never have been written: the assumption was – wrongly – before starting the fieldwork that practices at the Border would be oriented primarily around screening of passengers and so on. Though perhaps not rivaling penicillin, the discussion of food controls should be regarded as an accidental finding and the product of serendipity. In sum, employing 'reflexive technologies such as field notes' (Bueger, 2014: 399) this chapter explicates the patterns of activity, materiality, and knowledge at play at the UK border continuously in the name of control and management of imports for the purpose of protecting public health (rather than for controls associated with trade – imposing duties, for example).

If the previous chapter can be said to challenge existing narratives in the health security literature by looking at health security practice – thereby shedding light on routine prophylactic measures rather than responses to public health events or emergencies – then the discussion in this chapter builds on that discussion, but goes further. What follows suggests that there is an additional prophylactic regime working in tandem with the Ship Sanitation regime at the UK border: another exclusionary, selective cordon sanitaire at play continuously, at both seaports *and* airports this time, however not what we might imagine. The previous chapter essentially described what we would probably expect to find routinely at the Border, or certainly not too far from what we would expect. Yes, some of the analysis highlighted some deeply troubling aspects of Ship Sanitation (a concern with places deemed risky, an obsession with flag states, and so on), but what is at play is a fairly straightforward cordon sanitaire (albeit one not emergent in response to events). In short, those practices are predicated on, propelled by, and ultimately sustain quite prosaic (though nonetheless persistent in Global Health) understandings of 'contagion'. Instead, entirely at odds with the IR engagement with health, this chapter highlights and engages with practices that are concerned with the control and management of imports: another prophylactic, exclusionary, selective cordon sanitaire that is at play continuously, but is aimed at preventing – primarily –

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[79] As Port of Manchester (Manchester Ship Canal) is not an authorised point of entry for foodstuffs, the following chapter discusses routine practice at the Port of Liverpool, Manchester Airport, London Stansted Airport, and London Gatwick Airport.

risky foodstuffs from entering into the country. Unsurprisingly, only certain products from certain countries (i.e. those outside Europe) are subject to official controls. In many respects the neglect of food in IR is perhaps not that surprising given that, as the WHO suggest, 'food safety only ever grabs the headlines if something goes seriously wrong on a large scale: most food safety incidents never get reported' (WHO and FAO, 2018: iv). Whilst much the same could probably be said of infectious disease amidst COVID-19, given the health and broader social implications of consuming 'spoilt' or contaminated food, this is strange, and regrettable[80]. Astonishingly, the WHO

> estimates that as many as 600 million people, or almost 1 in 10, fall ill after consuming contaminated food each year – of these, 420,000 people die, including 125,000 children under the age of 5 […] The food on our plate may have arrived from the other side of the world. Food is a sensitive commodity like no other: it can be affected by contamination by microbes, heavy metals or toxins through production methods, soils or poor hygiene. Food can be even tampered with intentionally via food fraud – either for economic reasons or with the intention to cause harm. (WHO and FAO, 2018: iv)

Products/foodstuffs are regarded as risky insofar as they are deemed to (potentially) pose a risk to public health, and though the preternaturally byzantine world of domestic and European food law (i.e. the explicit background knowledge) will be unpacked in much greater detail later on in this chapter, 'high risk foods' includes a spectroscopic range of products. This encompasses anything from foods of non-animal origin containing naturally occurring contaminants (such as mycotoxins), pesticides, or salmonella, to *all* animal products/by-products, which are subject to veterinary checks – carried out by veterinary surgeons on behalf of PHAs. This highlights and stresses the role of veterinary medicine, and therefore veterinary expertise in routine health security practice. The upshot then, is given the daily (re)production of this cordon sanitaire (and it is correct to regard these two regimes as separate as PHAs treat them as such, and they are underpinned by entirely different legislation), not only are risky subjects prevented from entering into the country (or certainly 'policed'), foodstuffs – objects, rather than people – are manifestly regarded as (potential) carriers of health *in*security. The Ship Sanitation regime is 'designed to identify, assess and record any public health risks, and the consequent control measures that should be taken, while ships are in port' (WHO, 2011: 21). In this sense – as the previous chapter showed – (exogenous) public health risks, could be a 'dirty' chopping board or faulty fridge, and therefore have a very clear materiality (i.e. 'objects of danger'). Notwithstanding, SSCs are also intended to identify and record 'clinical signs or symptoms of illness or disease' (WHO,

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[80] This is particularly so given the (supposed) paradigm shift towards 'One Health' in global health governance more broadly. This is defined by the WHO as: The areas of work in which a One Health approach is particularly relevant include food safety, the control of zoonoses (diseases that can spread between animals and humans, such as flu, rabies and Rift Valley Fever), and combatting antibiotic resistance (when bacteria change after being exposed to antibiotics and become more difficult to treat). (WHOa, emphasis added).

2011: 21) – something clearly augmented by the MDH. As such, the praxiography reveals a very distinctive materiality to health security: what can be called the 'imported food regime' is predicated solely on objects rather than subjects being considered threatening and risky, and these objects are constituted as such on a routine basis by PHAs[81].

This chapter is structured as follows. Like the previous chapter, this chapter begins by outlining relevant legislation underpinning the imported food regime, and presents a genealogy of it. As with the Ship Sanitation regime, contemporary practice is contingent on historical legacies. What is apparent is a shift from early attempts at food regulation, oriented essentially around fraud and consumer protection, to a focus on the links between food and health. As per the broader theoretical commitments of this thesis, this section explicates the explicit background knowledge underpinning the routine management of imported foods. This chapter then moves on to paint a detailed picture of the imported food regime at the UK Border. Rather than the structure of this section following the working day as in the previous chapter, it is instead contoured by the two quite distinct categories of food being controlled at the border: it initially discusses products of animal origin (POAO) then moves on to discuss high risk foods not of animal origin (FNAO). The rationale for this is tripartite. Firstly, there is little sense in attempting to follow the rhythms of the working day with the imported food regime for the simple reason – as was said to me countless times over the twelve months – 'it's all or nothing with imported foods', so it would be unrepresentative to do so. Whilst there *is* structure to the working day, it is less clearly demarcated this time, primarily because flight delays, rough seas, and so on can result in consignments being delayed, and throughout the fieldwork the 'morning routine' frequently blurred into the 'afternoon routine'. The respective subsections do, however, aim – as far as it practicable – to show snapshots of 'typical working days'.

Secondly, and more importantly, the POAO and FNAO regimes are treated as separate by PHAs: the reason – as touched on above – is that official veterinarians (OVs) are responsible for performing checks on animal products, rather than PHOs. (This separation, however, should not be taken to mean that they are intended to necessarily have different outcomes: both should be regarded as prophylactic measures). Thirdly, in many respects this chapter needs to start with discussion of POAO. Analysis of this regime provides the link between accepted knowledge of 'what health security threats are', as per the extant IR literature, and 'what else they are'. Put differently, the veterinary checks undertaken routinely at the Border are – albeit indirectly, and not entirely – intended to prevent the introduction of

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[81] Materiality here is expressly referring specifically to the nonhuman things that constitute our daily existence, rather than corporeality of embodiments (see, for example, Aradau et al., 2015).

zoonotic/epizootic disease a) into the food chain, and b) into the country. As such, starting with analysis of POAO controls enables the remainder of the chapter to move away from (the management of) infectious disease, and redefine what is meant by health security. Finally, the chapter concludes.

4.2 From the Baker's Dozen to Mad Cows: A Short History of Food Safety and Regulation in the UK

4.2.1 The Origins of Food Regulation in the UK

To reiterate: practices should be conceived as a mixture of a) corporeal and mental activities; b) material things or artefacts and the ways in which they are operationalised; and finally c) the explicit background knowledge which gives practices meaning, as well as what I refer to as the tacit dimension – practical understandings, and personal know-how. As such, this section considers the explicit background knowledge underpinning the imported food regime in the UK[82]. This section engages with the specific background knowledge underpinning the imported food regime in the UK, and turns initially to the historical dynamics giving rise to the emergence of current food legislation. If the analogous section of the previous chapter can be understood as contextualising the emergence of Port Health within Global Health – a narrative that fits squarely within what the IR literature would lead us to expect – then this section presents a story yet to be told in IR circles.

However, aside from redressing a significant gap in the IR engagement with Global Health, the following historical sketch should not be regarded as merely historical background. What follows should be regarded as significant because the lineage of the explicit knowledge and rules underpinning the contemporary imported food regime can be traced back to the height of colonialism in the nineteenth century. Put differently, as with the Ship Sanitation regime, the cordon sanitaire controlling food imports we see in evidence today is contingent on historical legacies, and can be traced back to the emergence of early, formal food regulation. This in turn emerged out of the adulteration of food, which was typically linked with 'colonial, tropical or foreign imports': either adulteration prior to export, or in the UK itself owing to high excise duties on imported foods which invited the production of cheaper, counterfeit alternatives. In sum then, what can be suggested is that indirectly or otherwise, imported foods have since the nineteenth century been perceived as something *problematic*.

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[82] It must be noted that this is *not* to disregard the prior discussion of background knowledge and Port Health. On the contrary: the broader historical trajectory of Port Health as a distinct, niche, 'sub-profession' within environmental health – its origins in colonial medicine through to the Sanitary Conferences of the nineteenth century and beyond – is still important for the analysis that follows in this chapter. This is so insofar as that lineage of explicit knowledge underpins the entire profession of Port Health. In turn, this is particularly the case given that: a) there is no formal training and b) the control of imported foods materialises much later – towards the latter half of the twentieth century

> Evidence from the earliest historical writings indicates that governing authorities have always been concerned with codifying rules to protect consumers from dishonest practices in the sale of food. Assyrian tablets described how to determine the correct weights and measures for food grains. Ancient Egyptian scrolls prescribed the labelling to be applied to certain foods. In ancient Athens, beer and wines were inspected for purity and soundness. The Romans had a well-organized State food control system to protect consumers against fraud and bad produce. In Europe during the Middle Ages, individual countries passed laws concerning the quality and safety of eggs, sausages, cheese, beer, wine and bread – and some of these ancient statutes still exist today. (WHO and FAO, 2018: 1)

Just as there is 'nothing new' about the convergence of health and security, much the same can be said of food and its control: 'recognition and subsequent avoidance of foods that [are] naturally toxic' (Griffith, 2006: 6) can hardly be a new development in human history. Dovetailing with sentiments expressed in the previous chapter's historical discussion of infectious disease and its impact on human history, the centrality of food throughout human history, and in particular the linkages between food and its regulation, can similarly be traced back millennia. Regulation was not necessarily concerned with the safety or wholesomeness of food as we might understand it today, but food – as a commodity or product – has in some form or other been controlled (whether labelled or inspected for 'purity') globally for millennia. These longstanding linkages notwithstanding, as the quote from WHO and FAO says, it is really from the thirteen century that we can discern the emergence of conscious efforts to formally legislate and control the quality of food. This section now turns specifically to the UK and importantly – as will become apparent – Europe[83].

The Assize of Bread and Ale was introduced in high medieval England, in 1266, and is an excellent example of early attempts in Europe to regulate food. This law – the first of its kind in Britain and one of the first in Europe (Cartwright, 2004: 152; Griffith, 2006: 8) – essentially regulated the price, weight, and crucially quality of bread and beer (Seaborne, 2006)[84]. In short, the principle of the Assize is summarised perfectly by Alan Ross (1956: 332): 'there were different kinds of bread; the price per loaf was fixed for each kind of bread; the price of corn fluctuated […] hence the weights of the different loaves varied, so that, the higher the price of corn, the smaller the weight of a loaf of a given kind and a given price'. Similarly, the price of ale by the gallon was prescribed by the Assize. Admittedly, some legal historians have suggested that what in evidence was a number of both local and national laws regulating bread and beer:

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[83] Throughout the following discussion, it should be noted that some of the themes and ideas unpacked in the previous chapter – particularly this epoch seeing increasing levels of European trade and expansion – must not be forgotten. Failure to acknowledge the links between increasing levels of trade and the emergence of food regulation would be misguided.

[84] Not entirely irrelevant: to ensure that minimum weight requirements were met, bakers frequently included extra units to avoid punishment…hence a baker's dozen.

In England in the thirteenth century, sales of bread, ale and wine had come to be regulated by royal, national, laws, deriving to some extent from more 'local' or private rules. By the end of the fourteenth century, there were also national regulations on prices of goods including fish, poultry, victuals in general, horse-bread and hay. Allied fields concerning the price of goods and services had also come within the sphere of royal regulation, particularly the abusive monopolistic 'forestalling' practices and levels of wages. Municipal legislation in London covered similar goods to those covered by 'royal' regulations, but also dealt with the sale of grain, armour, charcoal, faggots and coal. (Seaborne, 2006: 31)[85]

Without dwelling on the nuances of medieval law, the Assize of Bread and Ale – whether understood as a single law or an aggregation of numerous – should be regarded as significant. Foodstuffs were not necessarily being consciously controlled for the benefit or protection of public health as such, and early regulation is probably better understood as 'consumer protection' emerging in tandem with apparent commercialisation (Cartwright, 2004: 152). This is nonetheless a significant development as it forms the foundations for later developments. Aside from being the *first* law of its kind in England, according to some historical records the Assize is also of particular importance as it was effectively enforced. Bread was routinely inspected to detect and identity 'offenders' (who would in turn be subject to various, exquisitely bizarre forms of punishment, including being dragged on a hurdle wearing a loaf of bread around the neck):

> Exactly how offenders were discovered and convicted remains unclear, though there is one reference to an inspection of retail premises, in which bread was reported to have been taken and found in various chests and shops of the bakers of the city of London, and then to have been weighed before the mayor and aldermen. The sheriffs took a role in catching offenders, or at least in taking the bread for inspection The bread was weighed in the presence of mayor and aldermen, two cornmongers coming to swear to the price of a quarter of wheat so that the right weight for bread could be worked out. (Seaborne, 2006: 42)

The Assize was amended by way of the Bread Acts of 1822 and 1836, before finally being repealed in 1863. Curiously, and as is consistent across Europe (Griffith, 2006), there is a surprisingly lengthy period of several centuries during which time no further laws regulating food were actually passed in Britain. Beyond the 1848 Public Health Act (as discussed in the previous chapter), which established the minimum 'sanitary conditions' for slaughterhouses, essentially *caveat emptor* remained the case until the latter half of the nineteenth century, when this started to change following the advent of food microbiology. The absence of regulation as well as societal attitudes to food changed however, following the publication in 1820 of Frederick's Accum's seminal *A Treatise on Adulterations of Food and Culinary*

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[85] Seaborne's superb article focuses on the workings of the Assize specifically in London. It is interesting that an apparent logic of 'inside/outside' is apparent within London itself: 'rules also had to deal with the rivalry between city bakers and the "foreigner", and it is no surprise to see discrimination against the outsider. The bread of "foreign" bakers was required to weigh considerably more than that of city bakers sold for a similar price. Bakers residing outside the jurisdiction, and particularly in Southwark, were perceived as a problem, and were claimed to be a source of substandard bread, undermining the London regulations' (Seaborne, 2006: 37).

Poisons. This pioneering investigative work 'confirmed what the broad mass of the public already knew or suspected, that most everyday foodstuffs were, to a greater or lesser extent, adulterated' (Collins, 1993: 95) and in turn made the reform of food an urgent and pressing issue. In other words, Accum's work served – quite consciously – to establish the quality and safety of food as a site of societal unease, and crucially an arena of political intervention. Whilst the original Assize did (albeit inadvertently) prevent the adulteration of bread to a point, Accum's *Treatise* exposed the sheer extent of food adulteration, and importantly contamination.

> To what extent the then [i.e. in the nineteenth century] low state of the nation's health could be ascribed to bad food is impossible to say, but, together with poor housing, polluted water supplies and deficient sewage, it was unquestionably a major contributant to the poor quality of life in the industrial towns of early 19th century Britain. All manner of fatal diseases - tuberculosis, scarlet fever, diphtheria, cholera and infantile diarrhoea - were blamed on adulterated or contaminated milk. Tainted meat, unripe fruit and rotten vegetables were a principal cause both of gastric disorders and of dyspepsia, 'the prevailing malady of civilized life'. (Collins, 1993: 95)

The deterioration of food standards, and the proliferation of adulteration, throughout the latter half of the eighteenth century through to the nineteenth century is typically attributed 'low money wages translated against high costs in the distributive system and a failure of the distributive trades to advance as fast as urban populations' (Matthias, 1967: x)[86]. The low money wages and high distributive costs mentioned above only tell of half of the story explaining the rise and proliferation of food adulteration as exposed by Accum. Low wages are irrefutable, and for sure, distribution *within* Britain was costly, however the real problem was actually with the costs of imported food. In tandem with increasing global trade, until the lowering of excise duties in the 1860s 'the high price of imported foodstuffs and the relative ease with which inferior materials could be substituted for the genuine article invited widespread adulteration' (Collins, 1993: 96; Burnett, 1989: 13)[87]. Striking examples of adulteration of imported foods include coffee, which was thirty to fifty percent adulterated with 'chicory or roasted corn, and the chicory itself was often adulterated with root vegetables, acorns or even burnt rags' (Collins, 1993: 97). Similarly 'Chinese green tea was frequently laced with plum and ash leaves prior to export, and further diluted by the addition

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[86] For clarity, food adulteration, which peaked in the 1850s in Britain, should be understood as 'the act of debasing a pure or genuine commodity for pecuniary profit by adding to it an inferior or spurious article, or by taking from it one or more of its constituents in order to increase the bulk or weight of the article, to improve its appearance, to give it a false strength, or to rob it of its most valuable constituent. By this definition the golden age of food adulteration in Britain was from approximately the end of the Napoleonic Wars to the 186Os, and the passing of the first Food and Drugs Act' (Collins, 1993: 95).

[87] 'Imports of most foreign foods were discouraged throughout the earlier part of the century by tariff policies, designed partly to protect the English farmer and partly to raise revenue. Before the reintroduction of income tax in 1842, customs and excise duties on food made up almost half of total national revenue, an argument constantly employed by those who were hostile to a freer trade policy' (Burnett, 1989: 13).

of beech, elm, chestnut, oak, willow, hawthorn and other leaves on its arrival in London' (Collins, 1993: 97). As such, this period of widespread adulteration and contamination in many respects set precedent for the imported food regime in evidence today.

It would be mistaken to suggest that the extent and impact of adulteration throughout the eighteenth and nineteenth centuries was purely the result of imported foods. However, the high tariffs imposed on imported foodstuffs exacerbated the problem of adulteration domestically insofar as they rendered the production of cheaper, counterfeit goods extremely profitable (Burnett, 1989: 13). This aside, and importantly, it would seem that given the extent of many products being imported having already been adulterated or contaminated (Matthias, 1967) that the emergence of what can be called an 'exclusionary logic to imported food' is discernable. In other words, the beginnings of the assumption that (the importation of) 'foreign commodities' – from 'foreign or colonial possessions' (Dodd, 1856: 156; 134) – are potentially, if not risky or inferior, certainly somehow problematic, is discernable. Importantly (as will become apparent towards the end of this subsection), though the focus herein is food regulation in Britain, it must be noted that these trends are not confined to just Britain: Accum's work was, for instance, published in America in 1820, translated into German (being published in Germany in 1822) and – crucially – had implications across Europe (Shears, 2010).

4.2.2 The Emergence of a Regulatory Framework in the UK

Following the broader societal unease generated initially by the work of Accum – and later, (and arguably more influentially as it had a greater, more direct bearing on policy), the work of Arthur Hassall and Henry Lethanby – the apparent indifference to food regulation began to change towards the latter half of the nineteenth century, and a marked shift from consumer protection to a concern with public health is discernable. Medical doctor Arthur Hassall (of the Royal Free Hospital, in London) and Henry Lethanby published scientific and medical investigations in the *Lancet* between 1851 and 1854. Having highlighted the social, and more importantly *health,* implications of contaminated and/or adulterated food, Hassall's work ultimately gave rise to 'the first parliamentary enquiry on food adulteration in 1855-56, and soon after that a second Lancet survey of provincial towns' (Collins, 1993: 96). This enquiry in turn resulted in the first Adulteration of Food Act, in 1860, which enabled some local authorities to 'appoint public analysts to investigate complaints [about suspected adulteration] by members of the public' (Collins, 1993: 102). However

> [The 1860 Adulteration of Food Act] failed, though, in its primary objective, first because few analysts were appointed, and second because successful prosecution depended on being able to prove not only that the foodstuff was adulterated but also that the vendor was aware of this at

the time of sale. The Act remained a dead letter until 1872 when [the Adulteration of Food, Drink and Drugs Act] came into force prescribing much more severe penalties, notably a fine of up to £50 and for a second offence up to 6 months' imprisonment with hard labour, compared with £5 under the 1860 Act, and, at the same time, authorizing inspectors to make purchases of samples for analysis. But the weakness, as before, was that the appointment of analysts, now extended to all the larger boroughs, was still optional (Collins, 1993: 102).

Date (AD)	Key Developments in UK Food Legislation
1266	Assize of Bread and Ale
1820	Publication of *A Treatise on Adulterations of Food and Culinary Poisons*
1848	Public Health Act
1860	Adulteration of Food Act
1872	Adulteration of Food, Drink and Drugs Act
1875	Sale of Food and Drugs Act
1928	Food and Drugs (Adulteration) Act
1938	Food and Drugs Act
1955	Food and Drugs Act
1976	Food and Drugs (Amendment) Act
1984	Food Act
1990	Food Safety Act

Table i. Some of the key historical developments in British food legislation

The Sale of Food and Drugs Act, which curiously enough (at the time of writing, at least) is yet to be repealed, built on the 1860 and 1872 Acts, and came into force in 1875. The key difference with the 1875 Act is that it made the appointment and use of public analysts compulsory 'upon virtually all local authorities having a separate police establishment' (Collins, 1993: 103). Moreover, rather than the somewhat ambiguous term 'adulteration', it aimed to give clearer, more specific descriptions of punishable offences: crucially within the remit of the Act was now, expressly, the prohibition of 'food with any ingredient or material so as to render the article injurious to health' (Sale of Food and Drugs Act 1875: 2). Whilst the 1875 Act was a landmark in food legislation, against this backdrop of burgeoning food regulation in the late nineteenth century – and importantly the law now acknowledging the correlation between potential harm/ill health and the consumption of contaminated or adulterated food – other crucial developments were taking place. From roughly the 1850s and into the 1860s, as evidence mounted, societal and political interest broadened from anxiety about the sale of 'pure' foodstuffs (in other words foods free from adulteration) to a concern with the 'cleanliness' of food. In particular – and indubitably this nascent concern was owing to nineteenth century concerns with contagion[88] – was anxiety about the sale of: a) rotten or contaminated meat, and b) the role of meat in the transmission of disease (Perren, 1978: 50-68). Fundamental to this shift was the 1865-1868 rinderpest (cattle plague) epidemic.

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[88] It goes without saying that there are clear parallels here with the discussion in the previous chapter about the emergence of the contemporary Ship Sanitation regime.

