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Conceptualizing business logistics as an ‘apparatus of security’ and its implications for management and organizational inquiry

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Peter Fleming 
University of Technology Sydney, Australia

Richard Godfrey 
The Open University, UK

Simon Lilley
University of Lincoln, UK

Abstract

Global commodity capitalism necessitates the fast and efficient movement of all manner of entities across the globe. Importantly, this commercial flow needs to be secured against the undocumented and unregulated flow of illegitimate people, finance and information, counterfeits, drugs, terror and other undesirables. The *organizational practices* of business logistics are central for achieving this objective. Yet they have received little attention in management and organization studies to date. We suggest a fruitful avenue is via Foucault’s notion of ‘biopower’ – particularly his less discussed concept (in management studies, at least) of an *apparatus of security*. This is useful for understanding the emergent organizational/management practices of security in the border spaces in which business logistics operate. If ‘Society Must Be Defended’, as Foucault ironically notes in his famous lecture series that introduces biopower, then so too must contemporary organizations and their net-like activities within the global economy.

Corresponding author:

Richard Godfrey, Department for Strategy & Marketing, The Open University Business School, Michael Young Building, Milton Keynes, MK7 6AA, UK.

Email: richard.godfrey@open.ac.uk

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apparatus of security, biopower, business logistics, Foucault, supply chains

Introduction

Put simply, the central concern of business logistics is the management of the global circulation of ‘stuff’ (Forman, 2018) through the most efficient, effective and economical means possible. This circulation operates through a ‘single continually flowing system’ (Martin, 2012: 360), informed by the regulation of spatial and temporal commercial networks. In addition, it promotes ‘a specific spatio-temporal ideology, that of global space-time as knowable, legible, and thus controllable’ (Martin, 2012: 360). But there is one catch. The integrity and stability of this spatio-temporal network is increasingly subject to a range of natural and manmade disruptions, most recently the COVID-19 pandemic and conflict in Ukraine. The necessity of protecting global logistical networks thus drives practices of securitization, particularly through the creation of new ‘border zones’ like ports, interchange hubs and continental transportation systems. Threats consist of (a) undesirable cargo such as drugs, weapons and counterfeit commodities, or movement in undesirable persons, including terrorists, trafficked humans and ‘illegal’ immigrants and (b) interruptions caused by unanticipated events – wars, pandemics, natural disasters, cyberattacks and so on – that jeopardize the free flow of goods in the supply chain (Forman, 2018). So integral has securitization become to business logistics that Cowen (2014: 602) suggests it has even ‘recast the geographies of national security’, displacing the national state as the primary locus of policing and risk management.

Although business logistics and its securitization require specific modes of management and organization, little of this has been explored in our field to date. The supply chain and risk management literatures touch on it, of course, but in a prescriptive/managerial manner that is generally disinterested in the critical organizational problems we believe logistical networks raise. Our article addresses this shortfall by arguing that novel insights about business logistics can be generated for organizational research if we approach it as a form of *biopower*, a concept developed by the French philosopher, Michel Foucault. The notion of biopower has attracted increased attention in organization studies (particularly in this journal), but less discussed has been what Foucault termed an *apparatus of security*, as described in his early lectures on biopolitics (i.e. *Society Must Be Defended* (1976/2003) and *Security, Territory, Population* (1978/2007)). We contend this remains an untapped idea in organization studies. Moreover, it permits us to analyse business logics and its securitization in a fashion that generates relevant insights for studying management and organizations today, especially (but not exclusively) for researchers interested in what Fleming (2022) calls ‘biopolitical organizations’.

In what follows, we will demonstrate how studying business logistics as an ‘apparatus of security’ sheds light on a number of key organizational problems and issues. First, biopolitical regulation (which we define shortly) works not only through ‘subjectivity’ but as an institutional and super-individual constellation or ‘assemblage’, coordinating bodies and ‘stuff’ that challenge conventional socio-economic boundaries. Hence why management too becomes concerned with bio-security risks in the network. Second, the

idea of an apparatus shifts the frame of analysis beyond single organizations and emphasizes flows *between* and *through* organized assemblages, which evokes a distinct managerial approach. And third, this subsequently problematizes the neoliberal distinction between public and private organizations, one that is often reproduced in studies of biopower in management studies. From this perspective, we can understand how business logistics interlinks governments and the private sector into a formidable inter-organizational force, which also sparks interesting tensions between the two spheres, deserving further attention in (critical) management scholarship.

In short, our claim is this: by analysing business logistics as an apparatus of security, a new vista of organizational phenomena becomes visible, one that has much potential for future research on this and related trends currently shaping organized capitalism. With this aim in mind, the article is structured as follows. First, we define and explain our conceptual lens – Foucault’s notion of biopower as an ‘apparatus of security’. Here we also present an overview of how biopower has been previously discussed in management studies, differentiating our approach apropos an ‘apparatus of security’. Then we examine business logistics from this perspective before unpacking the key implications it has for management/organizational scholarship. Finally, the article concludes by reflecting on the importance of Foucault’s later works for contemporary management studies in relation to business logistics and beyond.

The birth of biopower

For several decades management scholars have been drawn to the ideas of Michel Foucault to explain contemporary organizational phenomena. Until recently, ‘disciplinary power’ received much of the attention. But now Foucault’s (1976/1978, 1976/2003, 1978/2007, 1979/2008) concept of *biopower* – developed during the final decade of his career – is becoming increasingly popular (see Ahonen et al., 2014; De Souza and Parker, 2022; Fleming, 2013, 2014, 2022; Moisander et al., 2018; Moonesirust and Brown, 2021; Munro, 2012; Norbäck, 2021; Walker et al., 2021; Weiskopf and Munro, 2012). For Foucault, biopower represents a form of governmentality that operates alongside sovereign power (the use of direct violence – including death – by a centralized sovereignty) and disciplinary power (the confinement, training and surveillance of individuals to render them docile). Key here is Foucault’s distinction between disciplinary and biopolitical modes of regulation. Rather than train subjects in confined settings (e.g. prisons, schools, factories, etc.), biopower aims to regulate the bios (or ‘life itself’) of populations via new statistical sciences, tracking births rates, mortality, life expectancy, longevity and so on. Life is nominally ‘left alone’ to manage itself – as per the precepts of liberalism and neoliberalism – but is regulated nevertheless via techniques introduced into the social body. For this reason, biopower (or what Foucault initially refers to as a ‘new nondisciplinary power’) is considerably distinct to discipline:

Unlike discipline, which is addressed to bodies, the new nondisciplinary power is applied not to man-as-body but to the living man, to man-as-having-being; ultimately, if you like, to man-as-species . . . the new technology that is being established is addressed to a multiplicity of men, not to the extent that they are nothing more than their individual bodies, but to the extent

that they form, on the contrary, a global mass that is affected by overall processes characteristic of birth, death, production, illness, and so on. So after a first seizure of power over the body in an individualizing mode, we have a second seizure of power that is not individualizing but, if you like, massifying, that is directed not at man-as-body but at man-as-species. (Foucault, 1976/2003: 242–243).

