



Three-dimensional security: Layers, spheres, volumes, milieus

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ABSTRACT

This paper critically engages with, and draws inspiration from the ‘vertical turn’ in political geographies of security. In so doing, I expose fragilities in its conceptual vocabulary and theoretical orientations, and call into question the security imaginaries on which notions of three-dimensional securitisation are predicated. This provides an important entry point for interdisciplinary dialogue at the intersections of political geography and security studies; while the latter is not especially noted for its contribution to the study of verticalities, re-reading ‘volumetric security’ through the spatial framings which underpin contemporary security studies does have considerable analytical merit and clears the ground – *via* Foucault’s notion of the *milieu* – for (re)thinking three-dimensional security in ontologically, epistemologically and politically inventive ways.

1. Introduction: the spatial optics of three-dimensional security

Securing the vertical space of cities of tomorrow would fundamentally entail more than traditional strategies for vertical patrols and neighbourhood watch. Strategies for intelligence, operational capabilities and community vigilance would need to adapt to meet the challenges. Intelligence-led policing would require a three-dimensional appreciation of the operating terrain, as crime hotspots, persons of interest and anomalous activities, including hostile drones, might not be horizontally limited to the streets (Rahman, 2017)

In his commentary piece for Singapore’s *Today*, Rahman seems slightly behind the curve in proposing ‘the coming’ verticalisation of contemporary cities. *Contra* Rahman, it is difficult to miss the exponential growth of built environments which rise ever skywards from the city streets, and descend below ground to complex subterranea of sanctuary, utility and fortification (Elden, 2013; Gandy, 2010; Garrett, 2016; McNeill, 2005; Yap, 2012). Indeed, Graham (2016) is in the vanguard of a burgeoning and innovative scholarship which insists that we look upwards and downwards, as well as across and through the urban landscape to better grasp its three-dimensional geographies. It calls for a vertical or volumetric (Elden, 2013) perspective which not only challenges and questions the persistence and prevalence of horizontal thinking, but also promotes ‘a fully volumetric urbanism ... which addresses the ways in which horizontal and vertical extensions, imaginaries, materialities and lived practices intersect and mutually construct each other’ (Graham and Hewitt, 2012, p. 74, *original*

emphasis).

‘Vertical security’ (Adey, 2010) foregrounds a myriad of architectural, infrastructural and technological innovations which have transformed how cities are policed, surveilled, visualised, protected and rendered safe. Sub-surface cable systems and rhizomatic networks of tunnels and bunkers (Graham, 2016, Chapters 12–14), and techno-scientific solutions to law enforcement, counter-terrorism, search and rescue, intelligence-gathering, traffic flow and the maintenance of urban mobilities (Adey, 2010, 2014; Graham and Marvin, 2001; Harris, 2015; Klauser, 2013), are assembled into what Holmes (2004) describes as an ‘Imperial infrastructure’. Drones, satellites, sensors, radio masts, locational tracking devices, helicopters, and scanners, ‘thick with network connectivity’ (*ibid*, p. 2), not only reconfigure the material and digital architectures of securitisation, but also project it through a ‘three-dimensional Cartesian grid’ (*ibid*, p. 3) of depth, breadth and height. Vertical studies have certainly opened up fertile lines of inquiry which critically examine the verticalisation of security by emphasising its materialities above and below ground, the deployment and operational scope of aerial and digital technologies, and the socio-spatial and socio-political effects of volumetric security practices.