Rinderpest – 'the most dramatic episode in nineteenth-century British agricultural history' (Fisher, 1998: 215) – is estimated to have killed two hundred million head of cattle throughout the eighteenth century. Whilst not zoonotic, following its incursion into Britain in the 1860s, owing to its apparent *mystery*, *novelty*, and falling squarely within Victorian understandings of *contagion*, rinderpest had a profound impact on the public consciousness. Writing in 1998, John Fisher suggested that no 'other single event has had the same impact on public consciousness - until the present epizootic of Mad Cow Disease, of Bovine Spongiform Encephalopathy (BSE)' (Fisher, 1998: 215). Though not necessarily emerging out of anxieties about imported meat, (though some outbreaks of food poisoning *were* related to importation, such as one in 1880 in Middlesbrough linked with American bacon (Collins, 1993: 101)), echoing Michael Worboys (2000: 222), public concern shifted beyond 'bad meat' to focus on 'tuberculosis meat', and particularly bovine tuberculosis (TB) in the 1880s and 1890s[89]. (For context, bovine TB resulted in an estimated eight hundred thousand human deaths between 1850 and 1950 (Waddington, 2002)). Catalysed by the advent of veterinary and dairy microbiology and bacteriology,[90] fears 'about tuberculous meat became a central part of mainstream debates about food safety and about tuberculosis that reflected anxiety within the veterinary and medical professions, and at a local government level' (Waddington 2003: 638). As Keir Waddington notes of this anxiety:

> Alarm about the health risks from diseased meat had been growing since the 1850s as deficiencies in the diets of the poor and then the 'evils' of the urban meat trade were highlighted by sanitarians and social commentators. They blended moral judgements with material concerns about nutrition, domestic knowledge and contagion. By the turn of the twentieth century, the role of food in the transmission of certain bacteriological diseases had become an established tenet of public health and an area that attracted substantial scientific and public interest. Almost on a yearly basis new items of food – milk, cockles, oysters, pork – were implicated in the spread of disease as concerns about food safety intensified. (Waddington, 2011: 51)

> This unease was symbolized by a series of "Dead Meat dramas" when local authorities tried to prosecute butchers and traders for selling carcasses displaying signs of tuberculosis. The most famous of these occurred in Glasgow in 1889, when the local authority successfully prosecuted a meat trader and a wholesale butcher for sending tuberculous cattle to a slaughterhouse, prompting a debate that led to the appointment of a royal commission to investigate the danger of bovine tuberculosis to the public. (Waddington, 2003: 638)

Turning specifically to remedial measures and legislation emerging in relation to bovine TB – the 'paradigm zoonosis' of the nineteenth century – from the 1890s, aside from mounting public unease, there was essentially consensus amongst veterinary and medical professionals, as well as public health officials that more robust action needed to be taken: both

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[89] Aside from diseased meat, this period also saw considerable concern about infected milk (Collins 1993: 101; Waddington, 2003).
[90] Whilst this period saw great scientific/medical advances, (with the work of Pasteur, and Salmon being noteworthy) of particular relevance to this discussion is the work of Robert Koch, who in 1882 identified the tubercle bacillus.

prophylactic/preventative measures (including notification, movement and import controls of cattle), and in the event of an outbreak compulsory slaughter (Waddington, 2002, 2003, 2011)[91]. These measures were embodied in the (pre-germ theory) 1869 Contagious Diseases (Animals) Act (1869), which emerged following the rinderpest epizootic of the 1860s. As such, the more robust action called for by public health and veterinary circles essentially translated into zoonotic bovine TB being covered by the 1869 Act (the number of diseases covered increased beyond rinderpest, and included foot and mouth disease (FMD)). However, the inclusion of TB was resisted by the farming and meat industries. The inspection of foodstuffs did, admittedly, fall under the remit of the Nuisances Removal and Disease Prevention Act (1855) (Waddington, 2003: 646); moreover provisions under both the Public Health Act 1875 (which interestingly was the legislation that gave rise to Port Sanitary Authorities) and the Sale of Food and Drugs Act 1875 permitted 'local authorities to destroy food deemed unfit for human consumption as a nuisance. By interpreting tubercular matter as a contaminant, the acts gave public health officials a framework for action' (Waddington, 2003: 646). In other words, a system of local surveillance was in evidence. The efficacy of these laws is questionable: whilst prosecutions for the sale of contaminated meat did rise, the inspection and enforcement of meat was – to say the least, and largely because of the pressure exerted by the meat and farming industries – not uniform. So far, two key health events in the development of the contemporary imported food regime have been identified. Firstly the 'scandal' of adulteration in the nineteenth century as exposed by Accum. Secondly, zoonotic bovine TB, which resulted in widespread societal unease and affect. Both of these health events gave rise to legislative and 'practical' changes (for instance the beginnings of a meat inspection 'regime'). The response to bovine TB was piecemeal. Moreover what must be stressed is that restrictions on the importation of food (i.e. meat) was never considered, nor implemented, as either a prophylactic mechanism, nor as a means of containment.

Throughout the twentieth century several noteworthy pieces of legislation were introduced domestically, including the Public Health (Regulations as to Food) Act of 1907. This gave provisions resulting in the introduction of technical guidance and regulation to control the use of additives (Jukes, 1993: 132). The much broader Food and Drugs Act (1938) 'contained all the provisions relating to food and provided for more extensive regulatory powers than had previously existed' (Jukes, 1993: 133). Although the 1938 Act provided a robust legal

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[91] 'For many years […] we were protected from rinderpest by an insularity that was unbreached by cattle imports. After the ban on foreign cattle was lifted in 1842 continued freedom was enjoyed because a rigid veterinary control in eastern Europe prevented the disease from spreading westward. These dimensions of time and distance had induced a state of national amnesia to the ravages of rinderpest […] particularly susceptible to the burden of contagious disease and, after the importation of foreign cattle was permitted, the town dairies and livestock markets became hotbeds of pleuropneumonia and foot-and-mouth disease.' (Hall, 1966: 259-260)

framework, it was essentially obsolete from its introduction: the onset of the Second World War precluded such powers from being used 'as the subsequent use of defence powers [established] very detailed restrictions on the manufacture of food. These powers were used for several years after the end of the war since food supplies remained difficult' (Jukes, 1993: 133). The Food and Drugs Act (1955) in England and Wales, with comparable Acts in Scotland and Northern Ireland, 'further extended the powers of government. These powers were used extensively to place detailed restrictions on the composition of certain foods, to extend labelling requirements and to implement a comprehensive policy of controlling food additives' (Jukes, 1993: 133). Whilst domestic legislation was passed throughout the first half of the twentieth century, this can be understood as a period of relative inertia. Crucially, there were no changes to the control of imports of foodstuffs: in other words this was yet to be formally legislated.

Real change became discernable towards the latter half of the century: following the UK becoming a member of the European Community in 1973, the regulation and enforcement of food standards increasingly gained impetus domestically, and a slow (but nonetheless significant) move towards harmonisation of food standards across Europe was apparent (Jukes 1988, 1993). As of 1973 'the country accepted many new controls [and since] that time, food law [had] become increasingly subject to decisions taken by the whole Community' (Jukes, 1993: 133). It would, however, be erroneous to speak of European harmonisation during the 1970s and 1980s, and two key points are worth stressing. Firstly, the primary concern across Europe was the removal of trade barriers: as per Article 3 of the Treaty of Rome, activities of the Community include 'the elimination, as between Member States, of customs duties and of quantitative restrictions on the import and export of goods, and of all other measures having equivalent effect'. In other words, the import and export of goods started to move towards a harmonised system across Europe, but the control of imports and exports of foodstuffs due to health risks were – at this point – not within the remit of the European common market project. Public health was certainly not within its scope, and differences in domestic food/technical standards were seen purely as inhibiting free trade. Secondly, and dovetailing with the first point: European legislation throughout this period was largely concerned with food additives and/or preservatives (see, for example, Jukes, 1988). Sea change comes in the 1990s.

4.2.3 From Mad Cows to My Lidl Pony: the Imported Food Regime Today
Within the IR engagement with Global Health, HIV/AIDS – and in particular its coming to be understood as a *security problem*, and responded to as such (i.e. 'securitised') – could be regarded as equivalent to the Cold War, or the events of 9/11: an epochal, 'meta-event';

something prototypical that ultimately changed the Global Health landscape irrevocably (Brandt, 2013). This is reflected in the volume of literature concerning HIV/AIDS. Other health events that spring to mind as Global Health 'meta-events' in IR include the 2014/2015 West African Ebola outbreak, and – albeit to a lesser extent – the SARS outbreak of 2002/2003. Though it is perhaps too early to say, COVID-19 will almost certainly join the ranks. Regrettably and curiously neglected in the IR literature is the (very) British Bovine Spongiform Encephalopathy (BSE) 'crisis' of the 1990s[92]. Of the limited (but very excellent) IR engagement with BSE, Aaltola (1999: 237) notes:

> The Bovine Spongiform Encephalopathy crisis, as an international relations phenomenon, started in March 1990 when the European Commission imposed its first restrictions on British meat products. However, the fullblown crisis emerged amidst growing suspicions of a link between the cattle disease BSE and the fatal human condition known as Creutzfeldt-Jakob Disease (CJD). In March 1996 imposition of a world-wide ban on British beef products by the European Union accompanied growing alarm over scientific findings that a connection between eating BSE-contaminated beef and developing CJD could not be ruled out. From late March 1996 onwards, all actions concerning BSE had ramifications for international interaction within the European Union, whether intended or not.

Following the first official diagnosis in the UK in 1986 (the death of a cow in 1984 is regarded as the first unofficial case), as per official figures, in the following decade up to 1996 'there were some 160,000 cases of BSE in Britain […] and a negligible incidence elsewhere' (Fisher, 1998: 218). Relative to the losses caused by bubonic plague, or European rinderpest in the nineteenth century, these figures 'are low figures by usual plague standards – only half the mortality of the cattle plague in 1865-7 (when the British herd was half its present size of 11,800,000)' (Fisher, 1998: 218). For context, during the peak of the BSE crisis in 1992-1993, the 35,000 reported cases translated to a puny 0.5% of the entire British herd (Fisher, 1998). Nevertheless, BSE had profound social and political effects, but not because of the (truthfully relatively low) number of cases[93]. As with rinderpest some 130 years earlier, the '*obscurity* which attends the origins and early dissemination of plagues is inevitably a contributing factor to their ultimate status' (Fisher, 1998: 217 emphasis added). The mystery and novelty of BSE, along with the hyperbolic media coverage (see, for example, Washer, 2006) had a great impact on public consciousness, undoubtedly propelled by the potential for BSE to spread to humans: notwithstanding 'its novelty, if BSE had proved a disease strictly confined to cattle then it would not have gained the status of a plague (Fisher 1998: 218). As Fisher (1998: 215) notes of rinderpest: 'No other single event has had the same impact on public consciousness - until the present epizootic of Mad Cow Disease, of

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[92] In short, BSE is a transmissible, neurodegenerative disease of ungulates, namely cattle. Caused by prions (mis-folded proteins) it is believed that BSE spreads to humans by consuming BSE-infected meat. (See, for example, Ramasamy et al., 2003).
[93] Clearly, the corollary therefore, is that the actual 'threat' to human life during the BSE 'crisis' was actually low.

Bovine Spongiform Encephalopathy (BSE) […] After 130 years, a livestock disease has again become the prime focus of public concern in Britain'. In short, what was apparent with BSE in the 1990s was a 'return' to the societal unease caused by the rinderpest and bovine TB 'crises' of the nineteenth century. Ominously, and crucially – and somewhat ironically given the (British) origins of BSE – a return to links being made between 'foreign commodities' and food standards (as with adulteration in the nineteenth century), and the reemergence of exclusionary logics (as with said adulteration being linked with exports), are discernable across Europe.

Whilst a drop in consumer confidence can no doubt be attributed to the crisis, the upshot of BSE was first and foremost the emergence of food standards – and crucially a strengthening of the links between food and public health, rather than primarily consumer protection – as a pressing policy issue in Britain, and across Europe. The histrionics of the (zoonotic) BSE crisis, the dioxin contamination crisis in Belgium in 1999 (linked principally with the contamination of animal feed, resulting in contaminated chicken meat and eggs entering the food chain), and the 1995 World Trade Organization's (WTO) Agreement on the Application of Sanitary and Phytosanitary Measures (SPS)[94] all contributed to the widespread acknowledgement that the European Union would benefit from a harmonised system of standards and requirements. This is especially so given the broader context of an increasingly globalised world, and the increased levels of global trade in food seen throughout the 1990s. Though the extent of the threat to human life by both the BSE crisis and the Belgian dioxin crisis is questionable, the apparently lacklustre response from authorities across Europe coupled with (and arguably because of) a lack of traceability[95] prompted wholesale change, and a profusion of European legislation soon emerged[96]. In 2000, the European Commission

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[94] An arguably overlooked development in the IR literature on global health, the SPS Agreement sets standards for, and constraints on member states' policies on, food safety (including, but not limited to the presence of bacterial contaminants and pesticides, the inspection and labelling of food) as well as animal health and plant health (phytosanitation). 'Members have the right to take sanitary and phytosanitary measures necessary for the protection of human, animal or plant life or health […] Members shall ensure that any sanitary or phytosanitary measure is applied only to the extent necessary to protect human, animal or plant life or health, is based on scientific principles and is not maintained without sufficient scientific evidence […] Members shall ensure that their sanitary and phytosanitary measures do not arbitrarily or unjustifiably discriminate between Members where identical or similar conditions prevail, including between their own territory and that of other Members. Sanitary and phytosanitary measures shall not be applied in a manner which would constitute a disguised restriction on international trade' (WTO, 1995: 70).

[95] An idea that is absolutely pivotal to the contemporary imported food regime, traceability is best understood as the capacity to trace, and record – or 'keep track' of – products in the (global) supply chain. In other words, traceability equates to every part of the production stage, every part of the processing stage, and every movement being logged. The upshot of this being that in the event of a product recall (in the case of contamination and so on) traceability enables effective identification and removal of suspect products.

[96] Two important points: firstly, what follows is only a brief overview of food import regulation. Doing justice to all of it would be impossible: current guidance from DEFRA listing 'live' regulations is – at

published the *White Paper on Food Safety*, which was quickly followed by calls for harmonisation of food law regulation across the European Union. The White Paper was ultimately adopted and became the General Food Law Regulation (EC) No 178/2002 of the European Parliament and of the Council, which set minimum food standards across Europe, and made traceability compulsory.

> This Regulation provides the basis for the assurance of a high level of protection of human health and consumers' interest in relation to food, taking into account in particular the diversity in the supply of food including traditional products, whilst ensuring the effective functioning of the internal market […] It establishes common principles and responsibilities, the means to provide a strong science base, efficient organisational arrangements and procedures to underpin decision-making in matters of food and feed safety […] This Regulation shall apply to all stages of production, processing and distribution of food and feed[97]. It shall not apply to primary production for private domestic use or to the domestic preparation, handling or storage of food for private domestic consumption. (2002/178/EC: 6-7)

In sum, the General Food Law prohibits foodstuffs being placed on the internal (i.e. European) market if they are deemed 'unsafe': potentially 'injurious to human health and life'. Predicated on 'scientific evidence', food is regarded as such if it is considered to be: a) *injurious* to *health*; or b) unfit for human consumption (2002/178/EC: 10). A broad, precautionary, 'risk-based approach' is outlined in the Regulation:

> In order to achieve the general objective of a high level of protection of human health and life, food law shall be based on risk analysis except where this is not appropriate to the circumstances or the nature of the measure […] Risk assessment shall be based on the available scientific evidence and undertaken in an independent, objective and transparent manner […] In specific circumstances where, following an assessment of available information, the possibility of harmful effects on health is identified but scientific uncertainty persists, provisional risk management measures necessary to ensure the high level of health protection chosen in the Community may be adopted, pending further scientific information for a more comprehensive risk assessment. (2002/178/EC: 9-10)

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the time of writing – some 159 pages long (DEFRA, 2020). Secondly, part of the perceived 'problem' with management of the BSE 'crisis' was a) lack of commonality in food standards across Europe, and b) the lack of regulation in Britain – in particular the lack of regulation of animal products for human consumption. As Jukes (1993: 138) notes: 'Food safety also relates to the safety of animal products for human consumption. The inspection of these has in many European countries been the responsibility of veterinarians. Legislation can make a distinction between products subject to veterinary supervisions and inspection and those subject to other controls. This policy has not been followed in the UK'. The European Council Directive EC/78/1997 (distinct from legally binding regulations) emerged during the height of the BSE 'crisis'. As such, it must be stressed at this point that whilst many later legal requirements may have been established in 1997, they were not embodied in law across the European Community. The 1997 Directive established standards on the veterinary checks of animal products, 'laying down the principles governing the organisation of veterinary checks on products entering the Community'. Hence, when discussing later European Regulations emerging after the turn of the new millennium some facets may have already been established but a) not embodied in law, and importantly b) as per Jukes' article, not effective in Britain.

[97] 'For the purposes of this Regulation, 'food' (or 'foodstuff') means any substance or product, whether processed, partially processed or unprocessed, intended to be, or reasonably expected to be ingested by humans' (2002/178/EC: 7).

Importantly though, aside from establishing baseline standards across the European Community, it requires that food/feed imported into the Community complies with the relevant requirements of European food/feed law. In other words, a palpable link between imported food and 'human health and life' became enshrined across the European Community, and a prophylactic cordon sanitaire – a quite literal 'fence around Europe' was implemented. (Interestingly, as in the 1997 Directive, any country from outside the European Community is legally referred to as a third country.)

> Food and feed imported into the Community for placing on the market within the Community shall comply with the relevant requirements of food law or conditions recognised by the Community to be at least equivalent thereto or, where a specific agreement exists between the Community and the exporting country, with requirements contained therein. (2002/178/EC: 10)

Rapidly following the General Food Law, emerging in 2004 was Regulation (EC) No 882/2004 of the European Parliament and of the Council (2004/882/EC) 'on official controls performed to ensure the verification of compliance with feed and food law, animal health and animal welfare rules'. '882' (as it is referred to in Port Health parlance) suggests

> It is appropriate to establish Community rules in order to ensure that feed and food from third countries is submitted to official controls before release for free circulation in the Community. Special attention should be paid to import controls of feed and food for which there may be an increased risk of contamination. (2004/882/EC: 9)

The Regulation

> lays down general rules for the performance of official controls to verify compliance with rules aiming, in particular, at […] preventing, eliminating or reducing to acceptable levels risks to humans and animals, either directly or through the environment; and […] guaranteeing fair practices in feed and food trade and protecting consumer interests, including feed and food labelling and other forms of consumer information. (2004/882/EC: 18)

In short, building on the 'basic principles' of the 2000 Regulation (and the corollary legal requirement for imports from third countries to comply with internal regulations) veterinary checks on products of animal origin (POAO) at the point of entry (into the European Community) outlined initially in the 1997 Directive were made *compulsory* (rather than, to all intents and purposes, 'advisory'): 'Each consignment shall be subject to veterinary checks in the border inspection post[98] […] by the competent authority[99] under the responsibility of the

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[98] Border inspection post (BIP) 'means any inspection post, designated and approved […] for the carrying out of veterinary checks on products arriving from third countries at the border […] Border inspection posts must: (a) be located in the immediate vicinity of the point of entry into one of the territories [within the European Community…] However, where necessitated by geographical constraints (such as an unloading wharf or a pass), a border inspection post at a certain distance from the point of introduction may be tolerated […] (b) be placed under the authority of an official veterinarian, who shall be effectively responsible for the checks. The official veterinarian may be assisted by specially trained auxiliary staff' (1997/78/EC: 7). BIPs, the requirements of BIPS (location and structural, and so on) and the authorisation of BIPs all fall under the jurisdiction of 2009/821/EC.

official veterinarian' (1997/78/EC: 5). Veterinary checks are intended to confirm the absence of contamination: anything with the potential to pose risk to human health and life. First and foremost, checks confirm the absence of disease in a consignment: in short, checks aim to prevent the spread of contagious or infectious animal diseases (thereby having potential public health, social, and economic impacts in their own right), which may be transmissible to humans (or animals). As Regulation 882 itself suggests: 'Animal health and animal welfare are important factors that contribute to the quality and safety of food, to the prevention of the spreading of animal diseases and to a humane treatment of animals' (2004/882/EC: 3). Absence of zoonoses aside, veterinary checks also ensure that consignments comply with European hygiene regulations/guidelines for human food of animal origin (i.e. POAO for human consumption or POAO HC, which is to be contrasted with POAO not for human consumption or POAO NHC) to ensure that agri-food chain requirements in relation to sanitary (and phytosanitary) concerns are adhered to as per Regulation 2004/853/EC. Was the product killed in a 'clean' slaughterhouse? Was the meat preparation chilled to an internal temperature of not more than 4°C or 2°C for minced meat? Was the product packaged and sealed adequately? And so on.

> Community feed and food law is based on the principle that feed and food business operators at all stages of production, processing and distribution within the businesses under their control are responsible for ensuring that feed and food satisfy the requirements of feed and food law which are relevant to their activities. (2004/882/EC: 3)

Veterinary checks are split into three distinct parts: documentary, identity, and physical. Following the successful completion of these checks, the relevant consignment will be released from the 'customs area' into free circulation.

> "[Documentary] check" means the examination of the veterinary certificate(s) or veterinary document(s), or other document(s) accompanying a consignment […] "identity check" means a check by visual inspection to ensure that the veterinary certificate(s) or veterinary document(s) or other document(s) provided for by veterinary legislation tally with the product itself […] "physical check" means a check on the product itself, which may include checks on packaging and temperature and also sampling and laboratory testing. (1997/78/EC: 4)[100]

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[99] The official control of POAO ultimately falls under the jurisdiction of the Animal and Plant Health Agency (APHA) which is an executive agency of the Department for Environment, Food and Rural Affairs (DEFRA) – 'the competent authority'. In others words, analogous to the Ship Sanitation regime falling under the jurisdiction of PHE (as the competent authority) but being undertaken by authorised officers (i.e. PHOs), the veterinary checks on imports are ultimately the responsibility of APHA, but are undertaken by OVs under the auspices of PHAs (or indeed local authorities).

[100] Laboratory testing of POAO (i.e. sampling) was never actually observed throughout the praxiography. The physical check rate for red meat, meat products and fish is twenty percent; for poultry meat, honey, dairy products and shellfish fifty percent; and at between one and ten percent for most products of animal origin that are not intended for human consumption. This is prescribed in Commission Decision 94/360/EC.

Central to the veterinary checks described in Regulation 882 (and as per Articles 3 and 5 of Directive 1997/78/EC) a legal requirement now exists 'for the OVs to provide a certificate confirming that veterinary checks have been carried out. [The certificate – confirming a) the completion of veterinary checks, thereby giving b) assurance of the absence of risk to public/human and/or animal health (i.e. zoonoses/poor hygiene)] is known as a Common Veterinary Entry Document [CVED]' (DEFRA, 2017: 26). (See Appendix 3 for a blank CVED). The method or 'practice' for the completion of the CVED is outlined in Commission Regulation (EC) [2004/136/EC] laying down procedures for veterinary checks at Community border inspection posts on products imported from third countries.

> Before the physical arrival of the consignment on Community territory the person responsible for the load shall notify the arrival of the products to the veterinary staff of the border inspection post to which the products are to be submitted, using the Common Veterinary Entry Document (CVED). The CVED shall be issued in accordance with the general rules relating to certification laid down in other relevant Community legislation. The CVED shall be drawn up in an original and copies as determined by the competent authority to meet the requirements of this Regulation. The person responsible for the load shall fill in part 1 of the CVED and transmit this to the veterinary staff of the border inspection post. Without prejudice to […] the information contained in the CVED may, with the agreement of the competent authorities concerned by the consignment, be made the object of an advanced notification through telecommunications or other systems of electronic data transmission. Where this is done, the information supplied in electronic form shall be that required by part 1 of the model CVED. (2004/136/EC: 12)

> The certificate should be produced via the TRACES system.[101] The certificates must only be signed by the OVS - it is not acceptable for the certificate to be signed by other officers (except for fish and fishery products which may be signed by an OFI [Official Fish Inspector[102]]). Each certificate will be assigned a serial number by TRACES. The OVS must retain copies of the CVEDs and original third country health certificates or health documents accompanying consignments for 3 years. The CVED is a veterinary certificate and should comply with all the EU and RCVS standards of certification. It must be on a single sheet of paper and must be fully completed. (DEFRA, 2017: 26)

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[101] TRACES (Trade Control and Expert System) – online software used across Europe for processing CVEDs and releasing (or otherwise) consignments – will be discussed in more depth later on in this chapter. Also used for imports of live animals, and developed in an attempt to facilitate harmonisation, provisions in Commission Decision 2003/623/EC provided for its development, and its role in pre-notification is outlined in Commission Decision 2004/292/EC. It replaced AMINO (Animal Movement System) which was deemed ineffective, in particular following the 2001 FMD epizootic.

[102] For reasons unknown and a source of bewilderment to all participants: one of the many quirks of European food legislation is that fishery products are inspected by Official Fish Inspectors (OFIs) rather than OVs. As per Regulation 2004/136/EC – typically referred to as '136' in Port Health circles – and Regulation 12 (4) of the TARP Regulations 2011. OFI 'means an environmental health officer [or PHO] appointed as a fish inspector by the local authority pursuant to Regulation 12 (4) of the TARP Regulations 2011. This relates to a derogation under Commission Decision 93/352/EC which requires that: the competent authority of a Member State shall designate an official agent who is specifically trained, to be responsible for the carrying out of checks on fish in border inspection posts located in ports where fish is unloaded' (DEFRA 2017:3). Worth noting at this juncture: the principal domestic legislation applying to POAO (with parallel legislation in place in devolved administrations) is the TARP Regulations (Trade in Animals and Related Products) 2011. These regulations can be understood as analogous to the Public Health (Ships) (Amendment) (England) Regulations 2007 in relation to the IHR, insofar as the TARP Regulations implement the provisions of European, base standards. Hence the TARP Regulations give 'authorised officers' (e.g. OVs or PHOs) powers of entry, and so on.