In other words, both disciplinary power and biopower supplement and partially displace ‘sovereign power’ in the late 18th and 19th centuries as classic liberalism refashioned statecraft. Sovereign power, which dominated Europe during the Ancient Regime, is essentially about the state’s right to kill its subjects or permit them to live. The violent and visible execution of criminals, heretics and other undesirables is emblematic of sovereign power. But it was inefficient, sporadic, costly and unpredictable. It also left too much of society unregulated between each violent display of authority. Industrial commerce posed significant problems for sovereign power too, out of which emerged disciplinary power and biopower. In the last lecture of *Society Must Be Defended* (1976/2003: 247), Foucault makes a key distinction between sovereign power and biopower via an analytical inversion:

Beneath that great absolute power, beneath the dramatic and somber absolute power that was the power of sovereignty, and which consisted in the power to take life, we now have the emergence, with this technology of biopower, of this technology of power over ‘the’ population as such, over men insofar as they are living beings. It is continuous, scientific, and it is the power to make live. Sovereignty took life and let live. And now we have the emergence of a power that I would call the power of regularization, and it, in contrast, consists in making live and letting die.

This technique of governmentality focuses on the regulation of life processes among the population, including longevity, birth/death rates, illnesses and heredity. But this is not only about physiology. Biopower also concentrates on social patterns linked to the body – or biosocial characteristics – including delinquency, mental illness, crime and sex. Once a probability norm is established using statistical forecasting, the population is governed according to generalizable grids. Any actual or projected variance from this ‘distribution of life’ is deemed a potential threat to security, largely calculated in economic terms: a cost/benefit analysis regarding how life is lived by society as a whole. Is it more expensive to reform a convicted criminal than to incarcerate them indefinitely? Do the economic advantages of allowing labour to freely enter a town outweigh the possible dangers of the black market, crime or plague?

As Elden (2016) points out, Foucault was notoriously tentative and vague when defining biopower, approaching it from numerous angles and perspectives between 1976 and 1979 (or, the period from which it is introduced in *The History of Sexuality* (published in 1976) and the subsequent Collège de France lectures *Society Must Be Defended* (delivered in 1976), *Security, Territory, Population* (delivered in 1978) and *The Birth of Biopolitics* (delivered in 1979)). For example, in *Society Must Be Defended*, terms like ‘massification’ appear to conceptualize biopower as a macro-governmental strategic policy. This is a theory of how populations are managed. Whereas Foucault’s rendition in *The Birth of Biopolitics* (1979/2008) some three

years later studies the micro-personification of neoliberal economics – *homo oeconomicus* or ‘economic man’. *Homo oeconomicus* is reconfigured as an ‘entrepreneur of himself’ (Foucault, 1979/2008: 226). Given this focus on economic individualism in *The Birth of Biopolitics* (1979/2008), it is understandable why it has become the go-to text for management scholars researching the gig economy, entrepreneurship and economic ‘responsibilization’. We will now briefly summarize this literature in order to contextualize our distinct contribution concerning business logistics as an ‘apparatus of security’.

Homo oeconomicus in the workplace

In *The Birth of Biopolitics*, Foucault analyses the transition from classical political economy to neoliberal economics, as shaped by US neoclassicists, Austrian libertarians and German ordoliberalists. Foucault views this movement (typically rallying against Socialist, Keynesian and neo-Ricardian frameworks) as symptomatic of a new mode of governmentality or ‘art of government’. For example, Human Capital Theory – developed by Gary Becker – transforms human life into an economic activity per se, invariably displacing the boundary between bios and the economy. Individuals are reclassified as ‘entrepreneurs of themselves’ or mini-capitalists who treat life itself as a business opportunity. Subjectivity is significantly altered as a result. Biopower hence consists of:

. . . generalizing the ‘enterprise’ from within the social body or social fabric . . . The individual’s life itself – with his relationships to his private property, with his family, household, insurance and retirement – must make him into a sort of permanent and multiple enterprise. (Foucault, 1979/2008: 241)

Neoliberal governmentality looks like a celebration of the free individual. In reality, however, it fixes the wider rules of life via the market mechanism. Only then is *homo oeconomicus* putatively free to play that game to the best of his or her abilities. This is how life itself is put to work, as personal decisions are framed by opportunity costs, interest rates, taxes and subsidies, inflation, contract law and so on. In this respect, governments manage people from a distance through ‘systematic modifications artificially introduced into the environment’ making ‘homo oeconomicus someone who is eminently governable . . . a correlate of governmentality’ (Foucault, 1979/2008: 270).

This interpretation of biopower has been influential in organization studies because it helps explain how new employment systems tap the life resources and personal attributes of workers. Whereas old-school Taylorism and bureaucracy strictly policed the formal/informal and paid/unpaid boundary, biopower conspicuously erodes it. Markets and life merge. Fleming (2014: 883, emphasis in original; also see Fleming, 2013) explores this, arguing that biopower is:

. . . a highly embodied form of regulation, since our jobs are no longer defined as something we *do* among other things, but what we *are*. Hence, the logic of the factory comes to increasingly define more moments of what was once nonproduction . . . Ominously, we are now permanently poised for work.

Similar studies have noted this insidious economization of life in and around the new economy. Moonesirust and Brown (2021) evoke biopower to understand how Volkswagen workers are enveloped by the discourse of entrepreneurship. Biopower functions by activating *homo oeconomicus* and enlisting his/her 'autonomy to shape its self and its life within constraints imposed by dominant discourses and practices that insist on who one should be' (Moonesirust and Brown, 2021: 518). Moisander et al. (2018) similarly argue that biopower explains why self-employed gig workers toil so diligently for their de facto employers. Despite the precarity patently present, biopower fosters, 'a community of active and productive economic agents who willingly reconstitute themselves and their lives as enterprises to pursue self-efficacy, autonomy and self-worth as individuals' (Moisander et al., 2018: 375). Norbäck (2021: 428) observed a related process among freelance journalists, maintaining that biopower makes them:

. . . embrace a subjectivity that enforces competition, personal responsibility and autonomy [and] the self becomes an entrepreneurial subject defined and ruled by the ideas of personal responsibility and value maximization, combined with a fundamental understanding that these aspects are empowering and liberating.