For all this, ‘vertical security’ does not come without a number of health warnings. Some have complained that analyses subscribe to an overly suspicious political orientation (Harker, 2014) and reproduce ‘a particular kind of state/technocratic gaze that is difficult to escape’ (Adey, 2013a, p. 53); ignore historical continuities in the verticalities of urban worlds (Daneshmir & Spiridonoff, 2012); pay scant attention to the embodied, aesthetic and affective dynamics of volumetric space (Adey, 2013a; Garrett, 2016); and lack an ethnographic sensibility

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which engages with the lived experiences of verticality (Harker, 2014; Harris, 2015; Nethercote and Horne, 2016). Here, though, I want to focus on four different concerns which collectively unsettle current conceptualisations of volumetric security spaces: firstly, vertical security tends to be read through a selective and narrow range of theoretical and empirical frameworks; secondly, its prioritisation of the urban as the *classicus locus* of vertical security obviates other settings and contexts of security practice; thirdly, it not only tends to reproduce, on a vertical axis, the geometric optics of horizontalist thinking, but also perpetuates vocabularies of enclosure and spatial segmentation; and fourthly, in light of these limitations, volumetric approaches generate an enervated notion of security which is problematic for contemporary security studies.

Owing a considerable debt to Foucauldian analytics, security studies emphasise how security practices work not only in open and dispersive ways, but also that securitised space takes form in the entanglements of centrifugal and centripetal forces (Deukmedjian, 2013; Pløger, 2008). Moreover, spaces of security are read through a topological lens such that notions of spatial differentiation – of proximity and distance, stasis and flow, centre and periphery – dissolve within processes of securitisation which are processual, relational and emergent (Bigo, 2008; Lentzos and Rose, 2009; Valverde, 2010). In short, spaces of security cannot be mapped across pre-fabricated spatial categories but are manifold formations which generate their own spatialities, rhythms, connectivities, scales, affects, logics and temporalities. How, then, might we broker a productive conversation between security studies and the verticalised perspectives of political (and urban) geography? In this paper, I want to navigate this interdisciplinary space through the lens of topology and, in particular, make use of Foucault's (2007) notion of *the milieu* to both anchor and mediate a critical dialogue which grapples with and counters the blindspots of vertical security studies. Interest in the milieu has begun to emerge within philosophical and exegetical work focused on the entanglements of human and nonhuman worlds (Altamirano, 2014; Lemke, 2015), and the speculative nature of epistemology and knowledge-generation (O'Grady, 2013). Within political geography, an embryonic literature has started to probe its heuristic value for understanding the dynamics of securitisation in terms of its aerial (re-)territorialisations and atmospheric enclosures (Shaw, 2017); the 'anticipatory turn' in emergency fire and rescue (O'Grady, 2014); and the temporal registers of deliberative responses to securitisation and its effects (Barnett, 2015). This paper contributes to and extends this important work by teasing out and critically exploring the *topological* currency of the Foucauldian milieu *vis-a-vis* volumetric security imaginaries. This latter also resonates with, and adds to a growing body of scholarship which takes up the analytic of verticality and asks how it can be 'pushed in new directions by thinking seriously ... how volume might otherwise be interpreted spatially' (Peters and Turner, 2018, p. 1037 – see also; Steinberg and Peters, 2015). In responding to this call, the paper makes four key contributions to the political geographies of three-dimensional security.

First, the paper challenges the prevailing discourse on verticalities; by questioning the conceptual language of layers, volumes and spheres which sustain it, an over-privileging of certain *kinds* of space, at the expense of others, shows up in sharp relief. Second, to address these lacunae, the paper argues for a topological approach to vertical security. Topological thinking is neither new nor confined to a single discipline or field of studies (Allen, 2011; Amin, 2004; Harker, 2014; Martin and Secor, 2014; Massey, 2005; Secor, 2013),¹ but there is novelty in turning to Foucault for topological inspiration. Outside of security studies, Foucauldian topologies of security have been little acknowledged, and rarely used. Yet, it is in his 1977–1978 lecture course,