Shortly after Regulations 882 and 136, Commission Decision (2007/275/EC) concerning lists of animals and products to be subject to controls at border inspection posts under Council Directives 91/496/EC and 97/78/EC emerged.[103] As its name suggests, Regulation 275 outlines the live animals and POAO subject to official (i.e. veterinary) controls at the point of introduction into Europe, and as noted previously, the term 'foodstuffs' is something of a misnomer. Though primarily controlling food products, Regulation 275 specifies that *all* animal products from third countries – whether for human consumption (i.e. foodstuff or feed) or otherwise – are to be controlled[104]. A selection of the myriad products enumerated includes:

- All meat of bovine animals, fresh, frozen or chilled; all meat of swine, fresh, chilled or frozen; all meat of sheep or goats, fresh, chilled or frozen; all meat of horses, asses, mules or hinnies, fresh, chilled or frozen; all edible offal of bovine animals, swine, sheep, goats, horses, asses, mules or hinnies, fresh, chilled or frozen; all meat and edible offal, of poultry [fowls of the species Gallus domesticus, ducks, geese, turkeys and guinea fowls]; other meat and edible meat offal, fresh, chilled or frozen (including rabbit; hare; of primates; game; animal fats; cured/prepared meats);
- All fish and crustaceans, molluscs and other aquatic invertebrates, fresh, frozen, chilled or cured (to reiterate, fish falls under the responsibility of PHOs, not OVs);
- All dairy products including milk, cream, butter, cheese and eggs; honey is also (for reasons unknown) included within this chapter of 275;
- Pigs, hogs or boars bristles and hair; waste of such bristles or hair; horsehair and horsehair waste;
- Bones and horn-cores, un-worked, defatted, simply prepared (but not cut to shape), treated with acid or de-gelatinised; powder and waste of these products;
- Wool, fine or coarse animal hair; horsehair yarn and woven fabric;
- Animal products not elsewhere specified or included […] dead animals unfit for human consumption. Includes genetic material (semen and embryos of animal origin such as bovine, ovine, caprine, equine and porcine species;
- Pharmaceutical products: human blood; animal blood prepared for therapeutic, prophylactic or diagnostic uses; antisera and other blood fractions and modified

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[103] Directive 91/496/EC concerns the veterinary checks of live animals, rather than products. As such will not be discussed in any detail herein.

[104] Though the principal European legislation has been outlined, also relevant and worth mentioning at this point are Regulation 853 laying down specific hygiene rules for on the hygiene of foodstuffs (2004/853/EC), and Regulation 854 laying down specific rules for the organisation of official controls on products of animal origin intended for human consumption (854/2004/EC). Similarly Regulation 1069 laying down health rules as regards animal by-products and derived products not intended for human consumption and repealing Regulation (EC) No 1774/2002 (Animal by-products Regulation) (2009/1069/EC: 1 emphasis added): 'Animal by-products not intended for human consumption are a potential source of risks to public and animal health. Past crises related to outbreaks of FMD the spread of transmissible spongiform encephalopathies such as bovine spongiform encephalopathy (BSE) and the occurrence of dioxins in feedingstuffs have shown the consequences of the improper use of certain animal by-products for public and animal health, the safety of the food and feed chain and consumer confidence. In addition, such crises may also have a wider adverse impact on society as a whole, by their impact on the socioeconomic situation of the farmers and of the industrial sectors concerned and on consumer confidence in the safety of products of animal origin. Disease outbreaks could also have negative consequences for the environment, not only due to the disposal problems posed, but also as regards biodiversity'.

immunological products, whether or obtained by mean of biotechnical processes; vaccines, toxins, cultures of micro-organisms (excluding yeasts) and similar products.

As such, though PHAs (or local authorities) invariably refer to this strand of work as 'imported food', it is rather myopic to view this regime as such. The legislative framework is far more encompassing, and 'veterinary checks' apply to all animal products imported from all third countries, the workings of which will be scrutinised in the following section of this chapter. Before moving on though, there is an important point to be made. The legislation discussed so far essentially institutes what is – to all intents and purposes – a prophylactic, cordon sanitaire: a 'fence' around the European Union aiming to prevent zoonotic and/or epizootic infectious disease from entering Europe.

However, Regulation 882, as noted above, 'covers different areas' and crucially assumes a much broader understanding of the linkages between food and public health: beyond animal products/byproducts. Though the phrasing of the Regulation is rather ambiguous, 882 does in fact expressly introduce public health 'risks' beyond products of animal origin. Rather than simply conceiving products of animal origin as risky insofar as they are potential carriers of (zoonotic) infection, instead a much broader range of 'threats' are established:

> [Veterinary] residues and contaminants, control and eradication of animal diseases with a public health impact, feed and food labelling, pesticides, feed and food additives, vitamins, mineral salts, trace elements and other additives, materials in contact with food, quality and compositional requirements, drinking water, ionisation, novel foods and genetically modified organisms. (2004/882/EC: 10)[105]

Moreover the guidance stipulated in Regulation 882 – which, to reiterate, 'establishes a harmonised framework of general rules for the organisation of official controls at Community level, including official controls on the introduction of food and feed from third countries' (2009/669/EC: 11) – in addition

> it provides for a list to be drawn up of feed and food of non-animal origin that is on the basis of a known or emerging risk to be subject to an increased level of official controls at the point of entry into [the Community]. Such an increased level of control should allow, on the one hand, the known or emerging risk to be countered more effectively, and, on the other hand, the

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[105] Unfortunately, I can only aspire to do justice to each and every facet of the imported food regime: the control of veterinary residues in the agri-food chain is certainly worth further exploration in research as it speaks to a growing concern in both policy and academia with the 'threat' of antimicrobial resistance. As the WHO explains: 'The high volume of antibiotics in food-producing animals contributes to the development of antimicrobial-resistant bacteria, particularly in settings of intensive animal production. In some countries, the total amount of antibiotics used in animals is 4 times larger than the amount used in humans. In many countries much of the antibiotics used in animals are for growth promotion and prevention of disease, not to treat sick animals. These bacteria can be transmitted from animals to humans via direct contact between animals and humans, or through the food chain and the environment' (WHO, 2017b, 2017c). This is typified by resistant bacteria entering the food chain through the animals and resistant *Salmonella* being linked with chickens (WHO, 2020).

collection of accurate monitoring data on the occurrence and prevalence of unfavourable results from laboratory analysis. (2009/669/EC: 11)

This guidance resulted in Regulation 669/2009, and later 884/2014[106], both of which outline official controls on foods not of animal origin (FNAO)[107]. Regulation 669 governs 'certain' FNAO, and unlike the POAO regulations discussed above (which, even following an outbreak event, are fairly static) FNAO is much more dynamic. In line with its control of emerging risks Regulation 669 currently *changes* every six months. As with POAO, Regulation 669 controls products arriving from third countries, but this time is far more selective and expressly specifies particular products being imported from particular countries, with particular risks identified. To illustrate, amongst products currently listed in Regulation 669 includes: black pepper from Brazil (salmonella); aubergines from the Dominican Republic (pesticide residues); all dried grapes from Turkey (ochratoxins); watermelon, seeds, and derived products from Sierra Leone (aflatoxins). In short, broadly speaking this Regulation is essentially oriented around the control of 'high risk' products, with 'high risk' equating to the presence of contaminants (hence mycotoxins), pesticides, or salmonella.

Similar to the POAO regime, products subject to '669 controls' – in Port Health parlance – undergo documentary checks on all consignments within two working days from the time of arrival at the DPE (FNAO has a Common Entry Document (CED) rather than CVED); as well as identity and physical checks. In the case of both identity and physical checks, and as will become clearer later in this chapter, this equates to an identity check as with POAO ('is it what it purports to be') and laboratory testing for whatever risk is associated with the product. Regulation 669 therefore 'works' by specifying the frequency of identity checks and sampling: hence the Brazilian black pepper is currently subject to a twenty per cent rate. In other words, contingent on the laboratory results within a six month period, products may be

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[106] Whilst ultimately implementing the provisions of European law, still worth mentioning at this point are the Official Feed and Food Control (England) Regulations 2009. This is the principal domestic legislation applying to FNAO, with similar legislation in place in the devolved administrations.

[107] As noted, and for clarity: FNAO border controls fall under the jurisdiction of the Food Standards Agency (FSA) – as competent authority – with these official controls being performed by PHOs, rather than OVs. Whilst often located in the same building, though occupying a different space and essentially appearing identical, FNAO do not enter into the UK (or indeed Europe) through a BIP. Instead, products controlled under Regulation 669 enter through Designated Points of Entry (DPE), whilst those controlled under 884 enter through a Designated Point of Import (DPI). As per Regulation 669, DPE 'means the point of entry provided for in the first indent of Article 17(1) of Regulation (EC) No 882/2004, into one of the territories referred to in Annex I thereto; in cases of consignments arriving by sea, which are unloaded for the purposes of being loaded on another vessel for onwards transportation to a port in another Member State, the designated point of entry shall be the latter port' (2009/669/EC: 12). Rather than a CVED being required for each consignment, instead a Common Entry Document (CED) is issued. Analogous to the CVED, the CED 'means the document to be completed by the feed and food business operator or its representative as provided for in Article 6 [the shipping agent] and by the competent authority confirming completion of official controls' (2009/669/EC: 12).

added (due to random sampling), removed (due to numerous 'negative' test results within Europe), the frequency changed (as per the results within the previous six months), or added to 884. Requiring the same checks, Regulation 884 controls purely mycotoxins, including aflatoxins, and specifies the frequency of identity and physical testing. Unlike 669, this Regulation is not intended to control emerging risks. Moreover, unlike 669, Regulation 884 is not dynamic and based on – to quote one PHO – 'the changes to risk based on our work'[108].

4.3 Practising the Imported Food Regime

Having outlined the relevant European (and, albeit to a lesser extent, domestic) legislation and the broader background knowledge underpinning this 'branch' of prophylactic routines, this section of the chapter now engages with the day-to-day workings of import controls at the border: the corporeal and mental activities, and the material things at play continuously. As noted earlier, unlike the analysis of the Ship Sanitation regime, what follows is not contoured by the rhythms of the working day in other words it is not divided into 'the morning routine' and 'the afternoon routine' or similar. Whilst the above discussion engaged with the broader history of food regulation, and crucially both POAO and FNAO legislation, this section of the chapter engages initially with the workings of POAO control at the border.

4.3.1 Mad Cows and Englishmen: Products of Animal Origin at the Border

What follows is based on the extended periods of non-participant observation at Mersey PHA, Manchester Airport, and Stansted Airport. Manchester PHA (covering Manchester Ship Canal) has neither a BIP nor DPE within its jurisdiction; whilst Gatwick Airport does have both a BIP and DPE, during the time spent undertaking observations of the Port Health team no animal products/by-products were actually handled. Given this, neither of these sites will be discussed in this subsection. It should be noted that internal procedures do vary slightly between sites. As such, the following extracts from field notes are taken, in order, from Mersey PHA, and Stansted Airport, and in line with European legislation are observations of OVs, rather than PHOs.

> Arrive at the offices just before 08:00 – a bitter January morning, a fire engine makes its way through heavy traffic on the main road outside. The office is located some miles out of the city centre, and several miles away from the docks. One of the OVs is already in the office, as is one of the PHOs (who has been assigned to BIP duties this week)[109], along with one of the administrators who is already making her way through a pile of paperwork and creating 'jobs' on PHILIS[110]. She informs me that numerous consignments are due to be inspected today at the

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[108] Aflatoxins are a naturally occurring contaminant found in certain foods, namely: nuts, dried fruits, cereals, and spices. Aflatoxins are – when consumed in high quantities – linked principally with cancer.
[109] Hence, as per European legislation, the PHO is performing official controls in their capacity as an OFI.
[110] Port Health Interactive Live Information System (PHILIS) is software developed by Suffolk Coastal PHA (i.e. Port of Felixstowe) and used by a small number of PHAs covering seaports, including

BIP and picks up a pile of paperwork. A local radio station plays in the background. The three of us [two PHOs, and myself] drive down to the BIP through the still-heavy morning traffic, which is located a couple miles away from the office in the Seaforth Dock [one of the container terminals within the Port of Liverpool] in a dark blue people carrier. We drive through one set of gates where the 'Port Police' appear to be carrying out vehicles searches. CCTV; ANPR cameras; numerous strange silver constructions – resemble oversized Anderson shelters; astonishing levels/sense of 'security' [111]. We continue, the PHO driving deliberately before coming to a second set of gates staffed by a private security firm ('Carlisle'). This set of gates looks almost like a border crossing. The vehicle is searched and my passport is checked before I am given a pass; the PHO shows the security guards their ISPS pass. As we drive on slowly through the docks it is a hive of activity: gantry cranes offload in the distance; forklifts speed around carrying containers; thousands upon thousands of containers are stacked up high. We arrive at the BIP; the OV is already here. It is located in what appears to be an aircraft hanger in the middle of the port and is essentially a bonded warehouse[112].

Border Force occupies one side of the building; towards the other side are the BIP/inspection rooms. The OV is due to be inspecting a consignment of (numerous tonnes of) pet food, and mealworms [i.e. bird feed] whilst the PHO is due to be inspecting a consignment of tinned fish[113]. In both cases full checks are being carried out: documentary, ID, and physical. The fish is not due to be brought over to the 'shed' for some time, so we all wait in the office, which is located between the POAO HC and POAO NHC BIP inspection rooms; the OV is waiting for consignments though apparently these should not be too long. The dockers come through to the office and let the OV know the containers have been brought across and parked up[114]. He finishes his coffee and invites me through with him; he picks up an iPad and the accompanying documents for the consignment[115] [of pet food]. We go through to the changing room. [To reiterate prior discussion of background knowledge, facilities must comply with EU guidelines, so at Port of Liverpool there are two separate sections to the BIP: one for POAO HC and one for POAO NHC. As such, we change in the NHC changing room.] He instructs me to put on shoe covers, and hands me a white coat to put on, along with a hairnet. Particularly striking how this manifestation of 'health security'/form of enforcement – i.e. not in person or 'face to face' as with SSC – covers up the black, formal uniforms[116]. Having changed we then go through to the

Mersey. As suggested in the field notes with 'creating jobs', the purpose of PHILIS is essentially to streamline and 'manage' or 'keep track' of consignments and their accompanying paperwork. Owing to the length of voyages, paperwork/pre-notification (i.e. CVEDs) is typically sent (by post) several weeks in advance; the turnaround with airports is obviously far quicker, and is thus far more reliant on pre-notification through TRACES.

[111] As touched on before, and cannot be stressed enough, the levels of security at all of the seaport sites was astonishing. Here at the container terminal, aside from manifold 'layers' of security being apparent (something worth further empirical and theoretical exploration), it was unclear where 'the Border' – conceived as territorial limits – is actually located. Conversations with several PHOs and OVs yielded little beyond confusion as each officer had a different response. What is certain though is that the space within the second security checkpoint is a customs area. (On having asked one of the PHOs earlier on during the fieldwork, the strange corrugated iron buildings dotted around the docks are used by Border Force for the examination of containers.)

[112] In lay terms, a bonded warehouse is essentially a secure building or facility – either 'inland' (in PHA parlance) or within port/airport grounds – where dutiable goods can be stored without having paid duty.

[113] As per Regulation 275 (2007: 26) 'Preparations of a kind used in animal feeding [including] pet food, dog chews and mixtures of meal' are subject to veterinary checks.

[114] More relevant to analysis in the previous chapter, but nonetheless worth mentioning: shipping containers are invariably fumigated in an attempt to manage vectors.

[115] Hence, a 'job' will have been created on PHILIS by the administrative team for this consignment. As the BIP is located some distance from the office, using this software enables the checks to be completed; a message is then sent via the iPad (using PHILIS) to the main office, enabling the consignment to be 'released' on TRACES into 'free circulation'.

[116] Clearly the use of clothing here does fall firmly into the 'functionalist' category (as discussed in the previous chapter) insofar as the use of coats, hairnets and so on is intended to prevent any cross-contamination between POAO HC and POAO NHC. However, given the imported food regime is essentially 'remote enforcement' it is nonetheless interesting that the PHO uniforms – as modalities, or

back [where containers are parked up; see Figure 5] where the dockers are waiting for us. They ask what the OV wants to start with and we all move towards the final bay where the container of pet food has been parked.

The dockers read out the seal number to the OV and it matches the details on the sea waybill. They then use bolt cutters to open up the container[117]. The OV then checks that the details on the CVED (printed off from TRACES) and accompanying health certificate[118]. All of the details are correct insofar as they 'match'. He ushers me over and shows how the seaway bill number [what is tantamount to a consignment tracking number] corresponds to the number on the commercial documents corresponds as well as the CVED. He reads over and runs his finger over the signature on the health certificate [to ensure it is genuine] and flicks to a section on 'no known diseases'. He enters this information into PHILIS. He then asks the dockers to fetch him one of the large bags of pet food: he turns it over and checks the weight. He tells me as he looks over the bag that he is 'checking that it is what it is meant to be', before taking several photographs of it. He tells the dockers that he is done and hands them a new seal; the new seal number is entered on to PHILIS. We return to the BIP office[119]. (Field observation, January 2019)

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at the very least displays of authority and/or power – are ultimately hidden from view, unlike with the inspection of ships.

[117] As suggested in the prior discussion of the (proliferation) legislation emerging following BSE, traceability is one of the pillars of the imported food regime. The checking of seal numbers, and the replacement of them following the interrogation of a consignment (in this case a container) is clearly – as a practice – intended to ensure traceability.

[118] This crosschecking of the consignment's 'tracking' number across documents can be regarded essentially as a documentary check. Note how this is again ensuring full traceability of the consignments. For the avoidance of confusion, TRACES, CVEDs, and health certificates will be discussed in more depth later in this chapter.

[119] As per the prior discussion of the European and domestic legislation underpinning this regime, what the above describes is a fairly typical sequence of the requisite documentary, identity, and physical checks. "[Documentary] check" means the examination of the veterinary certificate(s) or veterinary document(s), or other document(s) accompanying a consignment […] "identity check" means a check by visual inspection to ensure that the veterinary certificate(s) or veterinary document(s) or other document(s) provided for by veterinary legislation tally with the product itself […] "physical check" means a check on the product itself, which may include checks on packaging and temperature and also sampling and laboratory testing (1997/78/EC: 4 emphasis added). The above-mentioned consignment of canned fish underwent an identical sequence of checks; the only difference being the use of sensory examination: smell, colour, consistency, taste. Often with POAO for human consumption, it is sampled by the OV or PHO: here the PHO smelt and tasted the sardines. As noted earlier, sampling of POAO for laboratory testing was never actually observed.
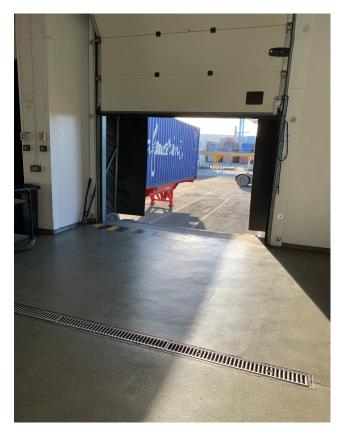
Figure 8. Showing part of the inspection area with containers parked up. Taken February 2019.

Figure 9. Showing inspection room with bag of pet food to be inspected. Taken February 2019.

The BIP – an inconspicuous, squat, white building made of painted breezeblocks, which straddles the airside/landside boundary fence – is located at the fringes of the airport. Seems almost to be hidden away, and certainly a world away from the duty free and holidaymakers of the main terminal building. By the time I arrive, the OV is already there checking emails, and pre-notifications on TRACES[120]. We are all seated in the small administrative room comprised four work stations and chatting before the bell goes and the OV goes through to the back door, where the consignments have been dropped off by FedEx workers. The boxes are then loaded on to a metal crate and are wheeled through to the clinically lit inspection room, and I stand next to the OV, watching him. He opens up boxes one by one with a Stanley Knife, and ensures all of the required paperwork is there muttering to himself (cannot make out what is said). He cross-references the paperwork meticulously, marking as he goes with a black pen: the air waybill number is the same on all the paperwork, and importantly is the same on the CVED [*documentary check*]. He circles the approval number on the CVED and tells me we will check that later as he isn't sure about it[121].

Going by the pre-arrivals on TRACES, of the numerous consignments today (samples of tinned fish; powdered milk for a well-known chain of coffee shops) the most striking is 'rat lung fibroblasts'[122]. Most likely because of the expression on my face he begins to explain why this is subject to checks as it is not a food product – until now only foodstuffs had been checked during the praxiography. All POAO – be they for human consumption, animal consumption, or neither – is subject to the same checks. This particular consignment is fibroblasts suspended in bovine

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[120] For clarity, the person or persons responsible for the consignment (i.e. the agent) completes the 'first part' of the CVED on TRACES. Hence a consignment due through the BIP that is subject to official controls will appear on TRACES along with the CVED. This is tantamount to pre-notification; the 'second part' of the CVED is completed by the OV (again on TRACES) thereby confirming requisite veterinary checks have been undertaken.

[121] Whilst ensuring the airway/seaway bill number (i.e. 'tracking number') matches what is on the CVED certainly does form the basis of documentary checks, this is only half the picture, and this is not made clear by simply reading through relevant legislation (thereby stressing the worth of praxiography more broadly). Two essential points must be mentioned here. Firstly, the 'approval number' must be explained. As per Commission Regulation 2004/854/EC (2004: 8, 25): 'When Community legislation requires the approval of establishments, the competent authority shall make an on-site visit. It shall approve an establishment for the activities concerned only if the food business operator has demonstrated that it meets the relevant requirements [...] Products of animal origin may be imported into the Community only if they have been dispatched from, and obtained or prepared in, establishments that appear on lists drawn up and updated in accordance with this Article'. In other words, for POAO to be imported from a third country into Europe, it must have been met with prior approval in order to be 'approved', having been inspected to ensure it meets with hygiene standards (outlined in Commission Regulation 2004/853/EC) and in turn given an approval number. Inspectors from the Commission routinely and regularly audit premises. In this case, the OV was looking the approval number up (which can be found on the CVED) to ensure it was 'compliant' as he was unfamiliar with it. If a CVED is devoid of an approval number, consignments will be re-exported or detained pending approval, and contingent on this be destroyed. Consignments may be rejected not necessarily because of being 'unapproved', but may not be approved for a given product (hence approved for preparing and canning corned beef, but not for curing and canning ham) the consignment would be rejected. Secondly, the health certificate needs explanation. In some respects the function of the health certificate can be viewed as analogous to the MDH discussed in the previous chapter: signed by an 'official veterinarian' at the point of origin, the health certificate for every POAO consignment essentially confirms the absence of any health risks (zoonotic infection). The above blood product being checked, for instance, was accompanied by a certificate making explicit reference to Regulation 2009/1069/EC and clearly states the product is 'blood of slaughtered animals not fit for human consumption [...] but which did not show any signs of diseases communicable to humans or animals'.

[122] Fibroblasts are a biological cell, and – in short – can be understood as the primary active cell of connective tissue. In a later discussion the OV informed me that they are one of the key biological agents in the natural repair/healing of wounds. As such, these are likely to be used for medical research.

serum[123]. He explains to me the problem [i.e. why it is subject to veterinary checks] with this consignment is nothing to do with the rat cells; rather it is the fact the cells are being carried in *bovine serum*. He tells me any bovine-derived products are regarded as extremely high risk, and the documentation [health certificates] for bovine products are primarily concerned with confirming absence of bluetongue disease, FMD, and BSE [foot and mouth disease, and bovine spongiform encephalopathy (mad cow disease) respectively] rather than zoonoses generally as with other products. He looks over the health certificate and it is 'in order'. [The health certificate, invoice etc are all originals and physically accompany the consignment]. This particular product is heading for a laboratory in the south of England: most interesting that it is not food[124]. As is fairly 'typical' with POAO, the documents all tally; moreover, having crosschecked the relevant paperwork, the OV takes a quick look at the contents of the box (it is as per the documentation; packed in liquid nitrogen). [Identity and physical checks, respectively.] We move back through to the main office and [the OV] invites me to sit alongside him. He turns to the CVED and opens up a tab on the internet to check the approval number; as per the current EU list, it is an 'approved premises'. He then logs into TRACES and logs the completion of the checks, by clicking the 'satisfactory' boxes for each of the checks; a release note is completed for the agent; he notes the unique channelling number down in a file[125]. (Field observation, August 2019)

There are several consignments due in at the BIP today apparently: the PHO had checked TRACES before leaving the house [the PHO very kindly gave me a lift from the Linton Travel Tavern where I was staying during the field work to the BIP], and on arrival at the BIP the OV firmly says that 'it's your turn today', having asked me to put the kettle on. Apparently I'm making my debut today as a vet. Sure enough after the usual chat and caffeine, we swap seats

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[123] The OV talked candidly to me about the workings of POAO veterinary checks, and at the Stansted Airport BIP, the overwhelming majority of products that pass through fall squarely within the 'pharmaceutical products' category, as outlined in Regulation 275.

[124] Clearly, aside from being enshrined in European legislation, this stresses the centrality of the explicit background knowledge underpinning routine practice, as well as the extent to which the current regime is informed by historical legacies. The fact bovine products are regarded as particularly 'high risk' evokes the previous section's discussion of BSE in the 1990s, as well as bovine TB and rinderpest in the nineteenth century. This consignment is deemed to be a 'Category 1' high-risk animal by-product and as a result is channelled. This is as per Regulation 2009/1069/EC, which specifies the 'level of risk' associated with particular products ('Category 2' is high risk for animals, 'Category 3' is low risk). These include (but are by no means limited to) entire bodies and all body parts, including hides and skins, of the following animals: animals suspected of being infected by a TSE; animals used for experiments; wild animals, when suspected of being infected with diseases communicable to humans or animals, (rather ambiguously) 'specified risk material', and ICW (as discussed in the previous chapter). Such 'high risk' products are subject to tighter controls (including monitored disposal/incineration). Article 4(8) of Council Directive 97/78/EC (and embodied legally in '882') 'provides for the transportation of certain consignments to be monitored from the BIP to the premises of destination, or to an intermediate cold store. By-products establishments should be specifically approved to accept channelled goods' (DEFRA, 2017: 36). This – 'channelling' – can be understood as a closed loop, equivalent in many respects to 'recorded mail': in other words, as it is deemed to be of high risk, a channelled consignment will be tracked from the BIP to its (approved) destination shown on the CVED. A message accompanies the consignment's CVED on TRACES alerting the OV to its being channelled; similarly an alert will appear on TRACES notifying the OV of receipt of the channelled consignment.