Management scholarship focusing on *The Birth of Biopolitics* (1979/2008) has produced some excellent insights about emergent organizational power relationships. However, it is worth recalling the ambiguity about where we locate this third lecture series within the overall project. As Foucault (1979/2008: 317) himself admitted when concluding *The Birth of Biopolitics*, 'this year's course ended up being devoted entirely to what should have been only its introduction. The theme was to have been biopolitics . . .'. This is why Elden (2016: 93) describes it as 'a course that has a misleading title'. In any case, when examining business logistics, we believe Foucault's earlier theorization is more suitable, particularly ideas developed in *Security, Territory, Population* (1978/2007). For sure, this version of biopower contains valuable and vibrant insights about organizations, individuals and subjectivity linked to business logistics management today.

The apparatus of security

In 1976, Foucault published (the first volume of) *The History of Sexuality* and delivered the lecture series *Society Must Be Defended* at the Collège de France. Both texts see a new term introduced, albeit only tentatively: *biopower*. In the final chapter of *The History of Sexuality*, Foucault digresses from sexuality and introduces biopower as a system that complements disciplinary power, and which together with it forms two poles. The first pole pertains to the disciplines charged with making the human body more economically efficient, useful, optimized and so forth. The second pole, however:

. . . focused on the species body, the body imbued with the mechanics of life and serving as the basis of biological processes: propagation, births, and mortality . . . with all the conditions that can cause these to vary. Their supervision was effected through an entire series of interventions and *regulatory controls: a biopolitics of the population*. (Foucault, 1976/1978: 139, emphasis in original)

As Agamben (2000) and Deleuze (2006) importantly note, Foucault is not simply hypostasizing organic life or *zoē* (a term that goes back to Aristotle's analysis of what humans share with other animals) as a basis of power, but political life too or *bios* (what is unique to humans). In the final lecture of *Society Must Be Defended* (1976/2003), Foucault outlines how he plans to approach biopower in the year to come, which provides some useful insights: 'biopolitics deals with the population, with the population as political problem, as a problem that is at once scientific and political, as a biological problem and as power's problem' (Foucault, 1976/2003: 245). After taking a sabbatical year in 1977, Foucault's 1978 lecture series *Security, Territory, Population* sees biopower move front and centre. *Security* of the population and its socio-economic regulation is a central motif. Biopower consists of techniques that make certain behaviours more probable with respect to real or perceived internal/external threats (e.g. mass disease, famine and drought, economic jolts, crime, terrorism, etc.). Foucault presents the example of theft. Under the old sovereign-judicial system, this crime was publicly prohibited and punished, often violently so (i.e. amputating hands, hangings, etc). In the 18th century, disciplinary power steps in and the crime is regulated by direct police surveillance and corrective retraining (e.g. penitentiaries, workhouses, barracks, etc.). At the same time biopower emerges too, which is different again. It represents an 'apparatus of security' that tackles criminality as a statistical problem: 'one establishes an average considered as optimal on the one hand, and, on the other, a bandwidth of the acceptable that must not be exceeded' (Foucault, 1978/2007: 21). This discourse of crime is essentially based on questions of threat, risk and economic cost:

[H]ow much does this criminality cost society, what damage does it cause, or loss of earnings, and so on? When one has caught the culprit, what will it cost to punish him? Can he really be reeducated? Independently of the act he has committed, is he a permanent danger such that he will do it again whether or not he has been reeducated? (Foucault, 1978/2007: 21)

Similarly, how can a smallpox epidemic be managed to ensure it does not destroy the economy (Foucault mentions the containment of pandemics numerous times in *Security, Territory, Population*)? Or how can the benefits of international commerce be accrued without facilitating illegal trade, people trafficking, the black market and so on? This emphasis on security stems from the way liberalism ostensibly 'lets things happen', encouraging mobility and circulation of labour, money, capital, goods and services, debt and so on (Foucault, 1978/2007: 68). But such nominally free circulation renders governmentality paranoid since it can harbour potential threats and uncertainties that demand administration. In this respect, 'the apparatuses of security work, fabricate, organize, and plan a milieu even before the notion was formed and isolated. The milieu, then, will be that in which circulation is carried out' (Foucault, 1978/2007: 36). Carefully governing this circulation is vital because – with respect to people, illnesses, commodities and so on – it inherently contains unknown risks and hazards.

Once again, these may appear like large-scale governmental policy questions, far removed from individuals and organizational practices. However, Foucault is at pains to eschew this conventional micro/macro conceptual split. Indeed, biopower would be pointless if it did not regulate individual behaviour in an effective manner. Think here of

the theft example mentioned earlier. Biopower statistically locates a given criminal act ‘within socially and economically acceptable limits and around an average that will be considered as optimal for a given social functioning’ (Foucault, 1978/2007: 21). The plan is to create a *pre-emptive* feedback loop that affects individual actors, orientating them towards generalizable outcomes. Over time, the population is nudged in a certain direction (towards criminality or not) and self-regulates within this normative spectrum, largely observing the zones of acceptability when it comes to behaviour.

A central concept Foucault uses to understand biopower is an ‘apparatus of security’, which is a key idea we wish to use to analyse business logistics. An ‘apparatus of security’ refers to the way abstract systems of statistical forecasting, modelling and profiling are practically deployed to regulate social activity. These organized practices are catalysed by perceived internal and external threats to the social body, including epidemics and illnesses, economic crises and chronic unemployment, terrorism and political extremism. Security is not much of an issue in a closed society, except in relation to invasion and war. But that changes when the idea of *circulation* becomes important in the 18th and 19th centuries. It stems from classic liberalism and its insistence that people and commodities must be mobile in order to generate value. That mobility, however, harbours decisive dangers, involving the ‘good’ but also the ‘bad’ flow of people, money, goods and services.