[125] On completion of the veterinary checks of a given consignment, and following the completion of the 'second part' of the CVED, a consignment will be released 'into free circulation'. TRACES is linked to the Automatic License Verification System (ALVS). This latter software essentially collects decisions from TRACES – based on the veterinary checks – and correlates them with a relevant customs declaration that it in turn has been received from CHIEF (the UK's customs declaration software). The decision entered into TRACES is transmitted automatically, via ALVS, to CHIEF; in the case of a 'release decision', this results in automatic customs release. Obviously in the case of failed veterinary checks, this automatic customs release would not occur. As such, the 'release note' (quite simply a label, or in this case sheet of paper confirming the completion of checks that accompanies a consignment) is purely to facilitate ease of movement (by handling staff) within the airport. Similar procedures are in place at both Port of Liverpool and Manchester Airport.

and then I log in to TRACES to see what CVEDs have been entered on to the system. Having logged in, there are a number of consignments currently due to be dropped off in around an hour. As has become soon apparent [with Stansted] all of the consignments due in at the BIP today are for laboratory use. No food products due in. [The OV] asks me to open up three consignments having told me I can deal with those. The interface resembles an email inbox but rather than email 'subjects' there are CVED numbers along with the date submitted. I print off the CVEDs.

The first consignment is a trade sample of dog food; the second is bovine serum albumin; the third is enzymes in bovine serum […] I open the cardboard box with a knife, which is filled with packing, and lift out a small plastic drum which is marked: 'BOVINE SERUM ALBUMIN NOT FOR HUMAN OR ANIMAL CONSUMPTION'. From a laboratory in Texas. I then open a plastic wallet of documents attached to it. I look over the health certificate and it confirms it is not derived from potentially infected cattle; free of blue tongue, free of TSE. I run my finger over the signatures on each (in blue ink). The airway bill [i.e. 'tracking number'] is the same across all documents. I check the quantity on the CVED and as per the contents of the box is 200g; box ticked saying EU compliant. [The OV] asks me if it *seems* okay and I shrug. [The OV] then says, '*well does it feel right*, are there any signs of any *nasties*?' to which I say no. There are, apparently, no zoonoses present in the consignment; as for hygiene – yes, it does *seem* right. We make our way through to the office. I log back into to TRACES. Having selected the correct CVED no. I select 'satisfactory' in the documentary and identity checks boxes; N/A for physical (as technically cannot be physically checked). The second part of the CVED is complete and the consignment is released into circulation on TRACES. He signs the paper copy of the CVED, stamps it, and files it. (Field observation, August 2019)

Figure 10. Taken August 2019. Showing a fairly typical situation: documents are currently being reviewed, whilst the box has been opened ready for the identity/physical checks on the above blood product.

The actual 'doing' of POAO veterinary checks is straightforward and far less complicated than the (gargantuan volume of) legislation underpinning it would lead us to believe. Irrespective of POAO HC or POAO NHC, what follows pre-notification via TRACES is a very formulaic sequence of documentary, identity, and physical checks on consignments. In turn, a decision is made as to whether (or not) a consignment 'is likely to constitute a danger to animal or human health' (1997/78/EC: 23). Within this sequence of checks, what was especially striking during the periods of non-participant observation was the centrality of the 'documentary check' stage of the veterinary checks. One of the defining memories of the praxiography will be the endless hours of onerous paperwork: hours, and hours, and hours sat in offices printing and scrutinising piles of CVEDs, the checking of commercial invoices; the looking at health certificates confirming sanitary production/processing/handling, and the absence of zoonoses; PHOs and OVs (occasionally) referring to huge folders of current legislation (now strangely comforting); more scrutiny, more CVEDs, more signatures. Within the documentary checks, of particular note is the primacy of the requisite health certificate accompanying each consignment. This – as noted – is in many respects analogous to the MDH (or Aircraft General Declaration): a document giving assurance of the absence of risks to public and animal health – invariably manifesting in declaration of the absence of zoonoses or any other contaminants and, therefore compliance with phytosanitary/POAO hygiene requirements, with, quite simply, statements saying as such[126]. Moreover, much like the MDH, whilst all of the individual practices discussed in this chapter (and thesis) can and should be understood as performative, the health certificate should in particular be understood as expressly performing health (in)security. The health certificate – its completion, submission, receipt, and interpretation by an OV – as a practice in itself is a repetitive pattern: a document is submitted, interpreted by OVs, and in turn used to inform notions of exogenous risk, and this process occurs with every POAO entering a UK port.

Though the health certificate does give assurance of health security (distinct from health *in*security) it is nonetheless interpreted and – whether decisions are underpinned by 'discretion' or more aptly, given the prior chapter, *intuition* – used to inform what risks are associated with a given consignment. This submission, in practice theoretical parlance, is a 'regulated processes of repetition' (Butler, 1990: 145)[127]. In other words, the health certificate (re)produces and performs health security as it (re)produces and sustains the very European legislation that requires it: the notion that health insecurity or health security threats to the

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[126] In other words the health certificate will never outline how each any every sanitary requirement has been adhered.

[127] Echoing earlier analysis, 'in practice' it is impossible to separate 'skilled bodies' from material objects (in this case signed certificates) as they are integrated 'in one "activity system", in which social, individual and material aspects are interdependent' (Hajer and Wagenaar, 2003:20).

social and political body come from *elsewhere* (i.e. third countries), and should be prevented from entering the Community[128]. This practice is tantamount to a cordon sanitaire, which much like the MDH (though that can be understood as 'digital') stablises and orders, and reifies background knowledge and discourse in and on the material world. Put differently, the submission of the health certificate, and the interpretation of it by OVs, is predicated on the assumption that anything coming into the Community is a potential source of risk. As stated earlier in this thesis, health security should be understood as 'the product of ongoing establishment, reenactment, and maintenance of relations between actors, objects, and material artifacts' (Bueger and Gadinger, 2015: 453). Moreover construction 'is never complete. Objects, structures, or norms […] exist primarily in practice. They are real because they are part of practices, and are enacted in them' (Bueger and Gadinger, 2015: 453). In this sense, the health certificate – as a 'singular' practice – stabilises health security, and in many respects makes it possible: one of many things that makes health (*in*)security 'hang together'[129].

This line of routine practice is straightforward, and whilst it is robust, this is only up to a point. The portrait of the daily workings of the POAO regime painted above does presuppose effective pre-notification to TRACES: as it is the agent who completes the 'first part' of the CVED; in turn the agent is reliant on consignments being declared honestly and accurately *by exporters*. Consequently, if consignments are not being declared in line with relevant EU legislation, the entire regime falls apart. Moreover, aside from the problem of declaration/pre-notification and this being virtually impossible to enforce, within the POAO regime there is also the assumption that documents have been filled in honestly: in other words whilst on the

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[128] The profound geopolitical implications of the POAO regime – the assumption that anything from outside Europe is potentially threatening – will be unpacked in a later subsection in this chapter.

[129] Much like the MDH, whilst the health certificate is performative in that its submission ultimately presupposes the possibility of (in)security (i.e. 'risk to public or animal health'), given that practices 'are repetitive patterns […] they are also permanently displacing and shifting. Practices are dispersed, dynamic, and continuously rearranging in ceaseless movement. But they are also reproducing, organized, and structured clusters' (Bueger and Gadinger 2015: 453). The health certificate and its interpretation – as a practice in its own right – has the potential to instigate rupture, broader change, and thus change to practice: as such, the health certificate is indeed also destabilising. Though unfortunately not observed, should a health certificate be scrutinised and suggest in any way there was a risk to public or animal health associated with a consignment, a) the consignment would be detained pending further investigation; b) most likely rejected; c) this would likely result in 'increased risk' associated with imports from a given region/country. Any POAO consignments detained/rejected were invariably due to missing documents, rather than the information provided therein. Whilst myriad POAO consignments were detained and/or rejected throughout the praxiography, the rejection of consignments will be discussed in the proceeding FNAO section. The protocol is identical and broader implications are identical, however as noted above, the FNAO regulations are slightly more dynamic and a more tangible bidirectional relationship between the everyday and the exception is apparent. In other words the potentiality for rupture can be unpacked in more depth.

one hand premises of origin must be approved, on the other the details and assurances found on TRACES and, more importantly, within health certificates have to be trusted.

4.3.2 A Chicken in a Box: Health Security, Trust, and the (Re)making of the 'Fence Around Europe'

> A typical August morning at the Stansted BIP: the OV is just pulling up; brilliant sunshine outside, the whir of Pratt and Whitneys spooling up in the distance. The PHO who had given me a lift in had checked the pre-arrivals notices on TRACES before [they] left this morning, and apparently several consignments of POAO are due at the BIP this morning, as well as several consignments of Kenyan green beans, which are due for sampling [see discussion in the following FNAO section]. The OV comes into the office, leaves to check something in the inspection room, before coming back through and logs into TRACES. [The OV] invites me over to the workstation and pulls a chair up. 'This should be an interesting one for you' and the OV points to the description of a consignment that appears next to its CVED number. [A very short description of each consignment always appears on TRACES: for instance 'blood product' or 'powdered milk'.] Next to the CVED number reads: 'untreated feathers' and according to the CVED is being imported from the US. The OV explains that this will need checking and that I can do it – apparently it is likely to be rejected […] All of the documents seem to be in order, with the airway bill etc all corresponding; the CVED suggests this is a very large consignment of feathers. I then take a look at the health certificate, which is original, and signed in blue ink, which also confirms that this consignment of feathers have in fact been heat treated: 74 degrees for half an hour [equivalent of steam treatment]. With a Stanley knife I open the box to find not a package of feathers, but instead a rather handsome stuffed chicken. The OV rolls his eyes and swears gutturally: he then tells me the declaration is wrong (hence why it appeared on TRACES). Consignment was heat-treated. But regardless it is for private use and is exempt from controls. As such it can be released into circulation. (Field observation, August 2019)[130]

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[130] As per Regulation 2009/1069/EC (which covers the control of animal byproducts) untreated feathers are not permitted for import into Europe from third countries. In order to mitigate any animal/public health risks (for instance, and perhaps most obviously, avian influenza) in line with Annex X, Chapter II, Section 6 of Regulation (EU) No142/2011, all feathers and down must be either heat treated (steamed for at least thirty minutes) or else treated with chemicals such as formaldehyde or methyl-bromide. This consignment however is not for commercial use – it was being sent direct to a home address. Regulation (EU) No 142/2011 notes that decorative feathers/treated feathers carried by travellers for their own private use/ treated feathers or down sent to private individuals for non-industrial purposes can be imported without restrictions.

Figure 11. Said chicken in box. Taken August 2019.

The above sketch was one of the stranger moments of the fieldwork. The absurdity of finding 'the stuffed chicken' does however highlight the problem with the otherwise robust edifice of border controls across Europe. In the case of the above consignment, firstly it *was* accompanied by a health certificate confirming necessary measures to mitigate animal and public health risk had been applied in the country of origin (which it did not actually need). Secondly, it was many things but certainly not a consignment of 'untreated feathers'. As the exporter had declared 'the chicken' incorrectly, the handling agent – quite rightly – assumed it was subject to veterinary checks, thereby inputting it into TRACES. As such, and put differently: border controls are entirely reliant on consignments a) being declared in the first place, and b) being declared accurately. On the face of it, it would seem that the imported POAO regime is predicated on trust. Trust can be taken to mean the assumption or acceptance that actors (hence exporters, or handling agents acting on behalf of exporters) are 'doing as they say they do'. Here, this particular typology of trust can be understood as 'functional', and tantamount to arranging to have a meeting with somebody at a given time, and trusting that they will be there at the agreed time (see, for example, Pettit, 1995: 204; Seligman, 1997: 17–18).

Trust though – for the most part in IR – is generally seen to be something inherently contingent on a degree of risk: it is invariably seen as an axiom that the emergence of trusting

relationships (regardless of the context) is predicated on uncertainty (Michel, 2012). Without the risk of one party failing to adhere to an agreement (tacit or otherwise) and particularly if actions outside an agreement could result in harm, 'trustful behaviour' is not possible for the simple reason that a lack of uncertainty renders trust unnecessary. In short, it can be suggested trust is predicated on uncertainty and risk. The corollary therefore is that given the assumption that consignments will be (correctly) declared by exporters; the broader imported food regime (as this assumption obviously applies to POAO and FNAO) is therefore predicated – albeit indirectly – on risk. Without wanting to rehearse analysis/arguments made in the previous chapter, it would be mistaken to ignore the obvious at this juncture: the imported food regime at play at the UK Border (and indeed across all European Borders; encompassing both POAO and FNAO) is, in the most palpable of ways, delineating space, and (re)producing linkages between space and risk. The key difference between this and the Ship Sanitation regime is that rather than primarily risky subjects being linked with place, it is objects. What is in evidence is a complex entanglement of the discursive and the material: a regime of constant making in which objects (i.e. primarily foodstuffs) are central (see the following section, 'Health (In)security that Matters'). Notwithstanding, this regime is not just a case of enforcing prohibited/controlled (potentially) harmful 'nasties' (to quote one OV) from entering into 'the Community'. For sure, this forms the backbone of this line of practice, but very specific 'nasties' are conceived and constituted as 'threatening': things from third countries are understood as the security problem.

Put differently, both the POAO and FNAO regimes are problematised overwhelmingly by space, and predicated on the assumption that objects from *outside* Europe are potentially threatening. The discussion in the previous chapter stressed how the Ship Sanitation regime demarcates space insofar as PHOs use 'geography' (the nature of the voyage, where crew have embarked, and so on) to inform risk assessments, in turn being far more inclined to board a ship that is sailing from outside Northern/Western Europe. Seemingly, the key difference then is that unlike in the previous chapter's discussion whereby the exclusion of ships by PHOs is predicated on a 'sifting process' during office-based risk assessments, which are based on the nature of voyages, here *all* POAO consignments from outside the European Community are the subject of official controls. Yet this is only part of the story. Without direct engagement with practitioners, and relying purely what is outlined in the legislation, the following critique of the 'imported food regime' would not be possible.

Whilst there is a fairly uniform take on exogenous threat or risk enshrined in the European legislation (i.e. essentially any POAO from a third country and specific FNAO from specific countries), on the ground – or 'in practice' – this non-discriminatory 'fence around Europe'

unravels, and the seemingly clear-cut 'inside/outside' binary (at least in relation to POAO) becomes more complex. The fairly straightforward, dichotomous 'inside Europe/outside Europe' logic does underpin the bulk of OV/PHO work, and the sequence of checks outlined above does account for the majority of the working day. However, at Manchester, Stansted and Gatwick Airports, 'cargo walks' regularly take place (according to discussions with respective PHOs, this is fairly common practice within the imported food regime across the UK)[131]. Cargo walks are tantamount to intercepting consignments: actively seeking out POAO (and therefore potentially risky) consignments upon their arrival that have not been declared (properly, if at all) and have therefore not been entered on TRACES, before being granted customs clearance and entering free circulation. This entails quite literally walking around cargo holding areas, 'looking' for 'suspect' packages. This informal process – which took place several times throughout the praxiography and which is contingent on adequate human resources – is quite simply intended to act as an 'insurance mechanism' to ensure products subject to official controls do not 'slip through the net'.

Figure 12. Intercepting a British Airways flight from Kingston, Jamaica with PHO who is looking for evidence of undeclared POAO in 'savoury seasoning' (chicken flavoured products, terrifyingly, frequently have 'chicken powder' listed in their ingredients). Taken October 2019.

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[131] My understanding is that these did take place at Mersey PHA, but were never observed.

Figure 13. Charlie the Border Force Springer was not granted anonymity, and had joined us on this particular cargo walk attempting to intercept illicit drugs. Neither POAO nor narcotics were found. Taken October 2019.

Figure 14. Needle in the haystack: moving watchfully around the FedEx facility at Stansted Airport. Again no POAO was found. Taken August 2019.

Whilst cargo walks certainly are employed, the primary strategy employed within Port Health to overcome the problem of trust (or, put differently, to mitigate risk), in line with EU legislation, ship and aircraft manifests are routinely checked. Manifests (also referred to in Port Health jargon as customs manifests, cargo manifests, or cargo lists) are, in lay terms, documents (digital or physical) listing the freight being conveyed on a given flight or sea voyage. The checking of manifests, as with the cargo walks, essentially acts as an insurance mechanism to prevent POAO (or controlled FNAO[132]) from avoiding official controls, with checks meaning simply reading through manifests to identify anything potentially risky. Any consignment that appears on a cargo manifest that *is* subject to official controls, but has not been declared correctly will have therefore not been entered on to the TRACES system along with appropriate paperwork (i.e. a CVED and health certificate), will – in Port Health parlance – be 'pulled' (meaning detained and inspected)[133]. In others words, manifest checking is geared towards the prevention of consignments from illegally entering into the Community (i.e. in other words what is tantamount to smuggling):

> Experience has shown that it is of fundamental importance to have good sources of information regarding all consignments entering the Community to reduce fraud and evasion of checks. Checking of manifests is a key feature of this information-gathering process but is a very

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[132] What must be stressed at this point (and also justifying why the discussion of manifests is included within this section concerning POAO): whilst the checking of manifests is aimed at preventing any controlled product from entering into the country/Europe, as per European legislation, this particular practice – certainly based on the praxiography at least – is seemingly oriented far more around enforcing POAO controls. As any consignment containing any animal derived products (including milk, lactose, rennet, and so on) from all third countries are subject to controls, rather than only specific products from specific countries, there is obviously a far greater likelihood POAO could – to quote one PHO – 'slip through the net', so this makes sense. (At no point throughout the fieldwork were manifests being actively scrutinised for FNAO.)

[133] Should something 'suspect' or 'of note' be found on a ship/aircraft cargo manifest it would be detained and be 'interrogated'. In lay terms, following detention (i.e. not being allowed to leave the customs area), further information from the exporter (via the agent) would be requested. So, for example, 'chicken flavour snacks', might arouse suspicion or at least garner attention because of 'chicken' appearing on the manifest, which obviously falls under POAO controls. However, requesting further information – documents such as the commercial invoice – may well reveal that said snacks are actually 'chicken flavoured crisps'. In which case, having been investigated, the consignment would then fall under the jurisdiction of customs control (i.e. Border Force) and be released into 'free circulation'. Should, however, following further investigation the consignment of snacks have had milk within its composition, the consignment would be held within the customs area of the port/seaport, brought to the BIP, opened up and inspected. Should it be lacking requisite documentation (as outlined in European legislation) on the 'first offence' concessions are generally made, and the exporter would be contacted via the agent, who would be asked to provide a health certificate/CVED through TRACES. Should neither of these be provided within sixty days, the consignment would be destroyed. What is more relevant though to this discussion: when patterns of 'irregularities' (or repeated 'offences') become apparent, increased 'physical' checks of particular voyages or flights will be implemented. Here 'physical check' means essentially 'intercepting' a flight and undertaking spot checks of consignments as they are offloaded from an aircraft. (The relevance of this will soon become apparent.) Unfortunately there were no 'surprises' on any of the manifests during the praxiography, so sincere thanks to several PHOs at Gatwick and Stansted Airports for talking through these procedures with me; in some respects these procedures are similar to the detention procedures outlined in the following (FNAO) section.

substantial and time-consuming task that should be automated by electronic means wherever possible.

To ensure that all products of animal origin entering the Community undergo veterinary checks the competent authority and the official veterinarians of each Member State shall coordinate with other enforcement services to gather all pertinent intelligence regarding introduction of animal products This shall apply in particular to the following: (a) information available to customs services; (b) information on ship, boat, rail or aircraft manifests; (c) other sources of information available to the road, rail, port or airport commercial operators. (Regulation 2004/136/EC: 3, 6)

The workings of manifest checks do vary slightly depending on the PHA – with each respective authority having their own local procedures – but are all underpinned by the same rationale, and are all propelled by the same European legislation. No manifest checking was undertaken whilst at Manchester Airport, and it is unclear whether this falls within the remit of their daily routine. In the case of Mersey PHA, all consignments being imported through the Port of Liverpool (regardless of final destination) are required to be manifested electronically via the *Destin8 Port Community* System: software used by port operators and relevant stakeholders (shipping lines, agents, and enforcement agencies) and is designed to facilitate the exchange of information, including cargo manifests. This works by – upon the receipt of information from exporters – shipping agents 'manifesting consignments' via the Destin8 system. These in turn are checked manually by PHOs regardless of POAO or FNAO. In the case of Gatwick Airport, the process is slightly different: here, paper manifests are still used, and accompany each individual flight on board. As different airlines use different shipping agents, these are collected in person from each agency's offices around the airport, before being scrutinised by PHOs in the Port Health office.

The team at Stansted make use of a mixture of methods to check aircraft cargo manifests: collecting and scrutinising paper manifests as at Gatwick, but they also rely heavily on the FedEx Express staff based at the Airport (i.e. shipping agents). Being the UK hub for the (exclusively) cargo airline, the FedEx operation at Stansted is sizeable, and of the 258,000 tonnes of freight passing through Stansted annually, FedEx handles a considerable proportion of this, and is therefore the principal agent at the airport. During the fieldwork, some time was actually spent with the administrative staff/agents in the FedEx offices undertaking non-participant observation. This gave insights into two things: firstly, the following procedure at FedEx could essentially be regarded as being 'behind the scenes' as the information provided on aircraft and ship manifests forms the basis of the creation of CVEDs. Secondly, and more importantly, it offers insights into the European Council's calls for the automation of manifest checking: indeed, the PHOs/OVs at Stansted Airport have essentially delegated the checking of FedEx manifests, because the automated system used is regarded as 'virtually foolproof' (though Mr. Rooster might suggest otherwise). As such, this section now turns to what – if

any – bearing this automation has on security decisions at the border, and how this contributes to the (re)making of the 'fence around Europe'.

> We enter the large office building on the fringes of the airport grounds, and upon arrival are asked who we are there to see and to present ID (in my case passport; PHO their airside pass). We go through into a large, air-conditioned, open-plan office: this is the 'hub' and where all of the freight handled by FedEx is processed. Feels professional and vaguely corporate. In the far corner are several workstations, two of which are manned, and we are escorted over to them and take seats by the administrators. [The administrator] seated at his computer takes a sip of coffee, checks his emails, and then opens up a piece of software called '*Genius*'. Rather than manifesting cargo using paper copies, FedEx use software developed 'in-house' [as with Destin8 at Mersey PHA, though digitised it in effect works exactly the same as a paper manifest]. Within Genius are details and manifests for all FedEx flights: very long lists of every consignment. He opens up the manifest for a FedEx flight due in later that day (evening). It spans tens upon tens of pages and outlines all the freight – anything and everything is on this flight, from all over the world. He clicks on a folder, which contains tomorrow's CVEDs. 'Yes so I can tell you now, these [consignments] will be over at the BIP tomorrow'. He clicks and opens another folder and contained in it are all the relevant documents for each of the consignments [to reiterate: *it is the agent's responsibility to complete the 'first part' of the CVED on TRACES, thereby notifying PHAs,*]. 'Yeah yeah so these are all the CVEDs for tomorrow morning and [distracted he looks through a pile of paperwork on his desk for a few seconds] yeah that's definitely all though on this flight'. I ask him how he 'knows' what is coming in and is subject to controls, and how he 'knows' what to create CVEDs for. 'Well it does it for us, and flags up anything that might be of concern. So anything that might be risky well it just tells us so we know to check'. We do though look through but that saves us loads of time (Field observation, August 2019)[134]

Bolstered by a burgeoning literature (Amoore and Raley, 2016; Hall, 2017), and as is increasingly fashionable within IR, the above sketch stresses the (albeit minor) role of 'securing by algorithms' in the broader imported food regime, and in particular the POAO regime. Though the deployment of algorithm-driven technologies to 'secure' are typically – though not exclusively – equated with 'Border security' in IR, here the use of Genius software (and Destin8 at Mersey PHA) stresses the role of such technologies in Global Health Security (for an analogous point, see the discussion of algorithmic, syndromic surveillance in Roberts and Elbe, 2017). The Genius software is essentially an automated surveillance platform, and is consonant with developments across various security 'sectors':

> Such algorithmic technologies represent new strategic instruments of security and *preemption* – especially through their seeming capacity to infinitely amass, aggregate and transcribe unintelligible mass datasets, thus rendering visible and intelligible future-facing knowledge for the rapid identification of insecurity. (Roberts and Elbe, 2017: 46-47 emphasis added)

The Genius software developed and used by FedEx basically 'works' by identifying key words in the description (i.e. declaration) of consignments, and in turn automatically

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[134] It would seem that a very similar procedure was in evidence at Mersey PHA: though the Destin8 software used at seaports does also automatically highlight potentially 'risky' consignments, at Liverpool the reliance on automation was much less apparent. The PHOs (rather than agents) routinely spent fairly long periods of time manually checking manifests, in turn manually highlighting any POAO not declared (or declared incorrectly). The administrator at FedEx informed me that a number of larger shipping agents make use of software similar to Genius.

highlights them, and thereby ensures that agents check them. As shipping agents are not – as per European and domestic legislation – regarded as 'competent authorities' (nor 'authorised officers' acting on their behalf) the Genius software cannot automatically detain consignments. Nonetheless, this highlights what is essentially a precautionary logic, and a preemptive mechanism: any potentially risky consignment from a third country is highlighted, and in turn entered onto TRACES. This now explains why the 'chicken in a box' was processed as POAO by FedEx, and checked unnecessarily by the OV (and myself). Whilst the use of such technologies is certainly interesting, it does seem that in all instances in which they are employed, the use of algorithmic technologies are supplemented by manual (i.e. 'human') manifest checks: in this sense, the extent to which algorithms have any real bearing on security decisions in this context is questionable.

Turning back to the point outlined in the introduction to this sub-section: how exactly do manifest checks and cargo walks alter the apparently straightforward dichotomous 'inside/outside' logic of the POAO regime? In what ways do they contour 'geographies of concern' beyond simply 'anything that is from a third country'? The cargo walks and manifest checks are predicated on aiming to identify potentially risky consignments, from known risky exporters, originating from risky or unsanitary countries being conveyed on risky flights. The latter categories are crucial here, as the nature of the product seems to be of secondary concern to OVs or PHOs: 'some countries are understood to be riskier than others'; suspicions about which consignments to 'pull' are predicated primarily on place rather than the nature of the product – as would be the case with software such as Genius. In sum, the ability to trust (or rather, not trust – or associating greater risk with) certain exporters, located in certain countries – is linked principally with place. These conceptions of the linkages between risk and 'certain places' are predicated on interpretation, which in turn is rooted in tacit knowledge. As such, it is now suggested that tacit knowledge questions the imported food regime's 'inside Europe/outside Europe' cordon sanitaire.

4.3.3 'Yeah mate, you just know...all this is more of an art than science, I guess': Risky Flights, Risky Places, and Intuition Revisited

> Over time the researcher learns what is needed to perform the practices which are required in the respective setting, how to master and adjust them across different situations, and how to evaluate the performance of others. (Bueger and Gadinger, 2014: 86)

I was initially apprehensive about including another section on intuition, but 'in the heat of practice' – certainly based on my position, and I cannot stress this enough – there was *palpably little (to no) evidence of rational calculation* (see Pouliot, 2008). Moreover, when I

made the jump from passive researcher 'outside' and was invited 'inside' to 'play vet' on several occasions, I was not once asked 'is it fine?' or similar. Instead, the questions were always qualified, and I was asked 'does it *feel* right?' or 'does it *seem* fine?' For clarity, I am not professing at this point anything like being an expert in veterinary medicine. I am no 'master' of the practices, to paraphrase Bueger and Gadinger. However, after spending the best part of 2019 observing PHOs and OVs and getting to know the explicit 'rules of the game' and implicit meaning, these questions make sense now; and I probably am better placed to carry out veterinary checks at a BIP than a veterinary surgeon who has never undertaken regulatory work. Was it all okay? Was it fine? Whilst on the one hand health certificates do give assurance of the absence of zoonoses or other known contaminants (with statements saying as such), I cannot say for sure whether or not the consignments were potentially 'injurious to human health and life'. However, did it *seem* fine when I played vet? Absolutely. Was there anything to suggest otherwise? Was there anything to arouse my suspicions that the details could not be trusted? On both accounts, no. Can I articulate why it felt fine and what exactly I was looking for in seeking assurance? Absolutely not: it just was and I just knew. Could I perform the checks in the same way again? Probably. Could I articulate how? Absolutely not, but put me in a BIP and I could almost certainly *show* you. As the OV said to me: *the best way to learn about this is to do it* and in the words of Polanyi, I too apparently *know more than I can tell*.

> Well when I used to do practice work, which I did until fairly recently I guess […] you know people think that you get a sick dog or whatever and you know what is wrong and you know how to fix it. You don't […] you never do because you can't, it's not a thing […] no matter how much training you've had and not even how much experience you have there's always maybe not guess work but […] you just have to feel and you just kind of have to trust yourself. You get something wrong and I guess you only learn by your own mistakes. I've made loads. (Conversation with OV)

Sure enough, throughout the praxiography at all of the fieldwork sites there was once again an overwhelming sense of hunches and intuition guiding routine practice and decisions at BIPs, and in the imported food regime more broadly. OVs and PHOs – the latter in their capacity as OFIs or else undertaking administrative duties – again seemed to 'just know'. Much like PHOs before they even get on board a ship, this 'just knowing' is intuition, which is the direct upshot of *somatic* tacit knowledge: patterns of personal, practical know how built up over time ('on the job'), making sense of a given situation (e.g. a consignment's potential risk to public health), and what course of action to take (deciding to release a consignment or otherwise), instinctively, without conscious, deliberate reasoning. To reiterate: 'gut feelings' – based entirely on individual experience – are learnt not 'in the laboratory' but 'on the job', which give rise to the 'instantaneous comprehension or apprehension of an object or an event in the past, present, or future' (Turro, 1986: 900). The documentary, identity and physical

checks undertaken by OVs are formulaic, and seemingly – owing to the legislation informing the checks – prescriptive. The legislation – the 'rules' of this game – even enumerates specific risky POAO. Consequently there seemed very little scope for subjectivity. This though ignores the obvious: that all of the relevant legislation (or 'background knowledge') – as with any legislation – is open to interpretation: 'injurious to human health and life' is deeply ambiguous. Moreover, such a stance overlooks the role of the tacit dimension and intuition. As was stressed by OVs countless times throughout the fieldwork, particularly when I was participating – legislation provides little more than a 'guide': a foundation on which intuitive, individual decisions about consignments (hence health security decisions) are made. This is consonant with, and further supports the notion that, pre-logical knowing within the tacit dimension must be ontologically prior to explicit knowledge, acting an unconscious 'filter' before, and therefore contouring conscious 'discretionary judgements':

> while explicit knowledge can be copied, tacit knowledge (in the absence of prolonged, hands-on, face-to-face interaction), has to be re-created. It is much easier to copy a book or a computer program than to write it in the first place, but there is no reason in principle to expect the re-creation of tacit knowledge to be any easier than its original creation.' Furthermore, precisely because tacit knowledge is not codified, both the skill and the product that is re-created may not be the same as the original. Even if one sets out to copy, one may end up doing and building something that is, from some points of view, different from the original. (Mackenzie and Spinardi, 1995: 44)

As such, and as with the disconnect between the IHR and what is actually taking place on ships, this understanding of tacit knowledge does not in any way undermine the explicit background knowledge underpinning the imported food regime. Nor does the above disregard standard operating procedures. Nor is this meant to disregard professional backgrounds and/or expertise/training. It would be wrong to reduce (routine) security decisions to tacit knowledge alone. Instead, insights from STS highlight the centrality of individual, personal 'know-how' to routine health security practice. Several conversations with OVs at respective authorities suggested that both regulatory veterinary practice (i.e. the statutory duties being carried out as part of the imported food regime, or work such as auditing abattoirs, for instance) and veterinary 'practice' (meaning the more 'orthodox' interventions/work we would typically associate with veterinarians) are 'more of an *art than science*'[135]. This initially – as with PHOs in the previous chapter – came as something of a surprise. 'An *art*?' I recall thinking, exasperated. This though was forgetting that 'public accounts of science can differ considerably from informal accounts of how science actually takes place, and these public

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[135] It should be noted that, as per DEFRA requirements, OVs must undertake a short course and receive an Official Controls Qualification (OCQ) in statutory requirements/legislation from 'Improve International – Trusted [i.e. accredited] Provider of Official Veterinarian Training'. Notwithstanding, like environmental health officers making the jump into 'the dark side' Port Health, OVs learn primarily 'on the job'.

accounts frequently conceal the importance of tacit knowledge' (Revill and Jefferson, 2014: 601)'.

If the above discussion of somatic tacit knowledge offers leverage on the mechanics of interpretation and decision-making process, why target particular consignments from particular countries, given this is more or less at odds with legislation? As with the Ship Sanitation regime, the imported food regime is partly 'built' upon local knowledge. In other words, the prophylactic controls/checks being undertaken by OVs at BIPs are predicated on not just somatic tacit knowledge as I describe above, but also local knowledge: *communal* or *collective* tacit knowledge (Collins, 2007, 2010), which in turn give rise to 'local knowledge systems' (Knorr-Cetina, 1991, 1992; Pickering, 1995): knowledge 'that human individuals […] can acquire, because of their special and continual access to the location of the knowledge — which is the social collectivity [i.e. PHAs and Port Health more broadly]' (Collins, 2007: 261). These practices – the prophylactic controls/checks – discussed are at least in part predicated on local knowledge: within the context of local systems of practice and crucially that which is embedded within the broader 'community of Port Health practice' (Knorr-Cetina, 1991, 1992; Pickering, 1995). Rather than somatic tacit knowledge, it is communal tacit knowledge – both local, context-specific knowledge, and knowledge embedded within the broader community of Port Health practice – that answers questions of why specific consignments were targeted. This in turn thereby challenges the apparent straightforward 'inside/outside' (Europe) dichotomy.

Turning firstly to site-specific knowledge: whilst each site had its own local knowledge system, which in turn contoured local risk assessments, Stansted Airport's 'China file' probably best typifies this. Early on during the time spent with the team at Stansted, the OV dropped a large, black lever arch file in front me, accompanied by 'this is what you're [insert expletive] up against'. In front of me was a file groaning with paperwork outlining 'known problems' as they put it – past issues, and 'ongoing cases' of risky consignments from a single risky country. The 'China file', as it was known in the office, was used locally to inform and 'guide' cargo walks and manifest checks. Aside from stressing the advantages of seeking proximity to practitioners, this example of local knowledge, in the most palpable of ways, challenges the 'uniform' cordon sanitaire enshrined in European legislation, insofar as it delineates and demarcates a specific, 'riskier country' beyond simply 'anything from third countries' as per explicit prescriptions. At Stansted, the assumption that 'any consignment from China is particular risky, and therefore implores attention' was seemingly axiomatic: 'built into' the local knowledge system through repeated interaction patterns as 'the need to engage one another forces people to return to common structures' (Swidler, 2001: 85).

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Consequently, flights from China – as and when they were due into the airport – would be actively targeted.

As discussed in previous chapters, sites should not be viewed in isolation and, through 'Latourian connections', such local, site-specific knowledge is shared between sites and Port Health can be regarded as a broader community of practice (Knorr-Cetina, 1992). Information is primarily shared informally between PHAs: as noted, Port Health is made up of relatively few specialists, and frequent interaction between Authorities is ingrained in the culture of Port Health. As such, throughout the praxiography phone calls and emails giving other authorities a 'heads-up' about 'what to be on the lookout for' were a regular occurrence. (Following a failed attempt at import, some exporters may – in Port Health parlance – 'BIP shop' and 'try their luck' at other points of entry, which encourages this information sharing, and indeed reinforces the 'some countries are riskier than others' mentality.) Similarly, APHA, whose aim is to promote and maintain 'consistency amongst member authorities by developing policy, enforcement guidance, and identifying and disseminating good practice [and] effective co-ordination, cooperation and collaborative arrangements' (APHA, 2020), regularly disseminates such information.

There is another important upshot of Port Health being a small community of practice: an intuitive point to make now is that the knowledge informing Ship Sanitation – both implicit, and to a lesser extent explicit – as discussed in the previous chapter should not be entirely disregarded. Port Health as a whole performs and is responsible for both lines of work: yes, imported food controls are 'technically' separate, and are underpinned by entirely different formulations of explicit knowledge, and in some instances officers may only be responsible for one 'line of work' (owing to the nature of the site – Manchester PHA does not deal with imports, for example). Notwithstanding, within Port Health as a community of practice, both regimes blur and seem to be intertwined: despite the Ship Canal having neither a BIP nor DPE, the team at Manchester were all well versed in the imported food regime, *despite having never undertaken any of the official controls as part of their job*. I already had a pretty clear idea about what to expect at BIPs before I even got there (Manchester was the very first site I attended). In this sense, the two 'separate' logics – the 'geographies of concern' in the previous chapter and the 'some third countries are riskier than others' in this chapter – are not mutually exclusive and cannot be divorced, as PHOs have Collins' special and continual access to the location of knowledge. As they are both within the same social collectivity, the

(neo)colonial, racialised, and exclusionary logics I spoke of underpinning the Ship Sanitation regime arguably also inform the imported food regime[136].

4.3.4 Animal Health and Zoonoses: Veterinary Medicine at the Border

The above analyses intuitively followed the sketch of the day-to-day workings of the POAO regime: how the system works being predicated on trust; how it fails and how this is mitigated, and finally the roll of 'hunches' – or intuition – made logical sense to be discussed in order. What follows in this subsection and the following subsection is engagement with: firstly, how the POAO regime prevents the introduction of zoonoses into Europe. Though superficially (i.e. going by purely explicit background knowledge) about little more than 'food safety', certainly based on my time spent with OVs, the primary concern is the assurance of the absence of animal diseases – specifically zoonoses. Whilst zoonoses or breeches in the species barrier are certainly well acknowledged in IR, the upshot is the centrality of veterinary medicine a) in health security (practice), and albeit to a lesser extent b) at the Border. This is rather than, as is invariably the case in IR, medicine (Alison Bashford's (2006b) edited volume, *Medicine at the Border*, is exemplary). Secondly, and discussed in the following subsection, is the distinct materiality of POAO, which is at odds with equating 'infectious disease' being purely carried by human subjects (as is almost universally the case in the IR literature). Whilst, admittedly, having materiality through subjects and corporeality of embodiment, this is a rather narrow understanding of materiality, and even so it is often not actually spoken of expressly: the following subsection draws heavily on performativity and theorises the materiality of heath security, and in turn makes the case for speaking expressly of 'threatening' material objects within the context of health security[137]. In line with the theoretical commitments of this thesis, and drawing on notions of post humanist performativity, it suggests that boundaries between 'safe' and 'unsafe' foods are 'made' through iteration, repetition and enactment. The upshot of this 'materialisation' of dangerous 'foods' then is the cementation of the interpretation of 'foreign' (i.e. from outside the 'fence around Europe') commodities are potentially harmful or dangerous.

For all the discussion of emerging infections, and in particular the 'threat' posed by zoonotic infections, not to mention the supposed shift towards the 'One Health' approach to Global Health Security, it is perhaps surprising that the central role of veterinary medicine, and in

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[136] This interplay could also be said of the POAO and FNAO regimes.
[137] For sake of completion, and to not entirely do a disservice to extant literature, bioterrorism and biological weapons have been discussed in IR. Clearly the latter falls squarely within the reading of materiality purported herein. (See, for example, Koblentz, 2009; Vogel, 2013b)

particular veterinary expertise, in health security has been largely overlooked in IR[138]. Invariably it is common to speak of medicine – conceived herein as an entanglement of medical knowledge/expertise and the 'doings' of medical professionals – as having a central role in the practice of health security. The centrality of medicine has even given rise to the suggestion that, rather than simply reducing the emergence of 'health security' to a 'macrosecuritisation of health' being in evidence, instead

> the rise of health security also represents a critical instance of "medicalization" insofar as the discourse of health security is a site where the social forces of medicine are further expanding and intensifying in international politics – to the point that they are now also beginning to shape a range of security discourses and practices. (Elbe and Voelkner, 2014: 71; see also Elbe, 2010)

This idea of medicalisation is worth some more consideration at this juncture. In short, emerging in the 1960s, the idea of medicalisation stresses how nonmedical conditions and/or societal 'problems' are framed and understood as medical problems, and *thereby treated as such*. In other words, what medicalisation suggests is that an 'expansion of medical jurisdiction' is evident across society (Conrad, 2007: 4): problems (anything from deviant behaviour to male baldness) are defined in medical terms using medical jargon, understood through the lens of medicine, and treated with medical interventions. Hence, this sociological take on health security – or the medicalisation of insecurity (Elbe, 2010) – highlights how a shift away from militaristic and political understandings of *in*security, towards conceiving and treating *in*security itself as a medical problem. Whilst the medicalisation of insecurity is certainly compelling, and what is in evidence globally is certainly consonant with the broader 'medicalistion of society' literature (Conrad, 2007; Zola, 1972), it could be suggested that such a framework for understanding the post-millennium proliferation of health security 'thinking' does not necessarily overplay the role of medicine, but rather *ignores* the role of veterinary medicine in health security.

It is hard to question – especially when viewed through the lens of medicalisation – that 'medical and health professionals have also become more closely involved in the analysis and formulation of security policy' (Elbe, 2012: 321). In other words the medicalisation approach draws attention to the changing nature of who practices (health) security: hence 'the presence of the Executive Director of UNAIDS in New York to extensively brief the United Nations Security Council when drafting its resolution on the threat HIV/AIDS' (Elbe, 2012: 321). This in turn highlights the incorporation (or at least increasing influence) of medical experts, and therefore medical expertise, into health security policy. Moreover, and more importantly for the discussion herein, the other key upshot of the apparent medicalisation of insecurity is

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[138] Much of the literature in IR concerning emerging infections *does* acknowledge the centrality of zoonoses. (For an excellent overview see, for example, Heymann and West, 2014.)

how security is *practised*, and the increasing use of medical interventions: 'the activities required, both proactive and reactive, to minimize vulnerability to acute public health events that endanger the collective health of populations living across geographical regions and international boundaries' (WHO, 2007: ix). Such activities – or medical interventions – are frequently equated with (the stockpiling of) 'medical countermeasures':

> Pharmaceuticals are now critical to the security of populations. Antivirals, antibiotics, next-generation vaccines, and antitoxins are just some of the new 'medical countermeasures' that governments are stockpiling in order to defend their populations against the threat of pandemics and bioterrorism. (Elbe, 2014: 919)

None of the above observations are wrong: the medicalisation of insecurity thesis is persuasive and compelling, but there is a sense that it is missing something. The problem with speaking of medicalisation of insecurity is not necessarily the definition of problems in medical terms using medical jargon; nor is it the resolution of said problems through medical interventions. Instead, the problem with medicalisation is that in focusing only on *human medicine* it misses the importance (indeed centrality) of *veterinary expertise* to health security practices: the protection of human health rests (at least in part) on veterinary medicine, *not* only on human medicine. The prophylactic (i.e. proactive rather than necessarily reactive) regime across Europe outlined herein, is comprised of – first and foremost – *veterinary* border controls, and it falls squarely within the WHO's take on 'minimising vulnerability'. So what? Given the (supposed) shift to One Health, human and animal health cannot be divorced, and this is reflected in this thesis' empirical findings: controls are designed to prevent the introduction of epizootic infection *and* zoonotic infection, and the same practices serve *both*. The health security literature needs to reflect this in the way it conceives medicalisation: in ignoring the human-animal linkages, it shows an outdated understanding of disease transmission (something reflected by the shift to One Health). Moreover it fails to accurately describe what kinds of expertise are *actually involved* in performing health security practices.

4.3.5 Products of Animal Origin as Objects of Danger: Health Security that Matters

> Things give stability to the social world and contribute to generating temporality structures that ensure the coherence and stability of social order (Preda, 1999: 355)

As Aradau et al. (2015: 57) suggest of terrorism, particularly in light of the (failed) 2006 bomb plot (in which explosives were concealed in drinks bottles), '[the] terror threat is not simply about who is (said to be) threatened and who is (represented to be) threatening, but equally about material objects that are (considered) threatening and risky'. This is particularly so given the proliferation of regulations, and importantly the development of technologies

designed to interrogate fluids in hand luggage. If the governance of terrorism is made possible because of discourses of threat and danger, it is equally made available for specific forms of governance because of material objects. As the above field note extracts demonstrate, the workings – 'on the ground' – of health security are predicated preeminently on a very distinctive materiality: material 'things' or objects are conceived as either potential carriers of infectious (i.e. zoonotic) disease, or foodstuffs owing to contamination (naturally occurring or otherwise) may be carriers of insecurity in their own right (see the discussion in the following subsection on FNAO). In this sense, it is right to regard objects as agential, and to apply similar thinking to health: it is similarly made available for specific forms of governance because of material objects[139]. This though does beg the questions how do 'things' become threatening and how do they become entangled in the fabric of health security practice?

Extant engagement with health security in IR does acknowledge materiality albeit often indirectly and implicitly: given that health and ill-health should be understood, first and foremost, as bodily conditions and 'lived experiences', the take on materiality in relation to health security invariably equates it with embodiment and/or corporeality (see, for example, Nunes, 2014). Materiality therefore *is* important, but this is expressly recognised only occasionally and superficially[140]. Moreover, the materiality of responses to health security threats has been given considerable attention (be it PPE worn during responses to outbreaks of infectious disease, or else the development/stockpiling of pharmaceutical products). Indeed, engagement with materiality in the previous chapter focused – more or less – on objects of security, rather than objects of insecurity: in other words material carriers of routine prophylactic practice (i.e. the Ship Sanitation regime) such as uniforms, thermometers and so on. However, turning back to the inspiration for this thesis: the intention was primarily to move away from singular, exceptional events and the responses to them, and to offer analysis of routine practice. Yet securitisation is arguably part of the narrow reading of materiality evident within research. As Aradau (2010: 493) notes: 'Securitization has been seen as largely part of the linguistic and social constructivist turn in international relations', which as discussed earlier gives rise to focus on how 'Risk, security, disaster and war [being]

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[139] Thinking about the agency of objects, reflecting on the fieldwork, and the hours spent in various clinical inspection facilities, evokes the work of Andrew Pickering (1995: 26 emphasis added), who idiosyncratically coined 'posthumanist space', regarding it as 'space in which the human actors are still there but now inextricably entangled with the nonhuman, no longer at the center of the action calling the shots'.

[140] As such health insecurity *manifests* in and through bodies. These understandings *are* implicit in health security research, which typically speaks of 'people' or 'human subjects', rather than materiality *per se*. A noteworthy exception is Nunes (2014: 944) who considers how 'security as emancipation has the potential to offer fresh insights into the case of health, by shifting the focus towards the *embodied* reality of insecurity as a "life-determining condition" of individuals'.

unpacked as discursive and institutional practices that constitute both that which is to be secured and the threat to be eliminated or neutralized':

> As a performative and intersubjective practice, securitization has largely ignored the role of 'things' in the articulation of insecurities. The subjects of security have been generally humans – be those more or less reified in particular communities, such as nations, states or regions. The referent objects of security have been particular social constructs: identities, cultural values, 'ways of life', and so on. Although analyses of security and risk have incorporated discussions of technologies and institutions, non-human objects have been relegated outside the realm of securitization, either as simply 'facilitating' conditions for securitization (Buzan, et al., 1998) or as remnants of mainstream positivism.

Aradau's stance is that, in essence, securitisation focuses on discourse rather than materiality, and ultimately views materiality as having little bearing on the securitisation process. This arguably goes some way to explaining the overwhelming neglect of the material (as in objects or 'things') in the health security literature. Echoing Judith Butler (1993: 28) there is a certain ambiguity (both ontological and epistemological) about objects in securitisation: questions of objects being external to the securitising speech act are never really addressed. The corollary therefore is, assuming objects are treated as exterior to speech acts in securitisation theory, are they presumably not included in the securitising process? Or are they constituted through the securitising process? Aside from the focus on discourse, the rather superficial reading of materiality/embodiment implicit in the health security literature outlined above, is arguably not consonant with the 'logic' of securitisation theory: in light of the 'security grammar' dictated by securitisation, it is questionable how securitisation can – if at all – adequately account for materiality (as in embodiment). Referent objects of security need not necessarily be states or collectives but 'things that are seen to be existentially threatened and that have a legitimate claim to survival' (Buzan et al., 1998:36). Whilst theoretically possible 'small groups of people are rarely able to establish a wider security legitimacy in their own right' (Elbe, 2006: 125). As is widely acknowledged, securitisation privileges the survival of collectives (hence communities, states, and so on). As such, analysis of embodiment will always be superficial (at best) (see, for example, Nunes' 2014 critique of securitisation). Rethinking health security and embodiment is beyond the scope of this contribution. What can be done here though, is to offer thoughts expressly on the linkages between health and material 'things', and make the case for objects of insecurity and materiality to be taken seriously in the health security literature[141].

> Rather than relegating materiality to the margins of the social world or including objects as mere passive receptacles of human action, other approaches in the social sciences have for some time now tried to reconceptualize the role and agency of objects in the production of reality. (Aradau, 2010: 493)

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[141] Clearly the problems with securitisation and materiality given its prevalence in health security research explains why objects have been studiously ignored.