The word *apparatus* is an English translation of Foucault’s term *dispositif* and has been the topic of much discussion regarding its meaning (it is generally accepted that the word ‘apparatus’ does not completely capture what Foucault meant). When pressed to explain the idea, Foucault (1980: 198) said it refers to power ‘employed and exercised through a net-like organization’. Moreover:

What I’m trying to pick out with this term is, firstly, a thoroughly heterogeneous ensemble consisting of discourses, institutions, architectural forms, regulatory decisions, laws, administrative measures, scientific statements, philosophical, moral and philanthropic propositions – in short, the said as much as the unsaid. Secondly, what I am trying to identify in this apparatus is precisely the nature of the connection that can exist between these heterogeneous elements. Thirdly, I understand by the term ‘apparatus’ [*dispositif*] a sort of – shall we say – formation which has as its major function at a given historical moment that of responding to an urgent need. (Foucault, 1980: 194–195)

Raffnsøe et al. (2016) point out that the notion of ‘apparatus’ (or *dispositif*) has frequently been misunderstood in organization studies. It should not be confused with an isolated organization since an apparatus is fluid or ‘net-like’ and can cross numerous institutional boundaries. They prefer the term *dispositive* instead, a multi-institutional strategy of power that aims ‘to set in order, to arrange or array, to dispose, or to form’ (Raffnsøe et al., 2016: 277). A *dispositive* has close associations with a military campaign: ‘if a military strategy designates the process of *planning*, the dispositive would designate the very operation of the *plan* in time and space, with the means at hand, and with regard to the characteristics of the adversary’ (Raffnsøe et al., 2016: 277, emphasis in original). Building on this approach, Villadsen (2021: 473) argues that the concept ‘conceives of organizations as pervaded by multiple dispositives that interact, reinforce

or contradict one another'. In other words – and echoing Deleuze's (1992: 159) famous treatment of the apparatus as 'multilinear ensembles' – a dispositive is a 'strategy connecting up procedures, regulations, instruments, institutions and statements' to achieve certain outcomes (Villadsen, 2021: 475). We conceptualize apparatuses of security in the same way. Namely, an inter-organizational net that spans several organizations and operationalizes a strategic agenda. As such, it aims to achieve 'control over relations between the human race, or human beings insofar as they are a species, insofar as they are living beings, and their environment, the milieu in which they live' (Foucault, 1976/2003: 245).

Business logistics as an 'apparatus of security'

Although Foucault's arguments in *Society Must Be Defended* and *Security, Territory, Population* may first appear beyond the remit of organizational analysis, especially the notion of an apparatus, we aim to illustrate otherwise. We do so by examining business logistics from this perspective, arguing that it generates several fascinating insights and implications for management/organizational scholarship. This is particularly so, in Foucault's (1978/2007: 34) words, with respect to, 'organizing circulation, eliminating its dangerous elements, making a division between good and bad circulation, and maximizing the good circulation by diminishing the bad'.

Logistics emerged as a management practice following the post-Second World War growth of the US economy and an emerging global market for US commodities (Bonacich and Wilson, 2008). The shipping of components and products back and forth across the globe led to a pressing need for more sophisticated ways of administering supply chains and tracking inbound and outbound logistics. A number of innovations in supply chain management occurred in the 1970s and 1980s that transformed the role and importance of logistics:

[T]he diffusion of a system analytics approach to transportation, communication, and the spatial organization of the firm, the introduction of the shipping container, the formation of business organizations and academic programs for the generation and transmission of logistical knowledge, the interlinking of logistics science with computing and software design, and the move from a cost minimization to a profit maximization approach. (Neilson, 2012: 323)

Collectively, these changes came to be known as the 'logistics revolution' (Bonacich and Wilson, 2008) and marked a shift away from the simple process of inbound and outbound logistics to system-level integration, increasingly at the global level. However, the logistics revolution was more than just the application of science to the distribution/storing of goods that a population requires to subsist. Rather, it conferred 'the rationalization and deliberate management of spatial organization within the firm' (Cowen, 2010: 614). The need for cargo to move without restriction or delay, especially within a just-in-time production matrix, became a key imperative of global capitalism. To achieve this, 'practices of measurement, standardization, and calculation devised in the military sphere are adapted for civilian purposes that revolutionize business and management practices' (Neilson, 2012: 323).

Ensuring that supply chains are *secure* now becomes a central priority. However, and based on our reading of Foucault, this securitization of business logistics extends well beyond the confines of ensuring the safe and timely delivery of goods. We argue instead that business logistics (in part, at least) functions as a complex and sophisticated biopolitical apparatus of security, managing tensions arising between the commercial imperative to facilitate the free and efficient flow of bodies/cargo across the globe and the nation state's need to protect its borders at a time when security, threat, restriction and disease are central to the policy decisions of many governing bodies.

These tensions were epitomized by the COVID-19 pandemic: on the one hand, procurement of vital supplies – including medical supplies, foodstuffs and toilet paper, as it turned out – had to be secured during the unprecedented upheaval. On the other hand, as governments became ultra-concerned with managing populations as a biological collective, the flow of people was closely curtailed in an attempt to halt the spread of the virus. For example, flights between many locations were subject to bans as the disease spread and its variants were mapped. Moreover, the two hands were endlessly entangled, with the movement of bodies, such as those of truck drivers, appearing as both essential to the supply of vital goods and a source of contagion as they crossed borders with those goods, perhaps best exemplified by the queues of thousands of drivers and their trucks awaiting tests at the France–UK border in late 2020 (see, for example, Picheta and Abdelaziz, 2020).

When interpreted as an apparatus of security, business logistics is reconfigured as a series of networked spaces that must be regulated, managed and secured. A new cartography emerges that displaces traditional geographical borders, creating novel spaces or 'zones' (Easterling, 2016) through which goods flow and transient populations are managed. In the following sections, we consider three aspects of business logistics that illuminate the importance of Foucault's theorization of biopower for management and organization studies: first, we examine the border as a critical node in the security apparatus of business logistics; second, we discuss the security risk posed by workers employed in logistical spaces; and third, we focus on actors who invariably attempt to exploit this security apparatus and move illegally across border zones.

Inter-organizational border zones

Borders operate as a barrier, determining what can and cannot pass from one space to another. They constitute a technology of power, regulating inclusion and exclusion, what stands inside and outside. For Newman (2006: 184), the major function of a border is to separate collective identity from its 'other':

[T]he determination of just what can and cannot move beyond the border is a function of how the power elites of a given society or country view the border as an institution which protects those who are on the 'inside' or are 'here' from the (perceived) negative impact of those who have been excluded and are on the 'outside' or are 'there'.