To suggest, based on the praxiography, that 'objects matter in and to (routine) health security (practice)' almost goes without saying. Within the context of the imported food regime *objects* rather than *subjects* are deemed to be (potentially) threatening to public health, and routinely constituted as such: be it owing to contamination (the presence of zoonoses or 'unsanitary' production methods), and be it corned beef from Brazil, enzymes in bovine serum from the United States, or, as discussed in the following subsection, something as seemingly 'safe' as sultanas from Turkey. Yet this alone is not enough (and frankly a waste of the empirical findings): the things observed are not simply 'out there'. Moreover these things should not be regarded as passive objects, waiting to be understood and constituted as threatening by OVs or PHOs. A more fruitful take on the materiality of health (in)security is to actively engage with the practice theoretical commitments of this thesis: understanding health (in)security to be contingent, and 'the product of ongoing establishment, reenactment, and maintenance of relations between actors, objects, and material artifacts' (Bueger and Gadinger, 2015: 453 emphasis added). In other words, it is performative: something enacted, and something that only exists and 'hangs together' in practice. In the context of this study, what can be suggested in the case of the imported food regime is that first and foremost, as with the parallel Ship Sanitation regime, health security is continual.

To paraphrase Andrew Pickering (1995:6) – health security *does things* all the time: from boarding a ship, to monitoring ship movements as in the previous chapter; from an OV logging into TRACES to check 'pre-arrivals', to running an index finger over a signature, to (quite deliberately) checking (paper or digital) manifests from particular countries. All such situated, competent performances constantly (re)produce the link between the 'exogenous' and public health risk (be it 'foreign goods' and public health risk as in this chapter, or the exclusionary logic of places deemed safe or risky as in the previous chapter). This leitmotif underpins the entire thesis, but the benefits of assuming a practice theoretical perspective, and in particular performativity, become much clearer now, with 'exogenous goods' and 'risk' in many respects being the crux[142]. 'To stress the impact of objects, things, and artifacts on social life is not merely adding the element of materiality; it is an attempt to give non-humans a more precise role in the ontologies of the world' (Bueger and Gadinger, 2015: 453). As such, turning specifically to the ontologies of health (in)security, and shifting even further away from securitisation theory, it can be suggested that the routine practices observed are

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[142] As a defence of performativity, as opposed to other approaches building the 'discourse/materiality bridge': in particular, performativity attends to the constitution of objects (in this case objects of danger) more so that a Foucauldian dispositif, for example. The latter is concerned more with the heterogeneity (but nonetheless productivity) of constellations of discursive and non-discursive elements.

performative insofar as they are consonant with Huysmans' notion of 'little security nothings' and quotidian instances of insecuritisation – or as I put it, establishment (see the discussion in the previous chapters). In other words, health (in)security is 'made' continuously. Yet based on the findings of the fieldwork – particularly the imported food regime – the idea of 'practice as performative' can be taken further.

Whilst not a question of disregarding discourse (as *discourse is a practice*), the interpretation of performativity underpinning the present contribution is aiming to not 'turn everything (including material bodies) into words' (Barad, 2003: 802). Instead, echoing Barad, 'performativity is precisely a contestation of the excessive power granted to language to determine what is real'. (Barad, 2003: 802). Karen Barad's idea of 'posthumanist performativity' is of particular benefit at this point in the thesis: hers is a reading of performativity 'that incorporates important material and discursive, social and scientific, human and nonhuman, and natural and cultural factors' (Barad, 2003: 808; see also Barad, 2007). For Barad, and contra Butler, matter or nonhuman things *have agency*, and crucially are generative: subject and object are not mutually exclusive, and are both produced and reproduced, made and unmade, formed and transformed though 'intra-action'. Distinct from interaction (predicated on pre-existing agency), intra-action means 'mutual constitution of entangled agencies' (Barad, 2007: 33). Crucially, 'matter' is not 'fixed and given nor the mere end result of different processes'. Instead, 'matter' or 'things' are 'produced and productive, generated and generative. 'Matter is agentive, not a fixed essence or property of things. Mattering is differentiation, and which differences come to matter, matter in the iterative production of different differences' (Barad, 2007: 137). Hence from this:

> Intra-action is an open-ended practice involving dynamic entanglements of humans and non-humans, through which these acquire their specific boundaries and properties. Matter is therefore not the end product of discursive practices, the effect of performative speech acts or of power/knowledge, but is implicated in processes of materialization. (Aradau, 2010 498)

As such, thinking about the performative nature of health security practice, and the relationship between routinely 'doing', matter, and meaning, really what is at play routinely – much like Aradau's (2010) take on critical infrastructure – is that rather than simply performative, continuous insecuritisation, a multiplicity of little security nothings, or establishment as I have referred it, what is perhaps a more apt description here is in many respects *materialisation*. In other words, performativity here should be construed as the repetition of the enactment of a binary opposition between 'safe' and 'dangerous': boundaries through iteration, repetition and enactment, which in turn reify the longstanding anxieties and

interpretation of 'foreign goods' as potentially 'threatening'[143]. The byzantine European legislation outlined earlier in this chapter lists virtually every conceivable part of virtually every species of animal (dead or alive) that is subject to checks from third countries; edible, for ornamental purposes, for experimentation. (Similarly a range of FNAO is subject to controls: from Kenyan green beans, to American peanuts, to Ethiopian pepper.) Whether POAO or FNAO legislation, central to both strands of the imported food regime are long lists of controlled, potentially harmful, 'threatening' or risky commodities. Yet conversely, food is – quite obviously – also essential for human life and good health, which in legislation is generally taken to mean 'safe and wholesome food' resulting in 'protection of human health and life'. As such, to resolve this 'conflict' or tension between protection of human life and health (in other words securing) whilst on the other hand acknowledging 'food' is essential, throughout the legislation – or explicit 'background knowledge' – there is juxtaposition between the two. This underpins the performativity of the imported food regime: 'good, healthy, (it is assumed) without risk, and from within Europe' against 'bad, unhealthy, risky, and from third countries'. From this then, the entire imported food regime (both POAO and FNAO) can be regarded as a performative insofar as boundaries – the juxtaposition between 'good' and 'bad' – are enacted through repetition. The practices taking place at the Border, whether opening up a box, signing off a CVED, or rubbing a finger over the signature on a health certificate, can all be regarded as enacting and 'doing' this binary.

Food comes to matter first and foremost through European legislation (and relevant domestic legislation): the 'background knowledge' brings to light (apparent) scientific knowledge about food, and the need to – in essence – manage and secure against foodstuffs' materiality, and this materiality's potential impact on human health. At the heart of the European regime is the tension outlined above, and legislation grapples and struggles with the instability of food products: in other words the intrinsic transiency and instability of the materiality of food. Given this, though European legislation is fixed in statute, it is updated regularly: at the time of writing some thirty one amendments/additions/repeals/replacements of annexes – or more aptly reiterations – were implemented to the POAO Regulation 2007/275/EC in 2017; the current DEFRA POAO guidance for OVs (29/7/20) spans some 159 pages. Moreover, the legislation outlined herein is only a small part of thousands of relevant Commission Decisions, and Regulations. As such this constant process of regular amendment to all

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[143] Of course, based on the praxiography, this distinction between 'good' and 'bad' 'food' is not strictly true given the range of products controlled. However, for sake of ease (and the fact that – irrespective of for human consumption or otherwise – all the products discussed in this chapter fall under the broad umbrella of European 'food legislation') this divide will guide this discussion.

legislation and guidance could be construed as an attempt to give fixity to POAO, and to 'dangerous foods' more broadly[144].

Through (*re*)iteration, legislation and guidance attempts to give stability to the delineation between 'safe' and 'dangerous', thereby creating a boundary between the two. Notwithstanding, dangerous POAO (or indeed FNAO) materialise as an impossibly mobile, fluid matter able to morph and materialise in a seemingly infinite number of derivatives and/or combinations – the developments of which are ultimately impossible to accurately predict. This sheer heterogeneity is demonstrated, for instance, by composite products: though unfortunately not detailed fully herein (and a source of profound confusion for even the most experienced of OVs) 'composites' are defined in 2(a) of POAO Regulation 2007/275/EC as, 'a foodstuff intended for human consumption that contains both processed products of animal origin and products of plant origin and includes those where the processing of primary product is an integral part of the production of the final product'. Legislation attempts to give fixity by enumerating products under specific categories within individual pieces of legislation: for instance 'Fish, fresh or chilled, excluding fish fillets and other fish meat [of] fish fillets and other fish meat (whether or not minced), fresh, chilled or frozen' appears in Regulation 2007/275/EC. It is followed by the qualification and explanation 'All'. Similarly: 'Milk and cream, not concentrated nor containing added sugar or other sweetening matter' is followed by the qualification 'All: Milk includes milk that is raw, pasteurised, or thermised. Includes fractions of milk'. In other words, the products are listed and also qualified, thereby attempting to establish how they materialise: hence 'all fish' is very different, for instance, from 'all fish excluding salmon'. On the one hand the legislation (background knowledge) is unambiguous insofar as it specifies exactly what POAO are controlled, and therefore establishes clear boundaries between 'safe' and (potentially) 'threatening'; on the other hand this of course is far from unambiguous: whilst seemingly straightforward, clear distinctions are made in legislation unravel in the face of the myriad manifestations of POAO (typified by composites, for instance). Legislation only performs this juxtaposition to a point: stability is only performed at a given 'moment' spatially and temporally. Although legislation does establish foodstuffs as objects of insecurity, the legislation is subjective and is contingent on interpretation: in other words it should be regarded as little more than a 'guide', and as such, it can be suggested that the materialisation and enactment of this binary 'in practice' is the product of individual interpretation and intuition[145].

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[144] This section focuses primarily on POAO, though obviously the same principle applies to FNAO. Indeed, as noted earlier, the link between the 'everyday' and rupture/change in legislation is more tangible with the FNAO regime as discussed in the following section.

[145] This section has framed the discussion around the juxtaposition between 'good', wholesome, and nutritious foodstuffs and 'risky', potentially harmful foodstuffs, as this is at the core of the background

Put differently then, the fixity of materiality is contingent, and *shifts* with the inspection of every consignment. As stressed in the above discussion of intuition: the 'art' of veterinary medicine is never able 'to always get it right' and – if not necessarily a 'guessing game' per se – regulatory veterinary work is much like a PHO inspecting a ship. The perusal of a health certificate (confirming or otherwise the 'safety' of an object) is by its very nature enacting this binary. However, the distinction between 'safe' and 'dangerous' is contingent on individual interpretation at the point of inspection. This is not to dismiss the legislation/background knowledge (in fact far from it) but, echoing Barad (2003: 819 emphasis added) who in turn follows Foucault, discourse should not be understood as simply language, but should instead be understood as that which enables and/or constrains. In other words, the background knowledge of the imported food regime establishes the binary of 'safe/dangerous foods', and in turn gives rise to very specific forms of 'doing' (i.e. the assumption of insecurity/danger and increased 'suspicion'). Hence, remaining sensitive to notions of 'intra-activity' – 'dynamic topological reconfigurings/entanglements/relationalities/(*re*)articulations' (Barad, 2007: 141) – it is reasonable to suggest that whilst legislation (i.e. background knowledge) *is* in a state of flux (owing to a bidirectional relationship between 'doing' and 'knowledge' as discussed in the following FNAO section), this explanation for the fluidity of materiality is alone not enough. Put differently, and in sum, the enactment of this juxtaposition through routine 'doing' inherently results in the reconfiguring and destabilising of materiality.

4.4 FNAO at the Border

What follows is based on the extended periods of non-participant observation at Mersey PHA, Gatwick Airport, and Stansted Airport. Manchester PHA (covering Manchester Ship Canal) has neither a BIP nor DPE within its jurisdiction; whilst Manchester Airport *does* have a DPE, during the time spent undertaking observations of the Port Health team no FNAO were actually handled. Given this, neither of these sites will be discussed in this subsection. In order, the field notes are taken from Gatwick Airport, and Stansted Airport.

> Arrive at the Port Health Office for 08:30; located in an office block 'landside' above the Border Force offices and interview rooms[146]. Upon arrival am told of three FNAO notifications

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knowledge. However, as stressed earlier in this chapter, this juxtaposition could easily have been framed in terms of the longstanding linkages and anxieties surrounding the 'foreign' or the 'exogenous' and the health of the body politic: in other words 'safe/European' and 'risky/from third Countries. Indeed there is compelling reason to suggest that this 'materialisation' of dangerous 'foods' is tantamount to the cementation of the interpretation of 'foreign' (i.e. from outside the 'fence around Europe) commodities being if not necessarily inferior per se, but potentially harmful or dangerous.

[146] The work of PHOs/routine health security practice being (albeit inadvertently) concerned with the Border as much as it is public health was discussed at length in the previous chapter. Without wanting

via TRACES. The PHO shows me the notifications on TRACES, and then talks me through the accompanying paperwork: each has a CED [Common Entry Document – analogous to a CVED] – in each case processed by a different agent; and each has a health certificate accompanying it [much the same as with POAO insofar as it confirms the absence of risk/threat to public health]. All three consignments are of Kenyan green beans and are only due documentary checks. [The PHO] tells me that these are controlled due to pesticide residues. As all the consignments only require doc checks – in the Port Health office – completely separate from the inspection areas [in other words *not in the DPE*] the PHO goes through the usual procedure of crosschecking all of the relevant paperwork (first part of CED; health certificate and so on) before releasing the green beans immediately into free circulation on TRACES. (Field observation, September 2019)[147]

Arrive at the Port Health office [i.e. located within the same building as the BIP] for just after 10:00 and [the PHO] tells me there is some sampling due today: three consignments of Kenyan green beans are due in, one of which apparently needs to be sampled […] A phone call is made to the laboratory [Public Analyst Scientific Services] to request a courier to collect the sample later that day. I spent some time with the vet who was undertaking checks on a couple of blood products. We chatted candidly about the last FMD outbreak in the South East of England. Having observed [the OV] undertake the veterinary controls of several consignments we drive over to the DPE – the ground handling agents called the office to let us know that the flight had landed and would be ready for us soon (it wasn't). We chat as we wait around and eventually the ground staff brings out a flatbed pallet containing the green beans due to be sampled. [The PHO] initially cross-references the documents: CED 'appears to be fine'; health certificate likewise; all tally. Moreover aside from all having the same AWB [airway bill number] [the PHO] ensures that all documents have the same ULD number [Unit Load Device is the air freight equivalent of a container]. He then checks the weight [the pallets are brought through and rested on giant scales – rather like a weighbridge] and it tallies (give or take a few kilograms) with what is on the CED. This [the PHO] tells me is essentially the identity check part of the FNAO procedure – ensuring the consignment is as the documents suggest. As with other FNAO and POAO this is a fairly standard process and [the PHO] appears to be giving very little thought to what [they] are doing. Having completed the documentary and identity checks, as with '669 FNAO' and '884 FNAO' we now begin sampling the green beans.

[The PHO] begins by wiping down the work surface with water and then tells me they don't use disinfectant as it is likely to result in contamination and skew any test results. [The weights for sampling are determined/calculated by the laboratory] and for this consignment 3kg of the whole is required. I help [the PHO] and we select random boxes from the pallet. As 3kg are required we take six boxes from the whole and in turn take 500g from each box of beans. I ask [the PHO] about the testing in the laboratory and [they] inform me that it is liquid and gas chromatography. [In analytical chemistry used to separate the components in a mixture. This is

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to rehearse arguments made previously, this idea is however nonetheless worth returning to briefly. Aside from there being something strangely symbolic about the Port Health team at Gatwick sharing an office block with Border Force, there are clearly compelling reasons to suggest that the imported food regime could equally be regarded as 'border work' rather than public health work. As with the Ship Sanitation regime, here there is once again evidence of 'bordering': the enactment and performance of geopolitical, territorial limits, as well as a concern with spatiality and difference. Again, PHOs (and this time OVs) are seemingly 'petty sovereigns' (Butler, 2004: 56) insofar as their work could be construed as a modality of, and enactment of arbitrary state power. Here the flow of 'risky people' is not being policed/managed, instead with the imported food regime the concern is with the flow of 'risky objects'.

[147] To reiterate: as per Regulation 669/2009, all high risk FNAO currently listed in the legislation are subject to documentary checks. Unlike all POAO being subject to identity and physical checks, the frequency of these checks is determined by legislation. In other words only a certain percentage of consignments need identity and physical checks: in the case of these consignments of Kenyan green beans it is five percent; whereas twenty percent of Indian peppers (capsicums) require full checks. At all of the PHAs it was common for PHOs to spend entire days completing documentary checks on FNAO in respective offices without actually being present at the DPE. The TRACES system automatically notifies the respective PHA/LA when sampling is due; moreover local databases also monitor sampling rates.

turn enables the identification and quantification of each component: in this case pesticide residues]. A scoop is used to pick out the beans, which are placed into clear plastic bags and weighed on a set of kitchen scales. We repeat this until we get our required 3kg and then I close up all of the boxes with bright yellow 'Uttlesford Council' branded tape [showing that the consignment has been examined]. [The PHO] tells me that we're done and then releases the consignment *for storage on TRACES*. (Field observation, August 2019)[148]

Figure 15. Showing a typical consignment of FNAO (green beans). Taken at Stansted Airport, 14 August 2019.

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[148] The green beans were 'released' insofar as they left the airport for onward transmission to an 'inland' bonded warehouse at Heathrow, under the jurisdiction of a particular local authority (in this case Hillingdon). The consignment was stored there until receipt of the laboratory test results (these 'passed'). At which point the consignment was released into free circulation.

Figure 16. Showing green beans laid out for sampling in the DPE at Stansted (which is simply a 'space' located within the corner of a warehouse). Taken at Stansted Airport, 14 August 2019.

As the above field observations show, beyond checks being undertaken by PHOs rather than OVs, and identity and physical checks being undertaken in a DPE rather than BIP, in terms of 'process' there is markedly little to distinguish the control of POAO and FNAO. From the health certificates and CEDs (rather than CVEDs) accompanying consignments to the formulaic sequence of documentary, identity, and physical checks (the latter two contingent on sampling rates), there is very little to say about individual practices that has not already been discussed. Admittedly, the physical checking of FNAO – by and large – does entail sampling for laboratory testing, rather than simply 'checking the packing'[149]. The key difference though is of course the nature of products being controlled. As such, the focus of the discussion in this subsection will be speaking more to the health security literature than it will to the practice theoretical literature. Whilst this thesis has made significant contributions

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[149] This has been touched on throughout this chapter. Curiously, with POAO veterinary checks, *no sampling for laboratory testing* was actually observed throughout the praxiography. POAO for human consumption – as noted – would occasionally be subject to a 'sensory check' (for instance corned beef and cans of fish would be opened and smelt/tasted by the PHO or OV) but never subject to laboratory testing. Importantly then, there is a distinction between the two regimes. With FNAO this is a very different means of assessing risk and decision-making that (unlike elsewhere in the thesis) is *not* based on intuition, but rather rigid procedure and 'scientific' testing as normally understood. The inverted commas are not an indulgence, but rather reiterate how 'public accounts of science can differ considerably from informal accounts of how science actually takes place, and these public accounts frequently conceal the importance of tacit knowledge' (Revill and Jefferson, 2014: 601). With the STS reading of tacit knowledge, intuition is no less 'scientific'.

thus far to both literatures, one of the most striking contributions follows: that IR should be speaking of *food-borne illness and not purely 'infectious disease'* as a health security threat. The previous subsection tangentially did make this argument, as the routine control of POAO – whilst overlooked in existing literature – is at the very least partly concerned with prophylaxis, and preventing the introduction of zoonotic diseases (i.e. infectious disease) into the country/European Community. In this sense, the findings are not really inciting a complete 'rethink' of what health security should be understood as. Before offering a 'rethink' of health (in)security, I offer some thoughts on the relationship between everyday, routine practice, and erraticism: as noted earlier – this two-way relationship applies to both POAO and FNAO, but is (certainly from the fieldwork, at least) considerably more tangible with FNAO owing to sampling being more systematic.

4.4.1 The Imported Food Regime and Flux

In the previous chapter it was suggested that routine health security practice *could* directly instigate rupture: changes to conditions, which may in turn result in 'major' or 'minor' adjustments to practices as per Schatzki's typology. In essence, evidence found onboard a ship might result in the activation of relevant emergency plans. Yet in the case of infectious disease management, it does seem that irrespective of 'conditions' (for example a Public Health Emergency of International Concern (PHEIC) being declared, emergency plans being enacted and so on) *repetition and stability have primacy over flux*: going by the 2014/15 Ebola outbreak in West Africa, and more recently COVID-19, beyond (very) minor adjustments to and/or introduction of (very slightly) revised explicit background knowledge, little else appears to change[150]. Whilst there *is* certainly potential to 'change conditions' with the Ship Sanitation regime (and practices at airports), it does seem that 'potential' is the key word here: though certainly within the realms of possibility, in reality such changes apparently seldom occur.

As touched on in *Health Security that Matters*, with the imported food regime however (in particular FNAO), there is a much sharper, more tangible relationship between everyday practice and change: FNAO legislation (i.e. background knowledge) is – quite different to that of the Ship Sanitation regime (and infectious disease more broadly) – dynamic and in a constant state of flux. This is the upshot of a bidirectional relationship between 'doing' and

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[150] So in answer to the question: *What happens to practices themselves* under *certain conditions?* The 'crisis conditions' of COVID-19 have instigated very little change to the practices discussed in this chapter: put differently, (very) minor adjustments. Regulation 1341/2020 was introduced earlier this year and enumerates 'easements', *allowing* for all documentary checks to be based on electronic documents instead of the original signed documentation for *certain* commodities imported from third countries. It also *permits* non-OVs to help with physical checks.

'background knowledge'[151]. How then does this work? What follows unpacks this relationship, and also sheds light on routine detention/rejection practices (as noted earlier, this does apply to both POAO and FNAO). Turning firstly to the detention/rejection procedures: the above field observations from Stansted Airport describe routine sampling procedures prescribed in Regulation 669, which governs FNAO and 'emerging risks'. This particular consignment was released for onward travel to a bonded warehouse (but not immediately into free circulation), and ultimately passed the laboratory testing (at which point it did go into free circulation). However, let us hypothetically assume that the above sample of Kenyan green beans had failed the laboratory testing, or had failed any other import conditions specified in legislation – for instance an invalid CED, or not originating from approved and/or registered premises – in short, one of several courses of action would ensue:

- Sent for treatment: the consignment could be treated and/or processed to bring it in line with requirements (or with the requirements of the third country of dispatch) – this applies to FNAO only;
- Sent for other appropriate measures; non-compliant consignments may be processed to be used for purposes other than animal or human consumption (e.g. biomass) – this applies to FNAO only;
- Re-exported to a third country (i.e. a country not within the EU);
- If a consignment is believed to pose a risk to public health (or animal health) or a consignment has not been re-dispatched for whatever reason, official notice will be served to the agent and the consignment will be sent for destruction by incineration. Any costs for destruction must be met by whoever is responsible for the consignment (in other words the agent).

In very few circumstances following failed checks on consignments, and a notice being served for the requirement to re-dispatch or destroy, an appeal is brought to a Magistrates Court within one month of the notice being served. Invariably, however – certainly going by my experiences during the fieldwork – launching a legal appeal is deemed to be 'more effort than it's worth' (in the words of one PHO). Consignments are invariably sent for destruction by incineration; following an official notice being served to the agent, the relevant PHA will arrange with a contractor for the consignment to be collected and destroyed (a certificate of destruction will, in turn, be returned to the relevant PHA by the contractor). Details of 'border rejections' are then inputted into TRACES, and also the Rapid Alert System for Food and Feed (RASFF). Here lies the link between explicit background knowledge and routine

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[151] To briefly rehearse the legislation underpinning FNAO controls: Regulation 669/2009, and 884/2014 both outline official controls FNAO. Of particular concern here though is Regulation 669, which governs 'certain' FNAO, and unlike the POAO regulations discussed earlier (which, even following an outbreak event are fairly static) FNAO is much more dynamic. Regulation 669 controls products arriving from third countries, and is far more selective, expressly specifying *particular products* from *particular countries*, with particular risks identified, being oriented around the control of 'high risk' products, with 'high risk' equating to the presence of: contaminants (hence mycotoxins or aflatoxins); pesticides, or salmonella. In line with its control of *emerging risks* Regulation 669 changes every six months.

'doing'. RASFF is essentially a Europe-wide database enabling 'information to be shared rapidly and efficiently between the European Commission, food and feed control authorities in Member States and organisations whenever a health risk has been identified. In this way, countries can act quickly and in a coordinated manner, in order to avert food safety risks before they can harm consumers' (DG SANTEa). RASFF contains the details of any 'alert notifications' or 'information notifications': the former 'are sent when food or feed presenting a serious risk is available on the market and when rapid action is required', whilst the latter 'are used in the same situation, but when the other members do not have to take rapid action because the product is not on the market or the risk is not considered to be serious' (DG SANTEa). Crucially, RASFF also details the specifics of any border rejection: what was rejected, where, and why. Alert and information notifications are both typically regarding product recalls and outbreak events. How they 'work' is demonstrated with the following example from European Commission guidance on RASFF, which is worth quoting at some length:

> During routine monitoring by the Irish authorities of the food chain for a range of contaminants in late 2008, very high levels of dioxins – about 100 times the EU maximum level – were found in pig meat originating in Ireland. Investigations immediately started to determine the dioxin levels and to identify the possible source of contamination […] The Irish contact point informed the European Commission through RASFF on 5 December 2008 of the contamination incident. The Commission sent out an alert notification to all members. The use of contaminated bread crumbs produced from bakery waste was identified as the source and evidence indicated that the contamination problem was likely to have started in September 2008. The Irish authorities took no chance and initiated a comprehensive recall of all Irish pork produced since 1 September 2008. In less than two weeks more than 100 follow-up messages were received tracing the products – from raw meat to processed products containing Irish pork as one of many ingredients – involving as many as 54 countries among which 27 were RASFF member countries. Thanks to RASFF, these countries were able to take immediate action and to trace and recall pork and processed products that were possibly contaminated with dioxins before they were consumed. (DG SATNEb)

Alert and information notifications fall more within the bailiwick of – in Port Health jargon – 'inland regulatory work'. As such, for our purposes, the measures that follow border rejections are of more concern:

> If a risk is identified in a food or feed product that came from or was exported to a non-RASFF member [i.e. a third country], the European Commission informs the country in question. In this way, it can take corrective measures and thus avoid the same problem in the future. For example, it may remove a business from the list of approved companies that fully comply with EU legislation requirements and are allowed to export to the EU. When the guarantees received are not sufficient or when immediate measures are required, a decision can be made to take measures such as prohibition of import or systematic control at the EU borders. (DG SATNEb)

Whilst outright prohibition of given products is certainly an option in extreme cases, returning to the Kenyan green beans at Stansted described above (and with all FNAO, outlined in Regulation 669): assuming they had failed laboratory testing owing to pesticide residues, and

it had been found that border rejections across Europe had recently spiked, then the most likely 'corrective measure' to be introduced would be an increase in the frequency of sampling, as per Regulation 669. (If the sampling for the green beans had been specifically for mycotoxin levels, and there had a spike in fails across Europe, this may result in being placed on the more fixed, stable Regulation 884 governing aflatoxins.) Conversely, if the number of border rejections had recently dropped (along with perceived levels of risk to public health) then the frequency of sampling would be decreased – potentially culminating in green beans from Kenya no longer being included on Regulation 669 at all[152]. In sum, the notifications regarding border rejections on RASFF as routine 'doing' directly inform the fluid, constantly shifting Regulation 669, which in is turn is not based on intuition, but instead rigid procedures and laboratory testing – rather than intuition as described elsewhere in the thesis.

4.4.2 Beyond Infectious Disease: Towards (IR) Conceiving Food as a Security Problem

In some respects the control of POAO falls within accepted understandings about the nature of health security threats: earlier analysis of POAO controls spoke of how veterinary checks are designed to confirm the absence of contamination, and thereby prevent the introduction of infectious diseases (i.e. zoonotic and/or epizootic with potential for public health impact) into the country (and Europe). Some POAO may well be potential carriers of infectious disease, and certainly based on the fieldwork this is particularly visible with high risk POAO NHC: for example products being used for laboratory research, which accounted for a large proportion of the workload at Stansted Airport. This accepted understanding of infectious disease dominates the IR literature on health, and generally equates it with pathogenic microorganisms – bacteria, viruses, parasites or fungi – that have the potential to be spread, directly or indirectly, from one person to another[153]. Zoonotic diseases, on the other hand, are infectious diseases of animals that can cause disease following a breach in the species barrier, when transmitted to humans. The most tangible way in which this research challenges existing, pervasive understandings of infectious disease in the health security literature is the shift away from 'person-to-person' transmission. 'On the ground' – *in practice* – subjects (or vectors, or animals in the case of direct zoonoses such as rabies) are not the only means of disease being carried and disseminated: it is also material objects, rather than subjects that are regarded as potential vehicles of transmission to be managed and controlled. This materiality has been stressed throughout this chapter, particularly in *Health Security that Matters*. This

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[152] The inclusion of products on Regulation 669 in the first place is the upshot of random surveillance sampling, in turn resulting in RASFF alerts/notifications.
[153] Beyond infectious disease as defined here, IR *has* acknowledged the role of vectors in transmission.

however is not the only way the imported food regime challenges existing accounts of health security threats in IR.

Aside from the imported food regime stressing the central role of the food chain in the nascent health security 'threat' of antimicrobial resistance (fascinating and important, though unfortunately far beyond the scope of this thesis – see note 108) this chapter has also shown conspicuous disconnect between policy and practice, and academic literature: *foodstuffs themselves are regarded as health security problems in practice, and the IR engagement with health security should reflect this*. This latter point is now substantiated and unpacked in detail. Foodstuffs are not simply 'alternative', non-human and non-vector carriers of infectious disease as usually understood: the 'nasties' being controlled through the imported food regime, whether POAO or FNAO, go further than this. Direct engagement with routine practice reveals that checks on imports are in fact also controlling and assuring the absence of a vast range of *foodborne diseases*. With POAO – whilst zoonoses seemed to be OVs' *primary* concern (not because of their professional training as veterinarians, but because of their being embedded within Port Health as a community of practice[154]) – health certificates also give *assurance of sanitary (and phytosanitary) standard*s. This is particularly visible with POAO HC. One quote from earlier in this chapter is worth repeating verbatim at this point, along with two new ones. Firstly, an extract from the preface to the *Codex Alimentarius*:

> as many as *600 million people*, or almost 1 in 10, fall ill after *consuming contaminated food each year* – of these, *420,000 people die*, including 125,000 children under the age of 5 […] *The food on our plate may have arrived from the other side of the world*. Food is a sensitive commodity like no other: it can be affected by contamination by *microbes, heavy metals or toxins through production methods, soils or poor hygiene*. Food can be even tampered with intentionally via food fraud – either for economic reasons or with the intention to cause harm. (WHO and FAO, 2018: iv emphasis added)

Writing in 2015, the WHO claimed:

> *Safer food saves lives*. With every bite one eats, one is potentially exposed to illness from either microbiological or chemical contamination. Billions of people are at risk and millions fall ill every year; many die as a result of consuming unsafe food. (WHO, 2015: 3)

Writing earlier this year in the midst of the COVID-19 crisis, the WHO claimed that

> *Unsafe food poses global health threats, endangering everyone*. Infants, young children, pregnant women, the elderly and those with an underlying illness are particularly vulnerable. Every year 220 million children contract diarrhoeal diseases and 96 000 die. Unsafe food

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[154] Much like deciding to specifically target consignments from specific countries can be attributed to the 'Port Health community of practice' this focus is the upshot of knowledge 'that human individuals […] can acquire, because of their special and continual access to the location of the knowledge — which is the social collectivity [i.e. PHAs and Port Health more broadly]' (Collins, 2007: 261).

creates a vicious cycle of diarrhoea and malnutrition, threatening the nutritional status of the most vulnerable. (WHO, 2020 emphasis added)

Unsafe food poses global health threats, endangering everyone? Safer food saves lives? Startling figures notwithstanding, the explicit background knowledge from the WHO and the *Codex* (in Port Health parlance) is expressly treating contaminated food not a as food safety problem but as a *health security* problem. This is, quite conspicuously, mirrored by the regime attended to in this chapter. What is absolutely central to my point here though for advocating a move away from orienting research around infectious disease (as conventionally understood in IR) is from the *Codex*: food 'is a sensitive commodity like no other: it can be affected by contamination by microbes, heavy metals or toxins through production methods, soils or poor hygiene' (WHO and FAO, 2018: iv), and the fact that the same report not only claims that safer food saves lives, it highlights *31 food-borne agents* (bacteria, viruses, parasites, toxins and chemicals) that can directly or indirectly result in some *200 diseases*. Though beyond the reach of this thesis to elucidate specifics of each and every food-borne illness, to substantiate this: bacteria is exemplified by Salmonella, Campylobacter, or Enterohaemorrhagic Escherichia coli and 'are among the most common foodborne pathogens that affect millions of people annually – sometimes with severe and fatal outcomes. Symptoms are fever, headache, nausea, vomiting, abdominal pain and diarrhoea' (WHO, 2020).

foods involved in outbreaks of salmonellosis are eggs, poultry and other products of animal origin. Foodborne cases with *Campylobacter* are mainly caused by raw milk, raw or undercooked poultry and drinking water. *Enterohaemorrhagic Escherichia coli* is associated with unpasteurized milk, undercooked meat and fresh fruits and vegetables. *Vibrio cholerae* infects people through contaminated water or food. Symptoms include abdominal pain, vomiting and profuse watery diarrhoea, which may lead to severe dehydration and possibly death. Rice, vegetables, millet gruel and various types of seafood have been implicated in cholera outbreaks. (WHO, 2020)

Listeriosis (caused primarily by listeria monocytogenes bacteria) may result in miscarriage in pregnant women, or death of newborn babies. Though incidence is relatively low, 'listeria's severe and sometimes fatal health consequences […] count them among the most serious foodborne infections' (WHO, 2020). Able to survive low temperatures, listeria is found in unpasteurised dairy products and various ready-to-eat foods such as prepared sandwiches and deli meats. Viruses, exemplified by norovirus infections typically result in nausea and vomiting, diarrhoea and abdominal pain, and infected food handlers are generally the source of food contamination (WHO, 2020). Prions, infectious agents

composed of protein, are unique in that they are associated with specific forms of neurodegenerative disease. Bovine spongiform encephalopathy (BSE, or "mad cow disease") is a prion disease in cattle, associated with the variant Creutzfeldt-Jakob Disease (vCJD) in

humans. Consuming bovine products containing specified risk material, e.g. brain tissue, is the most likely route of transmission of the prion agent to humans. (WHO, 2020)

Parasites in some cases can be transmitted only through food – for instance fish-borne trematodes; others such as tapeworms (e.g. Echinococcus spp, or Taenia solium) 'may infect people through food or direct contact with animals. Other parasites, such as Ascaris, Cryptosporidium, Entamoeba histolytica or Giardia, enter the food chain via water or soil and can contaminate fresh ' (WHO, 2020).

This is a mere taste (pun intended) of the numerous foodborne illnesses and their causes. The obvious rejoinder at this point to IR thinking about health security threats beyond infectious disease is that the contaminants resulting in foodborne diseases are in many cases pathogenic agents: bacteria or viruses, zoonotic or otherwise. Consequently, basic principles of microbiology dictate that we cannot entirely divorce foodborne illness from simply regarding foodstuffs as novel, non-human ('novel' insofar as they are certainly underexplored in IR) carriers of infection or vehicles of transmission. Ingesting food (or water) contaminated with pathogens may result in a whole host of foodborne illnesses, which in turn are infections: ultimately, then, foodborne illnesses are infectious diseases. So in the case of POAO, as per explicit prescriptions that emerged following BSE, the primary driver of routine veterinary checks is confirming the absence of zoonotic/epizootic infectious disease: this applies to both POAO HC and POAO NHC. However, in performing documentary, identity and physical checks on POAO HC they are also seeking assurance of 'safe handling', 'hygiene' and so forth, and therefore the absence of pathogens with the potential to specifically cause foodborne illness. Similarly, with some FNAO – contingent on the product and specific risk being controlled – assurances are similarly being sought regarding the absence of foodborne illness causing pathogens (e.g. salmonella). So what exactly is my point, then?

If 'many food-borne diseases are caused by pathogenic agents' (i.e. they are infections) takes us full circle back to 'pathogens as problem', the fact that they cannot necessarily be spread from person-to-person changes this. If some food-borne illnesses are caused by pathogens, then said illness are, ultimately, infectious diseases insofar as they are caused by infection: foreign agents resulting in some form of immune response, and are no different from having a cut or graze become infected. In this regard, they are no different to the normal analytical foci of IR: influenza, Ebola, or similar. Whilst in terms of scale and dissemination, although contaminated green beans for example could easily be eaten by hundreds or thousands of people, yet foodborne diseases are not *contagious*, if at all: they are not easily and/or quickly transmitted through contact with an ill person (or said person's secretions) – as with

something such as influenza. BSE, for instance, is infectious and the consumption of bovine products is generally linked with the transmission of the prion agent to humans, yet BSE is certainly not contagious – human-to-human transmission is unheard of. Listeriosis cannot be regarded as contagious. Salmonella *can* be transmitted through the oral-faecal route, and therefore can 'technically' be transmitted from person-to-person, but 94% of cases are the upshot of ingesting contaminated foods. It is rarely transmitted from person to person (CDC, 2013: 2).

The imported food regime, then, stresses how IR has (rightly or wrongly, and *mea culpa*) equated infectious/communicable/transmissible disease with contagious disease. Given this, with POAO there must be a distinction: between POAO being conceived as potential carriers of zoonotic or epizootic *contagious disease* (the conventional view in IR but with non-human materiality), and POAO also being conceived as carriers of zoonotic *infectious disease* – or, in other words, *foodborne disease*. Notwithstanding, equating foodborne illness with pathogens is myopic: the above may well be the case, but it is only so with only *some* of the contaminants controlled at points of entry – infectious pathogenic agents are only half the story. On the matter of chemical contamination, which underpins the control of all FNAO (with the exception of those being controlled for contamination with salmonella), and, albeit to a less visible extent with POAO, numerous non-pathogenic contaminants – some naturally occurring, some not – have the potential to result in numerous non-transmissible diseases. In sum, foodstuffs are not merely implicated in the transmission of contagious *or* infectious (i.e. foodborne) diseases:

> Naturally occurring toxins include mycotoxins, marine biotoxins, cyanogenic glycosides and toxins occurring in poisonous mushrooms. Staple foods like corn or cereals can contain high levels of mycotoxins, such as aflatoxin and ochratoxin, produced by mould on grain. A long-term exposure can affect the immune system and normal development, or cause cancer. Persistent organic pollutants (POPs) are compounds that accumulate in the environment and human body. Known examples are dioxins and polychlorinated biphenyls (PCBs), which are unwanted by-products of industrial processes and waste incineration. They are found worldwide in the environment and accumulate in animal food chains. Dioxins are highly toxic and can cause reproductive and developmental problems, damage the immune system, interfere with hormones and cause cancer. Heavy metals such as lead, cadmium and mercury cause neurological and kidney damage. Contamination by heavy metal in food occurs mainly through pollution of air, water and soil. (WHO, 2020)

Similarly, some FNAO are controlled to ensure compliance with maximum limits for pesticide residues in food and water, many of which can be toxic to humans having both acute and chronic health effects, depending on the manner and level of exposure. 'Some of the older, cheaper pesticides can remain for years in soil and water. These chemicals have been banned from agricultural use in developed countries, but they are still used in many

developing countries' (WHO, 2018). FNAO controls also ensure the non-use of many older (i.e. non-patented) pesticides, which are banned under the 2001 Stockholm Convention. Many older pesticides still in use are genotoxic (i.e. resulting in damage to DNA, which can in turn cause cancer). Regarding pesticide use more broadly, the FAO estimates that

> in developing countries, 80% of the necessary increases in food production keep pace with population growth are projected to come from increases in yields and the number of times per year crops can be grown on the same land[…]Pesticides can prevent large crop losses and will therefore continue to play a role in agriculture. However, the effects on humans and the environment of exposure to pesticides are a continuing concern. (WHO, 2018)

Aside from stressing that IR should be looking beyond infectious diseases as security problems – or strictly speaking given the above discussion, *contagious* disease – and should incorporate food into analysis of health security, what about the broader upshot of the above discussion? Working alongside the Ship Sanitation regime, all of the practices discussed in this chapter – as Schatzki's sites of the social – sustain and reify an 'inside Europe/outside Europe' logic in and through a continual cordon sanitaire. The practices therefore reproduce broader (i.e. global, structural) social relations and hierarchies: as per analysis in the previous chapter, this is because social relations cannot be reduced to abstract representation alone and only 'are' in and through practice. In sum, *the imported food regime is predicated on the assumption that any POAO and specific FNAO from outside Europe pose potential health security threats to countries within the European Community*. Though this has been stressed throughout this chapter, highlighted by the WHO noting that older, cheaper pesticides are 'still used in many *developing* countries', there is more to be said about the Europe/third country dichotomy beyond demarcation and linking risk with place – specifically about this dichotomy in relation to foodstuffs.

The complete and utter randomness of the European edifice of controls notwithstanding – Turkish dried fruits (which may contain dioxins, which can cause cancer) are controlled, as are Kenyan green beans (which may contain pesticide residues, which can cause cancer) but, perversely, EU countries are more than happy to import tobacco (which definitely does cause cancer) – there is a paradox, or at the very least an irony, at the heart of food controls – both POAO HC and FNAO. I do not necessarily doubt that some foodstuffs from third countries do have the potential to cause foodborne illnesses. However, I would argue that the *real* problem with foodborne illnesses is not *outside* Europe at all (or indeed outside the Global North more broadly), but is actually *in* Europe itself. Throughout the fieldwork RASFF alerts would frequently appear in the relevant PHA's inbox – most days in fact. Many of these would be concerning border rejections due invalid paperwork/health certificates, failed laboratory tests, and so on (border rejection being synonymous with a failed consignment

from a third country). Yet the vast majority of the alerts would *not actually be concerning products from third countries at all*, but instead from *foodstuffs produced in Europe itself*. A cursory glance at the RASFF website confirms that this was not a flash in the pan but is recurrent. Recent (September 2020) examples of alerts include: 'Salmonella in chilled chicken meat from chickens reared in Slovakia and slaughtered in Poland', 'Listeria monocytogenes in chilled smoked sliced trout from Latvia', and 'Salmonella in chilled beef trimmings from the Netherlands'. These examples (of myriad) are hardly much of an advert for good, safe, wholesome European food.

My point? Legislation establishes clear boundaries between safe and (potentially) threatening, and crucially constructs (and attempts to fix) foods from third countries and foods from the developing world as a source of danger. The practices I have discussed in this chapter enact and enable this dichotomy to 'be', to 'hang together'. Yet, the great irony of the European 'food as a health security problem' regime is that it entirely overlooks the fact that not all, but the *majority of zoonotic foodborne risks, and indeed many zoonotic health security risks more broadly are created by our own intensive, industrial, Western agricultural practices* (see, for example, Wallace, 2016). What better place is there to breed pathogens than a monocultural barn overcrowded with sixty thousands chickens? Or a similar setup with thousands of cows or pigs? As Wallace (2016) argues in his magisterial *Big Farms Make Big Flu*: many of the most threatening 'new' human diseases can be traced back to such intensive agricultural food systems (including anything from Campylobacter to Nipah virus, Q fever to hepatitis E, and a variety of novel influenza strains/variants). Reducing (foodborne) health risks, then, to 'anything coming from elsewhere' is myopic and outdated, and this has been highlighted with the pernicious, xenophobic COVID-19 ('Chinese Virus'...) scapegoating:

> The history of civilization has hinged on the building and demolition of boundaries between species. Early agriculture disregarded most of the natural world in order to cultivate only the most productive plants and animals; this allowed populations to grow and cities to flourish. But crops and livestock, once they were concentrated in one place and cultivated in monocultures, became vulnerable to disease. As cities and farm operations grew, people and animals crowded closer together. The result was a new epidemiological order, in which zoonotic diseases—ones that could jump from animal to human—thrived.

> By the seventies, big poultry companies were churning out so many chickens that they had to invent new products—chicken nuggets, chicken salad, chicken-based pet food. Large corporations bought up local producers of poultry, pork, and beef; feedlots grew to the size of fairgrounds; hen houses dwarfed neighborhood strip malls. Farms went from being small operations with an average of seventy chickens to factories housing thirty thousand birds. In the eighties, with the Blue Revolution, the industrial farming of fish expanded, too. *From 1980 to 2018, the global production of animals for consumption grew about one and a half times faster than the world population*. (Brown, 2020 emphasis added)

Writing in the *New Yorker* earlier this year (in one of the most thoughtful and articulate pieces written about COVID-19), Kate Brown rightly notes that even if the ongoing pandemic did

emanate from so-called 'wet-markets' in Wuhan (at the time of writing it is perhaps too early to tell), *it simply does not matter*. The scapegoating and the blame game neglects that the unfolding, global tragedy of COVID-19 is less of a public health crisis, and more of an *ecological one*: the consequence of the exploitation and corruption of 'worldwide ecological networks that bind all us together' (Brown, 2020). The Global North is as culpable – and probably more so than anywhere else – of this exploitation and creating the 'new epidemiological order'. After all, where else other than the Global North has been at the vanguard of neoliberal economics and putting surplus value over use value?

4.5 Conclusion

This chapter has offered unique insights into routine prophylactic practice at the UK Border, and much like the previous chapter it sheds light on 'the space between' (responses to) singular public health events. However, unlike Chapter 3 – which describes what we would *probably* expect to find taking place routinely (or certainly not that far from what we would expect) – this chapter sheds light on the mechanics of an additional (deeply selective) cordon sanitaire by way of the enforcement of stringent European and domestic legislation. Predicated on the assumption that health security threats are exogenous – an inside/outside dichotomy, this cordon sanitaire controls a variety of *imports* – namely, though not exclusively, *foodstuffs* emanating from *outside* Europe. As with the previous chapter and in line with this thesis' theoretical approach, this chapter began by outlining the European (and to a lesser extent domestic) legislation: the explicit prescriptions that give these practices meaning and context, before moving on to engage with the empirical findings of the extended periods of non-participant observation. Markedly at odds with prevailing narratives in the IR engagement with health security, which focuses primarily on infectious disease, this chapter's primary finding is showing that material objects – particularly foodstuffs – rather than subjects are routinely controlled due to their (potential) impact on animal and public health, but not necessarily because of their potential to be carriers of zoonotic/epizootic infection. This in turn stressed a) the role of veterinary knowledge/expertise rather than medical; and b) the distinct materiality of health security threats beyond the corporeality of embodiment. As many of the practices aim to control not only presence of zoonoses but also ensure sanitary production methods, the IR engagement with health should also be speaking of *foodborne disease* as a health security problem. Whilst many foodborne diseases *are* caused by pathogenic agents (i.e. are, ultimately, infectious diseases) but are not what could be described as contagious, this chapter has suggested that IR should be not only be speaking of foodborne disease but should be making distinctions between *infectious* disease and *contagious* disease.

Conclusion

Writing earlier this year in the article, *Why the COVID-19 response needs International Relations,* Wenham and Davies (2020: 1227) eloquently note:

> The pandemic disease caused by the novel coronavirus (COVID-19) is a political problem as much as it is a public health tragedy. Politics has been at the core of how governments have prepared for and responded to this crisis. Political decisions have beleaguered or improved outbreak management, sometimes irrespective of the strength of a health system, clearly demonstrating the political determinants of public health. However, more often than not, politics is presented as an ignoble irritant in contrast to the public health domain […] Yet, as is clear from the different government responses to the outbreak itself, technical decisions require political decisions about who should be consulted, who should provide advice, which models should be used, what policies should be implemented, how such policies should be enforced, and who should be trusted in the international arena.

Cocooned in my office, with the auburn hues of autumn 2020 outside my window as I write, the world is in turmoil. Health security could hardly be a more urgent area of research. COVID-19 has tragically shown that health security research is not simply about interrogating how governments have prepared for (or otherwise) the pandemic. Nor is it about interrogating responses. Nor is it simply about scrutinising core capacities and adequate (or otherwise) health systems. Health security research is, ultimately, about interrogating the social and political determinants of health: core capacities, health systems and how governments have prepared for and responded to COVID-19 bear direct impact on individuals. *Politics is determining how the SARS-COV-2 virus spreads and determining who lives and who dies.*

Yes, the health/security nexus does have a centuries-long history, and the merging of health issues with national/international security became increasingly visible in the post-Cold War era. This has given rise to a sizeable body of literature, which this thesis speaks and contributes to. However, it does seem that the global tragedy of COVID-19 has highlighted the importance and urgency of furthering our knowledge and understanding of the linkages between health and security. Moreover, and crucially, COVID-19 has highlighted the salience and importance of understanding *how health security actually works – routinely – in practice*: how are health security *risks managed*? What mechanisms are in place and what do they do? Who is responsible for them? What expertise and knowledge is at play? How is risk determined? How are health security decisions made? This thesis has gone considerable way to advancing our knowledge of such health security routines and answering such questions – at least in the case of the UK border.

Questions surrounding everyday routines have been, by and large, unexplored in the existing health security research. As a result of the dominance of the securitisation framework, existing research focuses on the *framing* and *response* to major outbreak events, as well as the

broader socio-political implications of this. Whilst not 'wrong' as such, this focus is superficial: critiques and revisions of securitisation note that its 'logic' is predicated on presentism and decisionism – a Schmittian 'crisis modality'. Critical security studies has long stressed the significance of looking beyond moments of rupture by showing that security works routinely at an everyday level, outside the domain of the exception, and not simply in response to singular events.