It is at the border where, following Foucault, territory, security and population intersect. And biopower – as an apparatus of security – becomes the means for managing their

interaction, discerning a fine balance between regulation and movement within the social body. For this reason, the border is both mobile and multiple, as Amoore (2006: 337) observes:

. . . the management of the border cannot be understood simply as a matter of the geopolitical policing and disciplining of the movement of bodies across mapped space. Rather, it is more appropriately understood as a matter of biopolitics, as a mobile regulatory site through which people's everyday lives can be made amenable to intervention and management.

One of the ways in which the tension between flow and security (at the border) has been resolved is through the creation of *secure zones* in the supply chain, including logistics hubs, ports and distribution centres where sovereign laws/regulations are suspended and superseded by supranational laws pertaining to the movement and circulation of stuff. These manufactured spaces are often termed 'Special Economic Zones' or 'Freeports' (Easterling, 2016) and are crucial to the securitization of logistics. Here, distinct security practices are employed – the checking of cargo and containers – and undocumented or illegitimate cargo detained, thereby accelerating the flow of stuff on its onward journey.

Much of the security apparatus at the border is designed to improve the speed and efficiency of the movement of legitimate cargo while identifying, tracking and isolating unwanted movement, whether that be in the form of goods, peoples, pollutants, criminality or some designated 'other'. This has resulted in a shift from a blockade approach to one that channels and monitors flows using ever more sophisticated surveillance technologies (Cowen, 2010). In this respect, the border is rarely static (as depicted on the map) but constantly in flux, categorizing objects and peoples as desirable, approved, permitted or restricted.

So large and complex have these secure zones become, they have been termed 'logistics cities', 'geographical concentrations of related industries situated around one or more international trade gateways adjacent to a metropolitan area' (Sengpiehl et al., 2008: 59). They include not only the infrastructure necessary for the logistics industry but also an integrated mix of manufacturing firms, business services, transport agencies, retail outlets, medical facilities and even research and education centres, such as those found at King Abdullah Economic City in Saudi Arabia, New Songdo City in South Korea, Cyberjaya in Malaysia and HITEC City in Hyderabad.

Bio-managerialism and logistical labour

One of the greatest threats to the smooth circulation of goods across border zones is the human bodies that perform much of the logistical labour in these spaces. Therefore, it is unsurprising that much of the security apparatus focuses on management, control, surveillance and often removal of these bodies. Human threats can come from organized labour movements, sabotage or delays caused by injury and death, slowing down the movement of just-in-time processes in these often-precarious workplaces (Cowen, 2014). Surveillance also aims to identify 'human error', such as workers packing items incorrectly or truck drivers making too few deliveries or not doing so in a timely fashion.

The invention and widespread adoption of the *shipping container* was critical for managing the risk posed by logistical labour. Estimated to carry 90% of consumer goods across the globe (Heins, 2015), as well as many of the components and raw materials that go into making those commodities, the shipping container is a fundamental technology for the global movement of stuff. At any one time, over 300 million containers are in circulation around the world (Martin, 2012). With the shipping industry alone valued at US\$334 billion in 2019 (Calleja and Barry, 2019), Levinson (2006, cited in Cowen and Smith, 2009) even suggests that the container is the single most important invention in the globalization of trade. The movement of these containers has become increasingly automated, reducing labour costs and ‘human error’ in the network: it now takes just 20 people to ship 3000 containers containing 100,000 tons of goods from Hong Kong to Germany (Parker, 2013).

Logistics hubs have been configured to meet the needs of the container, as have the communities who work in these spaces. Parker (2013) notes how the picking and packing of containers has become a Taylorized process of solitary activity. Dock workers who once would ‘pride themselves on their skill in stuffing odd-shaped articles into unusual spaces’ (Parker, 2013: 375) are today dramatically fewer in number and simply oversee robots loading the containers. This is aligned, according to Birtchnell and Urry (2015), with attempts to undermine trade union activity among dock workers. By largely automating the work of logistics, the threat of industrial action is significantly diminished. The deskilling this causes also encourages a more disposable and transient population of workers, which makes management easier and more cost effective.

According to Parker (2013), the container’s need for security manufactures a perception of perpetual danger among its managers. This is exacerbated by their vast numbers, inciting a new administrative mentality that carries more ‘baggage’ than the physical container alone. For sure, ‘a simple account of the economics and technology of the container cannot manage to capture so much of the other baggage that the container carries with it’ (Parker, 2013: 369), much of which is imagined to be a dark threat to the system. Indeed, the container constitutes not so much a ‘thing’ as a ‘blankness’: namely, something that is used to disguise, hide, conceal or enclose other things, producing a dialectical tension between the container and the need to contain.

Furthermore, many of the workers employed in these border zones are drawn from mobile populations that are shipped into and out of these locations, thus constituting an additional risk. In the UAE, for example, logistical labour is not drawn from local residents but peoples from Africa, India and South-East Asia. Somewhat perversely, those exploited in the logistical labour process are often the very same groups that the (state) seeks to otherwise restrict from entering the country, using ‘increasingly hostile immigration regimes and racialized state security’ (Vernon, 2021: 217; also see Tsing, 2009). Contained within these logistical hubs for fear they may ‘contaminate’ the local populace, workers are subject to body searches, biometric checks and continual surveillance. In other words, the very living life processes of workers – *bios* – is closely integrated into the logistical network process, overseen by CCTV cameras and private security forces (Cowen, 2014). Dubai Logistics City (DLC), one of the first and the largest border zones, is a case in point. Here, workers are controlled through electronic biometric access technologies and syncopate their bodies with advanced digital surveillance (Cowen, 2014).

Workers are housed in a so-called 'Labour Village', an urban space of high rise, small apartment blocks that enclose workers within the DLC. Cordoned off in their villages, workers simply lack the security credentials to access 'high-class and prosperous securitized areas of the city' (Easterling, 2016: 47).