Assuming a practice-theoretical position, and adopting a novel praxiographic methodology, the starting point of this research was to ask: *how* is health security practised, *where*, by *whom*, and to *what* (if any) *effect*? This thesis was guided by the central research question: *how is health security practised everyday at the UK Border?*

In contrast to, and in an attempt to move away from 'panic politics' securitisation-informed accounts, which dominate the literature and tend to draw attention to (the) emergence (of exceptional measures) and consequently deemphasise everyday routines and risk management, *this thesis has contributed the first in-depth empirical analysis of routine health security practice at the UK Borde*r. Propelled by the belief that it is important to look beyond moments of rupture and, consonant with shifts in critical IR scholarship, away from 'security as discourse' towards 'security as practice'*, and in answer to the central research question, this thesis reveals that a cordon sanitaire is in place all the time.* The central research question was addressed by seeking *proximity* to practitioners (in this case PHOs and OVs), undertaking extended periods of non-participant observation, and paying particular attention to the *moving bodies, material objects, and background knowledge* – both tacit and explicit – at play constantly. This thesis was split into four substantive chapters.

The first chapter presented a critical review of the existing literature on health security. Whilst a vibrant and diverse literature is apparent, its focus was an epistemological critique of securitisation theory. Despite the contributions securitisation has made to critical security studies – not least studies of health security – securitisation has been the subject of much criticism. This chapter showed how securitisation – the upshot of its crisis modality – forecloses thorough engagement with everyday routines and risk management. The second chapter engaged with the interdisciplinary practice literature, as well as the STS literature on knowledge production, and outlined this thesis' theoretical and methodological commitments. The first half of the chapter presented a theoretical discussion of practice theory and particularly tacit knowledge, whilst the latter half presented a methodological discussion, and described the praxiographic research design, as well as corresponding methods I employed – namely non-participant observation. The third chapter was the first of two empirical chapters

and discussed the mechanics of routine infectious disease prophylaxis: the Ship Sanitation Regime. It began by tracing the evolution of the explicit *background knowledge* underpinning Ship Sanitation, before moving on to engage with the everyday mechanics of this regime. The fourth chapter followed much the same structure, but instead attended to the second regime introduced above: the 'imported food regime' – the enforcement of controls on import. Engagement with this latter regime was never intended from the outset: its workings – and the fact another important strand of routine health security practice at the border exists at all – were discovered through the praxiography and seeking proximity to practitioners.

Contribution

This thesis has made five key contributions. The primary contribution of this thesis is *illuminating the mechanics of prophylactic procedures in place continually, rather than emergent measures put in place in response to public health events*. In sum, this thesis reveals that *a cordon sanitaire is in place continually*. This cordon sanitaire can be split into two separate though interlinked regimes.

First, a robust edifice of prophylactic controls designed to prevent the importation of infectious disease into the country is in evidence at seaports. This regime entails the sanitary inspection of all international voyaging ships, which are required to hold a valid Ship Sanitation Certificate (SSC), which PHOs are responsible for the issuance and monitoring of. In short, SSCs are certificates confirming the absence of public health risks on board ships, the issuance of which follows the inspection of a ship's galley; pantry/stores; quarters; evidence of vectors/standing water; potable and ballast water; solid and medical waste; engine room; and medical facilities. Throughout the fieldwork, which is detailed in this thesis, over seventy Ship Sanitation inspections and 'boarding inspections' (in essence spot checks) – were observed. Strangely, though, the fieldwork revealed that there is no such regime at airports and Chapter 3 engaged with this apparent anomaly at length.

The second regime deals with the enforcement of stringent European and domestic legislation managing and controlling a variety of imports – mainly, though not exclusively, *foodstuffs*. POAO are controlled due to their potential to be carriers of zoonotic/epizootic infection. This thesis has therefore highlighted the role of *veterinary* medicine and expertise in health security practice: something largely missed by the IR literature on health security. Moreover there is a distinct *materiality* to this regime: this thesis has shown how prosaic, everyday *objects* are treated in UK health security practice as (potentially) threatening to public health. Preventing the introduction of zoonoses through the control of POAO accounts for much of this prophylactic regime, this thesis has also stressed the importance of looking at health

security beyond infectious disease. Challenging existing narratives in IR, which focus on communicable disease, the praxiography also revealed that foodstuffs are routinely controlled due to their (potential) impact on animal and public health, but not necessarily because of their potential to be carriers of zoonotic/epizootic infection. As such, this thesis has shown that IR's engagement with health should also be speaking of *foodborne disease* as a health security problem. From this core empirical contribution – *that a cordon sanitaire is in place continually* – flow four further key contributions.

The second contribution is theoretical and is related to routine/exception debates. How do the routines I have investigated relate to the exceptional measures on which most of the health security literature focuses? Accepted knowledge and conventional wisdom would tell us that COVID-19 will have engendered emergence and considerable change to the routine practices discussed in this thesis: in other words the crisis conditions of COVID will have seen emergent exceptional measures implemented at the UK Border. Yet to my surprise, travelling back down to Gatwick in March 2020 to carry out some further observations, I was bitterly disappointed. In the words of one participant over coffee in one of the airport hotels, it was 'business as usual' and 'there's nothing else to see'. Manchester PHA's website similarly notes how they are 'continuing to work as *normal* throughout this period'. Seemingly, then, the everyday trumps moments of crisis: the Ship Sanitation regime appears to be functioning as it would 'normally', and the lack of a comparable regime at UK airports remains; exactly the same can be said of the regime controlling imports.

As such, in the case of health security practices at the UK Border, then, there is reason to suggest that stability, repetition, and ordering have primacy over erraticism and emergence. Contrary to securitisation-based studies' highlighting of exceptional emergent practices, the routine and the exception are seemingly much the same – and should not necessarily be viewed as being in opposition. This second contribution can be unpacked further: assumptions in literature that the making of health security can be reduced to securitising moves are not necessarily 'wrong' per se, but certainly superficial. Owing to practice theory's performative ontology, this thesis has shown that health security is *made continually*, and not purely in and through securitising speech acts with exceptionalist grammar. Virtually everyday throughout the fieldwork I observed embodied acts that were '*securitising'*. Whilst dull and unsexy (compared to the drama and spectacle of securitisation), encounters on board ships were not bidirectional exchanges. Instead, these encounters should be regarded as embodied acts of establishment: instances in which risks or potential 'dangers' were identified, as were appropriate means of rectifying them. In sum, this thesis has stressed the importance of looking *beyond the exception*.

The third contribution is empirical. The cordon sanitaire I speak of is a deeply selective one. With the Ship Sanitation regime there is a mentality of 'all ships are risky but some are riskier than others'. Put differently, there is clear evidence of exclusionary logics still being enacted, and risk and danger are linked intrinsically with *place*. With the management of imports, similar logics were apparent: *all* POAO from outside Europe are subject to official controls, whilst foodstuffs more broadly (i.e. both POAO and FNAO) from the developing world are treated as a particular source of (potential) danger. Securitisation-informed accounts of health security *do* consider the emergence of exclusionary logics. However, the upshot of focusing on singular events is that such studies neglect how such logics are sustained 'in practice' and have *continual* effects.

This thesis' fourth contribution is theoretical, but this time not in relation to exception/routine debates but rather in relation to security decisions. One of the most striking findings of the fieldwork was that practitioners seemingly '*just knew*' that something 'didn't *feel* right' and '*just* knew' what course of action to take. How – if at all – is it possible to 'just know' something? To answer questions of 'just knowing' I turned to science and technology studies (STS) and introduced the idea of *intuition* in relation to security practice, in particular how intuition informs everyday security *decisions* – something, as yet, given little to no attention in IR. The upshot of tacit background knowledge – practical, 'hands on' know how – intuition means impulses about judgements or decisions: patterns that have been built up over time, and lead to making sense of a given situation, and what course of action to take, instinctively, without conscious, deliberate reasoning. Intuition though, as I said earlier in the thesis, is *not* in any way synonymous with 'bad practice' or 'sloppy work'. As the knowledge involved in security decisions is under-theorised in IR, this discussion on intuition is an invaluable contribution to our understanding of the everyday and locality in security decision-making.

The fifth contribution is methodological. My approach to health security practice could guide and inform further praxiographic research: whilst not necessarily foolproof, it does elucidate a rigorous research strategy that could be applied successfully to not just further studies of health security, but across critical security studies. Moreover, the original empirical findings in this entire thesis are the product of looking beyond the exception and seeking *proximity* to the world of practice. In this sense, the findings should be viewed as a call for those 'turning' to practice to not necessarily just assume a practice theoretical position, but *to get out and to dive into the field*.

Limitations and Further Research

As with all research – bound by the strictures of time, resources, and practical issues – this thesis does have a number of limitations. Firstly, I only undertook observations at five sites with limited resources and within a relatively short period of time: ideally longer periods of observations in more sites would have taken place. Given the lack of research on health security routines (generally, and specifically in the UK) detail and depth was prioritised over breadth. That said, from conversations with participants over the year, I am not entirely convinced undertaking longer periods of fieldwork nor engaging with a greater number of sites would have actually added much value to this thesis (beyond bearing witness to (slightly) different local procedures). In the words of one participant: 'once you've seen one CVED, you've seen them all'. They were being disingenuous and doing themselves (and the Port Health profession) a disservice, but I appreciate their point: it is unlikely that more fieldwork would have dramatically changed the picture presented in this thesis.

This aside, I made the conscious decision to focus on health security practice *at the border*. The rationale for this choice was intuitive (and discussed at length in Chapter 2): the threat from infectious disease is understood as inherently predicated on contagion – pathogens' ability to 'travel' from one 'place' (i.e. state or region) to another, *across borders*, thereby 'threatening' the social and political body. As such, an intuitive analytical focus was the ways in which states (in the present case the UK) attempt to *manage health risk* to 'the inside', in turn rendering 'the outside' intelligible in terms of risk/potential health threat. Whilst empirically rich, and presenting a detailed portrait of health controls at the UK's territorial limits (as beyond PHAs there is no other presence at the UK Border), this thesis does not address all facets of routine health security practice in the UK. Reducing routine practice to what I have discussed is myopic: questions surrounding what routine practices are occurring 'inland' are unanswered in this thesis. The work of local resilience forums and PHE in the UK, for example, have not been addressed in this thesis, and contingent on access, a praxiographic study of their everyday routines would no doubt yield fascinating results.

Given that the Ship Sanitation regime is, ultimately, a global one, and the imported food regime is European-wide, perhaps more pressing is the lack of engagement in this thesis with border practices in other countries. Again though, rigour and depth has always taken priority over breadth given the lack of studies attending to health security routines. Notwithstanding, further research – perhaps a comparative study – of Ship Sanitation would be edifying. Anecdotal evidence from conversations with ships' crews suggests that there *are* differences in how inspections are undertaken, and importantly *who* is undertaking them: when boarding ships, we were occasionally asked if we were doctors (my understanding is that in Germany,

for instance, Ship Sanitation inspections are undertaken by medical doctors). As flattering as being mistaken for a doctor was, this does highlight the worth of further engagement with the Ship Sanitation regime: hopefully this study marks merely the beginning. A study of infectious disease control and implementation of the IHR *at airports* would similarly make for deeply edifying reading: is the rather pallid response to COVID-19 in the UK the rule or the exception (no pun intended)? Beyond the *implementation* of IHR, a valuable area of future enquiry would be praxiographic research at the WHO itself, and orienting enquiry around questions such as: how are regulations and guidelines (i.e. the explicit background knowledge I have described in this thesis) *made*? What are the routine practices at the WHO?

Similarly, the mechanics of the imported food regime in other European countries is certainly worth further exploration – as is returning to the sites I engaged with. Shortly after the main period of fieldwork finished, new European legislation was introduced (November 2019) meaning that BIPs and DPEs are no more having been replaced with BCPs (Border Control Posts) and CVEDs and CEDs have been replaced with Common Health Entry Documents (CHEDs). Substantively though, certainly based on a read of amended regulations (2019/2007/EU) the practices themselves do not appear to have changed drastically (if at all): veterinary controls are still comprised of documentary, identify and physical checks. Changes to European legislation, though, are academic. Whilst (fortunately or otherwise, depending on political proclivities) obscured by COVID-19, a brief note on the matter of *Brexit*. Needless to say, the fieldwork I have detailed in this thesis was undertaken whilst the UK was still part of the European Union. Following the end of the so-called transition period, between January and July 2021 the practices at the UK Border will begin to enact domestic, rather than European, legislation (none of participants I worked with knew why this staggered approach was decided). Markedly little will change to the import processes from non-EU countries, however as the UK will come to be classed as a third country from 1 January 2021, this does mean that UK will be operating a full, external border with Europe. The upshot of this is that imports from the EU will be controlled. For both EU and non-EU imports Import of Products, Animals, Food and Feed system (IPAFFS) will be used rather than TRACES – the only real change to the latter. What is certainly worthy of future research is the state of Port Health – particularly the imported food regime – in the wake of Brexit and what bearing (if any) the UK's departure from Europe has had on the practices I attend to herein: will Brexit (as a 'condition') instigate minor changes or a major rupture? To paraphrase Schatzki: will, as of 1 January 2021, the imported food regime rupture and completely break down?

A final limitation, and something highlighted by the COVID-19 pandemic, this thesis does not engage with questions surrounding the *efficacy* of the prophylactic mechanisms in place.

Admittedly, this was never my intention and the primary objective from the outset was – quite simply – to describe and analyse health security's patterns of action: nothing more, nothing less. A future research agenda could engage with such questions, and this thesis' findings could be used to inform public health decision-making, as well as policy implementation and coordination – both domestically and globally. First and foremost, I am an IR scholar, and my work is rooted in practice theory. I am aware that the theoretical discussion in Chapter 2 may seem abstract and impenetrable to public health professionals (probably to the point of inviting little beyond fury). Notwithstanding, this thesis *is* policy-relevant. In particular, the IHR is *the* 'primary international instrument and governance mechanism that guides collective behaviour in the event of a disease outbreak' (Davies and Wenham, 2020: 1235). Central to the implementation of this *primary international instrument* at ports is the Ship Sanitation regime. As the WHO suggest of this:

> SSCs are of particular importance for the prevention and control of public health risks on board ships on international voyages. They provide internationally recognized documentation regarding the sanitary conditions of a ship, while reducing the need for further and more frequent inspections of the ship during the period for which the certificate is valid (but with options for additional inspections under certain limited circumstances). (WHO, 2011: 15)

Put differently, then, questions about the Ship Sanitation regime being fit for purpose (or otherwise) could be addressed in future research. Similarly, and perhaps more pressing: I have highlighted in this thesis how airports and air travel (*in the UK, at least*) are curiously devoid of routine infectious disease practices. The Ship Sanitation regime has no equivalent at airports. That I travelled down to Gatwick Airport in March 2020 and was met with not only disappointment ('it's business as usual…'), but was also met with hundreds, maybe thousands of inbound travelers from northern Italy and Spain is – in hindsight – perverse, and frankly terrifying. As such, how and why infectious disease control and commercial air travel seems to have been *forgotten*, almost, is worthy of rigorous exploration.

For all these potential lines of enquiry, my hope above everything is that the good people of the strange world of Port Health who made this thesis possible (and, of course, their work) are not overlooked in research.

Appendices

Appendix 1: Model Ship Sanitation Certificate (Control and Exemption)

MODEL SHIP SANITATION CONTROL EXEMPTION CERTIFICATE/SHIP SANITATION CONTROL CERTIFICATE

Port of .... Date: ....

This Certificate records the inspection and 1) exemption from control or 2) control measures applied

Name of ship or inland navigation vessel .... Flag .... Registration/IMO No. ....

At the time of inspection the holds were unladen/laden with ...... tonnes of .... cargo

Name and address of inspecting officer ....

Ship Sanitation Control Exemption Certificate

Areas, [systems, and services] inspected	Evidence found[1]	Sample results[2]	Documents reviewed
Galley			Medical log
Pantry			Ship's log
Stores			Other
Hold(s)/cargo			
Quarters:			
- crew			
- officers			
- passengers			
- deck			
Potable water			
Sewage			
Ballast tanks			
Solid and medical waste			
Standing water			
Engine room			
Medical facilities			
Other areas specified - see attached			
Note areas not applicable, by marking N/A.			

No evidence found. Ship/vessel is exempted from control measures.

Name and designation of issuing officer ....

[1] (a) Evidence of infection or contamination, including: vectors in all stages of growth; animal reservoirs for vectors; rodents or other species that could carry human disease, microbiological, chemical and other risks to human health; signs of inadequate sanitary measures. (b) Information concerning any human cases (to be included in the Maritime Declaration of Health).

[2] Results from samples taken on board. Analysis to be provided to ship's master by most expedient means and, if re-inspection is required, to the next appropriate port of call coinciding with the re-inspection date specified in this certificate.

Sanitation Control Exemption Certificates and Sanitation Control Certificates are valid for a maximum of six months, but the validity period may be extended by one month if inspection cannot be carried out at the port and there is no evidence of infection or contamination.

Ship Sanitation Control Certificate

Control measures applied	Re-inspection date	Comments regarding conditions found

Control measures indicated were applied on the date below.

Signature and seal .... Date ....

ATTACHMENT TO MODEL SHIP SANITATION CONTROL EXEMPTION CERTIFICATE/SHIP SANITATION CONTROL CERTIFICATE

Areas/facilities/systems inspected[1]	Evidence found	Sample results	Documents reviewed	Control measures applied	Re-inspection date	Comments regarding conditions found
Food						
Source						
Storage						
Preparation						
Service						
Water						
Source						
Storage						
Distribution						
Waste						
Holding						
Treatment						
Disposal						
Swimming pools/spas						
Equipment						
Operation						
Medical facilities						
Equipment and medical devices						
Operation						
Medicines						
Other areas inspected						

[1] Indicate when the areas listed are not applicable by marking N/A.

Appendix 2: Model Maritime Declaration of Health

MARITIME DECLARATION OF HEALTH

To be completed and submitted to the competent authorities by the masters of ships arriving from foreign ports.

Submitted at the port of	Date
Name of ship/inland navigation vessel	Registration/IMO No
Arriving from	Sailing to
(Nationality)(Flag of vessel)	Master's Name
Gross tonnage (ship)	
Tonnage (inland navigation vessel)	
Valid Sanitation Control Exemption/Control Certificate carried on board?	

Issued at	Date	
Re-inspection required?		

Has ship/vessel visited an affected area identified by the World Health Organisation?
Port and date of visit

List ports of call from commencement of voyage with dates of departure, or within past thirty days, whichever is shorter:

Upon request of the competent authority at the port of arrival, list crew members, passengers or other persons who have joined ship/vessel since international voyage began or within past thirty days, whichever is shorter, including all ports/countries visited in this period (add additional names to the attached schedule):

(1) Name	joined from: (1)	(2)	(3)
(2) Name	joined from: (1)	(2)	(3)
(3) Name	joined from: (1)	(2)	(3)

Number of crew members on board

Number of passengers on board

Health Questions

(1) Has any person died on board during the voyage otherwise than as a result of accident?
   If yes, state particulars on attached schedule.   Total no. of deaths

(2) Is there on board or has there been during the international voyage any case of disease which you suspect to be of an infectious
   nature? **NO** If yes, state particulars in attached schedule.

(3) Has the total number of ill passengers during the voyage been greater that normal/expected?   How many ill persons?

(4) Is there any ill person on board now?   If yes, state particulars in attached schedule.

(5) Was a medical practitioner consulted?   If yes, state particulars of medical treatment or advice provided in attached schedule.

(6) Are you aware of any condition on board which may lead to infection or spread of disease?
   If yes, state particulars in attached schedule.

(7) Has any sanitary measure (e.g. quarantine, isolation, disinfection or decontamination) been applied on board?
   If yes, specify type, place and date

(8) Have any stowaways been found on board?   If yes, when did they join the ship (if known)?

(9) Is there a sick animal or pet on board?

Note: In the absence of a surgeon, the master should regard the following symptoms as grounds for suspecting the existence of a disease of an infectious nature:

- (a) fever, persisting for several days or accompanies by (i) prostration; (ii) decreased consciousness; (iii) glandular swelling; (iv) jaundice; (v) cough or shortness of breath; (vi) unusual bleeding; or (vii) paralysis.
- (b) With or without fever; (i) any acute skin rash or eruption; (ii) severe vomiting (other than sea sickness); (iii) severe diarrhoea; or (iv) recurrent convulsions.

I hereby declare that the particulars and answers to the questions given in this Declaration of Health (including the schedule) are true and correct to the best of my knowledge and belief.

Signed _____   Countersigned _____
    Master   *Ships Surgeon (if carried)*

Date _____

ATTACHMENT TO MODEL OF MARITIME DECLARATION OF HEALTH

Name	Class or rating	Age	Sex	Nationality	Port, date joined ship/vessel	Nature of illness	Date of onset of symptoms	Reported to a port medical officer?	Disposal of case [1]	Drugs, medicines or other treatment given to patient	Comments

---

[1] State: (1) whether the person recovered, is still ill or died; and (2) whether the person is still on board, was evacuated (including the name of the port or airport), or was buried at sea.

Appendix 3: Blank CVED

EUROPEAN COMMUNITY   **The Common Veterinary Entry Document, CVED**

Part 1: Details of consignment presented	

1. Consignor / Exporter	2. CVED reference number
☐	
	Border Inspection Post
	ANIMO Unit Number
3. Consignee	4. Person responsible for load
5. Importer	6. Country of origin + ISO code 7. Country from where consigned + ISO code
	8. Delivery address
9. Arrival at BIP (estimated date)	10. Veterinary documents
	Number(s)
11. Vessel name / Flight No.	Date of issue
Bill of Lading No./ Airway Bill No.	Establishment of origin(where relevant)
Wagon / Vehicle / Trailer No.	Veterinary approval number

12. Nature of goods, Number and type of packages	13. Commodity Code (CN, minimum first 4 digits)
	14. Gross weight (kg)
	15. Net weight (kg)

Temperature   Chilled: ☐   Frozen: ☐   Ambient: ☐

16. Seal number and Container number

17. Transhipment to ☐	18. For transit to 3rd Country ☐
EU BIP ANIMO unit no.:	To 3rd Country + ISO code
3rd country 3rd Country ISO code:	Exit BIP: ANIMO unit no.:

19. Conform to EU requirements	20. For re-import ☐
Conforms ☐	
Does NOT conform ☐	

21. For internal market	22. For NON- Conforming consignments
Human consumption: ☐	Customs warehouse ☐ Registered No.
Animal feedingstuff: ☐	Free zone or Free warehouse ☐ Registered No.
Pharmaceutical use: ☐	Ship supplier ☐ Registered No.
Technical use: ☐	Ship ☐ Name
Other: ☐	Port

23. Declaration	Place and date of declaration
I, the undersigned person responsible for the load detailed above, certify that to the best of my knowledge and belief the statements made in section I of this document are true and complete and I agree to comply with the legal requirements of directive 97/78/EC, including payment for veterinary checks, for repossession of any consignment rejected after transit across the EU to a third country (Article 11.1.c), or costs of destruction if necessary.	Name of signatory
	Signature

Part 2: decision on consignment

24. Previous CVED: No ☐ Yes ☐ ☐ Reference number:	25. CVED Reference Number:
26. Documentary Check: Satisfactory ☐ Not satisfactory ☐	27. Identity Check: Seal check ☐ OR Full identity check ☐ Satisfactory ☐ Not satisfactory ☐
28. Physical Check: Satisfactory ☐ Not satisfactory ☐ Not done 1. Reduced checks regime ☐ 2. Other ☐	29. Laboratory Tests: No ☐ Yes ☐ Tested for: Random ☐ Suspicion ☐ Results: Satisfactory Not satisfactory Released pending a result ☐
30. ACCEPTABLE for Transhipment: EU BIP ☐ ANIMO unit no.: 3rd country ☐ 3rd Country ISO code:	31. ACCEPTABLE for Transit Procedure ☐ To 3rd Country + ISO code Exit BIP: ANIMO unit no.:
32. ACCEPTABLE for Internal Market For Free Circulation Human consumption: ☐ Animal feedingstuff: ☐ Pharmaceutical use: ☐ Technical use: ☐ Other: ☐	33. ACCEPTABLE if channelled Article 8 procedure ☐ Re-import of EU products (Article 15) ☐
	34. ACCEPTABLE for Specific Warehouse Procedure(Articles 12.4 and 13) Customs warehouse ☐ Free zone or Free warehouse ☐ Ship supplier ☐ Direct to a ship ☐
35. NOT ACCEPTABLE 1. Re-export ☐ 2. Destruction ☐ 3. Transformation ☐ By Date:	36. Reason for Refusal 1. Absence/Invalid certificate ☐ 2. Non approved country ☐ 3. Non approved establishment ☐ 4. Prohibited product ☐ 5. ID: Mis-match with documents ☐ 6. ID: Health mark error ☐ 7. Physical hygiene failure ☐ 8. Chemical contamination ☐ 9. Micro biological contamination ☐ 10. Other ☐
37. Details of Controlled Destinations (33-35) Approval no (where relevant): Address:	
38. Consignment Resealed New seal no:	
39. Full identification of border inspection post/competent authority and official stamp.	40. Official Veterinarian I the undersigned official veterinarian, or designated official agent, certify that the veterinary checks on this consignment have been carried out in accordance with EU requirements. Signature: Name (in Capital): Date:
41. Exit Transit BIP: Formalities of exit from the EC and checks made of transiting goods confirmed in accordance with Article 11.2(e) of Directive 97/78/EC:	42. Customs Document Reference:
	43. Subsequent CVED Number(s):
Date: Stamp	

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