This intersection between the body, security and population management in business logistics provides an interesting point of entry for organization studies. Classic processes of disciplinary power can certainly be observed within these spaces, especially in relation to productivity, surveillance (e.g. screening) and resistance (see, for example, Dörflinger et al., 2020). However, from a biopolitical viewpoint, one that emphasizes the apparatus of security underlying this 'augmented despotism' (see Delfanti, 2019), living labour has been recalibrated as a logistics problem concerning the flow, supply, blockages (or 'choke points') and threats within the network. Working bodies are both necessary and yet highly dangerous, triggering (what we might term) a *managerial ideology of suspicion*. It sees danger everywhere. Additionally, the apparatus of security is netted across several institutional vectors. Labour is a shifting nodal point that activates management practices in government (who wish to protect their 'legitimate' populations), local port authorities (who aim to collect maximal rents with minimal disruptions), security firms (who electronically 'tag' occupants of the 'Labour Villages') and a complex constellation of logistical administrators that manage the network. In other words, we cannot understand the biopolitics of business logistics without considering this assemble of multiple actors, which forms a kind of fluid 'partial-organization' (Ahrne and Brunsson, 2011) because its parts do not form a singular enterprise.

Border security at the 'seam' and its uncertainties

So utterly efficient have border zones become, with their schedules, timetables, transportation routes, that *predictability* itself has become one of their greatest security risks. Put differently, their very success paves the way for deep operational uncertainties among an array of stakeholders, which shape the management and institutional models associated with an apparatus of security. For instance, the tightening of borders and restricting of the flow of illicit goods and people (encouraged by national policies, quotas and public pressure) sets off new and innovative methods of illegal movement, involving drug smuggling and human trafficking syndicates (also see Cederstrom and Fleming, 2016; Gilman et al., 2011). Such illegitimate cargo tends not to simply pass across official borders but rather appears at and is displaced through what Goss (2006) calls the 'seam', utilizing what Martin (2012: 364) dubs *extra-logistical knowledge* or 'parallel forms of tactical knowledge and expertise that are developed (as a result of being excluded from legitimated corporeal flows) in order to appropriate and utilise the interconnectivity of commodity flows'. The intrinsic predictability of logistics flows enables this extra-logistical knowledge to be accrued and deployed to manipulate the apparatus of security for illicit ends. Take the shipping container, for example. It is the perfect vessel for illegal movement given their sheer numbers and the automated systems of management involved. Hence why the container is the focal point for illegal and unwanted cargo and thus a major threat to security. After studying its machinations, no matter how sophisticated a loading/unloading system is, gaps and weaknesses in the network can generally be detected.

For those who do so, crossing the seam is a risky business. The seam operating at the UK border – particularly the English Channel – can be deadly. For example, in 2019 the bodies of 39 Vietnamese migrants were found in a refrigerated shipping container in Essex, England. People smugglers had packed them into the sealed container – used for moving perishable foodstuffs – somewhere in the European logistics network, shipped it across the seam via a commercial freighter before loading it onto an articulated truck in England. The victims had ‘excruciatingly painful deaths’ according to the sentencing Judge. Cases like this have increased pressure on local organizations, the state and security forces – within, beside and around the business logistical network – to *increase* security, and consequently its predictability, inevitably fuelling further attempts to cross the seam illegitimately.

This tension emphasizes the contractionary (and sometimes self-defeating) dynamics surrounding any apparatus of security. Business logistical networks end up biopolitically managing dangers they may partially precipitate when operating successfully. *Failure* is therefore often an unstated flipside of efficient and effective apparatuses of security, which explains their escalating and self-perpetuating institutional logic. Apart from the managerial ideology of suspicion mentioned earlier, this also accounts for another managerial feature therein. The drive for the fast, efficient and secure flow of stuff produces a kind of ‘shadow organizational form’ (see Bowles, 1991) that haunts its formal principles, emerging at the seam and in the illicit grey zones in the system. Hence why the logistical power of containerization ultimately creates zones of visibility *and* invisibility, standardized flow and nefarious opportunities in the shadows. This will almost certainly induce flux and movement as organizations constantly revise and adapt to their own internal contractions. This also explains how ‘the border’ is often ever further extended in time and space.

In sum, viewing business logistics as an apparatus of security is germane for management scholars because it reorients biopower back towards the management of socio-biological life processes. Supply chains and the management of flow in terms of infrastructure, capital, bodies, goods and other important ‘stuff’ regulates us both as species and as individual subjectivities. Finally, security impacts on modes of life at a collective level, which is especially obvious when governments and corporations differentiate ‘bad’ flows, like illegal populations and illicit substances, from ‘good’ ones.

Discussion: A logistical reinterpretation of biopower in organizational analysis

Drawing on Foucault’s *Society Must Be Defended* (1976/2003) and *Security, Territory, Population* (1978/2007), we can interpret supply chain security as a form of biopower, one that functions not simply *within* organizations (as is the focus of many adaptations in our field), but *between* them too, as an *apparatus of security*. A typical logistics apparatus features a number of institutional actors including inter alia: (a) owners/traders of the goods/services, some of which are closely involved in the logistical management systems; (b) government border controllers (linked to its strategy to secure inputs/outputs of goods and services for a population); (c) an array of bio-security institutions that are either directly part of the firm or outsourced to third party contractors or governmental

agencies; (d) a bio-regulated workforce ‘on the ground’; and (e) (the possibility, at least, of) a ‘shadow organization’ seeking to exploit the network for illicit ends. The apparatus aims to regulate the flow of goods and services into a specific territory with minimal disruption. Hence it foresees and predicts dangers *everywhere*, which it can never quite dispel. In any case, we interpret these logistical flows not merely as a managerial function but as a biopolitical practice: a process of building and leveraging networks of knowledge, techniques and practices for securing the circulation of bodies, materials and information.

This application of biopower to business logistics generates novel and provocative ideas about organizations. Some of these inevitably relate to the growing management and organizational scholarship interested in biopower, but not exclusively so, as the above discussion hopefully indicates. Three salient themes stand out in this regard.

From subjectivity to the social body

The first key implication pertains to the medium through which biopower functions. The privileging of *The Birth of Biopolitics* in management and organization studies sees *bios* defined more as a ‘way of life’ or ‘lifestyle’. *Homo oeconomicus* is deemed a micro-enterprise and biopower consequently controls them at the individual level, frequently by ‘subjectifying’ them into entrepreneurial selves. Investigations of this in the employment sector have investigated how workers draw on autonomous abilities to get work done, including inter-personal communication, emotional intelligence and so forth (Dowling, 2007; Hanlon, 2007; Munro, 2012; Weiskopf and Munro, 2012).

Our article extends this approach to biopower by concentrating on Foucault’s conceptualization of *bios* not as an individual enterprise but ‘man-as-species’. Thus, the focus becomes extra-individual, even if individual subjectivities – including their agency, choices and desires – are still involved. According to our conceptualization, biopower regulates the collective social body as a physiological substratum of society (Foucault, 1976/2003: 242–243). In other words, this is not so much a theory of subjectification but of bio-socialization. This corporeal aspect of biopolitics is mostly missing in management and organization studies, reflecting a trend noted by others regarding the discipline as a whole (see, for example, Hassard et al., 2000; Pullen and Rhodes, 2014). The omission is probably owing to the essentialist connotations the body once conveyed, which Foucault was careful to avoid, of course. As Agamben (2000) explains, Foucault is working with two ‘modes’ of the body as theorized by the ancient Greeks, namely *zoé* (the life/death attributes of the organism we share with all living things) and *bios* (our bodies inserted into a socio-political milieu, constituting a form-of-life).

But if biopower invites us to bring the body back into organizational research, then it is in a specific kind of way. Recall how Foucault makes an important morphological distinction between disciplinary power and biopower concerning the body. The former seizes it in a direct instantiation of control with the aim of sculpting it (training, dressage, surveillance, etc.) and thus individualizes the subject. Biopower, on the other hand, refers to ‘a second seizure of power that is not individualizing but, if you like, massifying, that is directed not at man-as-body but at man-as-species’ (Foucault, 1976/2003: 242–243).

Hence why biopower does not simply supersede its disciplinary counterpart, but rather works in tandem with it. Foucault presents the example of sex to illustrate this. Disciplinary power educates the individual body with respect to the dangers of sexual abnormality (e.g. prohibiting child masturbation in schools, etc.). Biopower, on the other hand, is more interested in the overall distribution of sexuality as a social physiological activity, and thus establishes a second and concurrent plane of analysis:

[A]t the same time, debauched, perverted sexuality has effects at the level of the population, as anyone who has been sexually debauched is assumed to have a heredity. This is the theory of degeneracy. Given that it is the source of individual diseases and that it is the nucleus of degeneracy, sexuality represents the precise point where the disciplinary and the regulatory, the body and the population, are articulated. (Foucault, 1976/2003: 252)

From organization to apparatuses

Theorizing business logistics as an apparatus of security widens the field of analysis when studying biopolitics. Examinations of biopower as an employment practice in the extant literature, associated with the discourse of entrepreneurship and economic individualization (e.g. the gig economy), risk narrowing the scope of analysis to the management/labour dyad. From this perspective, managerialism evokes the ‘whole personality’ of workers, especially their independent life skills and aptitudes, to extract ever greater reserves of labour time from employees (see Fleming, 2014; Munro, 2012; Weiskopf and Munro, 2012). However, we must remember that Foucault’s focal level in the texts we have reviewed is the *population* and its regularization, be that population, a country, city, industrial sector, professional community and so on. Biopower thus evokes an apparatus rather than a discrete organizational form when normalizing people as a living-species. This yields a more permeable and porous frame of reference. We noted this in the way apparatuses of security within business logistics align certain institutional and partial-organizational ensembles, including the firm and its supply chains, government functionaries and security forces/agencies.

Why is this important? Because the apparatuses of security that Foucault connects with biopower are not only extra-individual but extra-organizational too, an observation that Raffnsøe et al. (2016) also make. Recall that an apparatus refers to a strategy that enlists multiple and sometimes partial organizational systems and discourses to leverage regulation over the milieu and its biosocial flows. This is why it is particularly apt for illuminating business logistics. As a plan of action and its attendant techniques, it coordinates forms of regulation that are: (a) fluid and not necessarily contained by any single organization; (b) potentially marked by internal tensions (as we noted regarding the corporation’s privileging of flow and the government’s desire to monitor or even halt that flow); and (c) control populations in a non-direct fashion (unlike employment contracts or bureaucratic authority).

To better understand how an apparatus functions, Foucault (1978/2007: 85) differentiates between biopower as a *normalizing* force and discipline as a process of *normation*, with the latter relying on contained organizational forms rather than variegated institutional plans. Normalization and normation consequently regulate people in different, but often complementary ways. Disciplinary power (or normation) directs the individual

body, assessing it against a pre-existing norm and moulding it accordingly within a delineated space. Biopower (or normalization) is concerned with statistically modelling the productive population and identifying a healthy equilibrium, subsequently ‘nudging’ individuals to follow this norm to orientate their own behaviour. Foucault (1976/2003) explores the example of smallpox epidemics in the 19th century. Whereas discipline separated the healthy from the ill and policed the division via grids of containment, biopower established a distribution curve for the entire population, noting how it reacts to various interventions and modifications. This established ‘acceptable’ levels of contamination/deaths, which then guided vaccination programmes and new societal rules (including social distancing, for instance, as we also see with COVID-19 today).

We can observe this ‘normalization’ at play within business logistics. Take the example of risk. Disciplinary power creates parameters within which individual risk is circumscribed (often for litigious purposes), subjecting it to surveillance and training or ‘normation’. In the workplace, agency is then governed through the prohibition of certain behaviours that may cause harm, shifting the onus of responsibility onto actors as a result. Biopower approaches the same problem of risk and responsibility but from a different angle, one that depends upon the *secure circulation* of bodies and stuff, including the knowledge needed to manage and organize them. As Dillon and Lobo-Guerrero (2008: 280) argue concerning the birth of high-tech logistics, it seeks to manage the distribution of risky circulations in a network:

[W]hat was required were the means by which circulation which was desired could be distinguished from circulation which was not . . . It also posed itself in terms of the balance to be struck between too little and too much regulation of the manifold circuits of interchange which characterises the life of species existence.

From this perspective, risk is not individualized but located within an ongoing circuit of potentially dangerous transactions and exchanges. Only then can licit and illicit movements – along with concerns of all other types – be parsed and individuated according to a logic of separation between that which can successfully ‘bear risk’ (or those who are thus ‘responsibilized’ to manage and profit from it) and that which is labelled ‘at risk’ (or those who must be actively managed to productively develop them). Once again, we are dealing with the same phenomenon of individual risk, but through two different modes or, better, poles of governmentality.

From governmental to corporate biopolitical regulation

It is important to remember that Foucault developed the concept of biopolitics principally as a theory of governmentality, a method by which the state administers the population in ways that differ from those associated with sovereign-juridical and disciplinary models. If we only had *Society Must Be Defended* (1976/2003) and *Security, Territory, Population* (1978/2007) at our disposal, then it would be difficult to study biopower as an organization-level tactic for the reasons mentioned above. In this sense, the case of business logistics reveals something striking. If we are correct in articulating global commodity/people flows as a specific apparatus of security, then that form of governmentality is now undertaken by

private corporations as much as the state. The privatization of public services following the advent of neoliberalism has thus placed the biosocial management of populations in the hands of for-profit enterprises to a greater extent, either in partnership with the state or as standalone entities.

This is significant for a whole host of reasons. An apparatus of security is informed by a value-based comprehension of what constitutes a threat or danger to the population. What is considered important depends not only on ‘objective’ conditions but political perceptions too (or what Foucault refers to as a *raison d’État* (in the national interest) when it comes to liberal governmental regimes). In Dillon and Lobo-Guerrero’s (2008: 276, emphasis added) words:

. . . security is essentially posed as a protective or preservative measure thrown around a *valued* subject or object, which subject or object is presumed to exist prior to, and independently of, the security practices which claim to act in their welfare.

From the state’s perspective, the problematic of logistics stems from concerns about preserving territory in the face of flow, including immigration, terrorism, disease, adequate supply of goods and services to maintain civic order and so forth. However, while this motivation may chime with the interests of private corporations, the profit-motive often transposes the ‘valued subject or object’ as it pertains to transnational economic activity. As innumerable studies have demonstrated, corporations driven by efficiency, cost-minimization and shareholder value frequently contradict the public-orientated tenets of liberal governmentality.

The COVID-19 pandemic raises an interesting case in point. The private apparatus of security associated with business logistics and global supply chains was harshly criticized for being highly vulnerable to collapse in the face of unpredictable, unprecedented jolts (like the pandemic). The just-in-time supply chains that multinational firms have leveraged over the past several decades when confronted by that jolt resulted in severe shortages in foodstuffs, medical supplies and other essential products (Barbieri et al., 2020; Clapp and Moseley, 2020; Zhu et al., 2020). Onshoring and nationalization of key medical industries have been broached as a response, especially in countries like the UK and Australia, which relied upon foreign-based corporations and/or governments for vaccines (see Blackburn, 2020; Quiggin, 2020). Following the pandemic then, the bio-security failings marring the corporate apparatuses of security – particularly connected to logistics and the profit-motive – have redoubled critiques of neoliberalism (privatization, outsourcing, market rationality), not simply in relation to employment organizations but also those related to the sustainability of man-as-species too, the population.

Conclusion

Although business logistics is today a major component of organized capitalism, it has received little attention in management and organization studies to date. We have sought to remedy this by demonstrating how Foucault’s notion of ‘biopower’ – particularly his less discussed concept (in management studies, at least) of an *apparatus of security* – is fruitful for explaining emergent organizational/management practices being deployed in the border spaces where business logistics operate.

We hope that the insights this analysis has yielded are relevant not only to those interested in Foucault but also wider organizational trends underlying the global economy. For researchers who have been drawn to Foucault's much discussed 'last decade', we believe our article provides a number of interesting avenues for future organization inquiry. No doubt *The Birth of Biopolitics* (1979/2008) has resulted in some excellent studies of biopower in management studies. It has been especially important for elucidating novel employment systems that individualize economic activity, like Uber and other digital platforms. Here, life itself is put to work since the conventional boundaries between labour and life are systematically blurred. Our article has sought to augment this growing research trend by drawing on Foucault's earlier theory of biopower, as expressed in *Society Must Be Defended* (1976/2003) and *Security, Territory, Population* (1978/2007). The case of business logistics is useful because it demonstrates how biopower can be approached by management scholars from another perspective, as apparatuses of security rather than discrete organizational systems; man-as-species instead of the individual or man-as-body; not the entrepreneurial subjectivities of indoctrinated workers, but networks of knowledge, techniques and practices for securing the circulation of bodies, materials and information.

In this respect, we hope that not only does this line of inquiry present interesting insights regarding business logistics but also widen the research agenda when it comes to an exciting and original concept (i.e. biopolitical apparatuses of security) in organization studies. Indeed, we feel that the notion of biopower holds much potential for scholars interested in how *bios* or 'life itself' is now an integral part of the neoliberal power structure, especially as it evolves in western economies in the 21st century. This is particularly so today, where we have seen some troubling developments that require fresh theories to study. The coronavirus pandemic, mass immigration and the de facto re-balancing of Europe, endemic supply chain problems in the global economy, the appearance of increasingly sophisticated surveillance technologies (often galvanized around 'legal' citizens and workers as opposed to their 'illegal' counterparts); all these trends are transforming the nature of our organizations. Foucault's theorization of apparatus of security is extremely helpful for capturing the important managerial and institutional implications of these permutations. Towards this end, we hope that our article encourages future research on this fascinating topic.

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ORCID iDs

Peter Fleming  <https://orcid.org/0000-0001-6838-7190>

Richard Godfrey  <https://orcid.org/0000-0003-2605-9177>

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Peter Fleming is Professor of Organisation Studies at the University of Technology Sydney and has previously held positions at Cambridge University and the University of London. Peter's research focuses on the future of work and the serious ethical implications it raises. He is author of several books including *Sugar Daddy Capitalism: The Dark Side of the New Economy* (Polity, 2018), *The Death of Homo Economicus* (Pluto, 2017) and *The Mythology of Work* (Pluto, 2015). His latest book is *Dark Academia: How Universities Die* (Pluto, 2021). [Email: Peter.Fleming@uts.edu.au]

Richard Godfrey is Senior Lecturer in Strategy at The Open University Business School. He previously held positions at the University of Leicester and Aberystwyth University. His research interests can be broadly defined as a form of War Studies read through the lens of organization theory. His work has appeared in journals including *Organization Studies*, *Organization*, *Human Relations* and *Gender, Work and Organization*. [Email: richard.godfrey@open.ac.uk]

Simon Lilley is Professor of Organisational Studies and Management and Director of Research at Lincoln International Business School, University of Lincoln. He has previously taught at the Universities of Edinburgh, Manchester, Glasgow, Keele, Lancaster, Leicester, the University for Humanist Studies, Utrecht and the International Business School, Budapest. His research interests include Organization Studies, Social Studies of Science and Technology, Social Studies of Finance and Digitalization. His work has appeared in a range of leading journals including the *British Journal of Management*, *Sociology*, *Sociological Review*, *Academy of Management Learning and Education*, *Organization Studies* and the *Journal of Management Studies*. [Email: slilley@lincoln.ac.uk]