Security, Territory, Population (2007), that we find a topological prospectus predicated on the relational concept of the milieu, which not only has the potential to innovate vertical security frameworks but also overcome their conceptual limitations. Foregrounding notions of configuration, circulation and contingency, milieu-thinking engages with securitisation as an aleatory process, an emergent relationality of interacting and intersecting elements which not only refracts and inflects the horizontal (the enclosed, the proximate, the static) *through* and *with* the vertical (the open, the distant, the motile), but also enfolds, entangles and hybridises different kinds of socio-spatial and socio-material relations. A third contribution takes advantage of the importance Foucault places on the material dynamics and natural landscapes of securitisation. This focus prompts an interdisciplinary conversation with innovative political geographical work (Steinberg and Peters, 2015) attentive to the *materialities* and *geophysicalities* of three-dimensional space and, by extension, encourages more inclusive analyses which move beyond the built environments of 'the urban' to the variegated natural settings in which security practices *may* emerge – from remote tundra regions, to deserts, to tropical islands. A more spatially curious and contextually ambitious approach, however, carries the danger of securitisation emerging everywhere and anywhere, but never *somewhere*. A fourth contribution, then, introduces Foucault's concept of the milieu, explored and deployed in this paper not only as a mode *and* a medium for grasping the situated particularities of spatial entanglements, but also as an epistemological device which can probe the enfoldings of space and security.

The paper opens with a series of security vignettes of Donald Trump's whistle-stop tour of Europe in July 2018. This acts as a provocation, and prompts a questioning of the spatial imaginaries on which notions of three-dimensional security are predicated. I take up this provocation in the following section by critically re-reading Trump's security arrangements through the lens of key studies in vertical security, teasing out and mapping the conceptual blindspots in their spatial orientations. In the next section, I make the case for a topological approach to vertical security, and shift the terms of reference from securitised space to *spaces of securitisation*. Delineated through a Foucauldian framework, this section unpacks the relational, emergent, and aleatory dynamics of securitisation, and argues for more spatially adventurous perspectives which look beyond the urban as the primary setting of three-dimensional security. It also introduces Foucault's pivotal concept of the milieu, understood as an interstitial positionality which grasps the shifting relations of securitising spatial forms; and in the final section the ontological, epistemological and political purchase of milieu-thinking is critically discussed, applied and assessed, with reference to two case studies – the terrorist attacks at the Stade de France, November 2015; and counterinsurgency policing in Ferguson, Missouri, August 2014. The paper concludes by arguing for 'conversations at the interstice' and sets out some tentative suggestions as to how such a dialogue might proceed as an epistemological, methodological and political endeavour.

2. Donald TRUMP'S long weekend in Europe

Woodstock, Oxfordshire is a slow-paced market town, located about 8 miles northwest of Oxford. With a population of 3100 persons (UK Census, 2011), this picturesque town boasts attractive period buildings and honey-coloured streets, bustling with antique shops, restaurants, independent retailers, tea rooms, and galleries. It is typical of an historic Cotswolds town, and the perfect setting for heritage tours, pub lunches and country walks – a place where 'the local people are always willing to assist visitors with honesty and a smile' (Visit Woodstock, 2018). On 12 July 2018, Woodstock and its environs captured the attention of the world's media as it (temporarily) transformed from an idyllic, rural tourist destination to the epicentre of an internationally co-ordinated, multi-sited security operation. Importantly, Woodstock is but a short walking distance from Blenheim Palace, ancestral home of

¹ See also: Special Issues of Dialogues in Human Geography (2011, 1[3]); Environment and Planning D: Society and Space (2004, 22[1]); Space and Culture (2013, 16[2]); Theory, Culture and Society (2012, 29[4–5]).

the Dukes of Marlborough, birthplace of Winston Churchill, a World Heritage Site and, on that day, the venue for a banquet to welcome US President, Donald Trump, to the UK. In a packed itinerary, Trump's long weekend in Europe (11–16 July 2018) began with attendance at the NATO Summit in Brussels, and ended in a one-to-one meeting with Vladimir Putin in Helsinki. In-between times, his arrival at Woodstock/Blenheim was merely one staging post in a quasi-state visit of the UK which took him by air from Stansted Airport, to the US Ambassador's residence in Regent's Park, to Blenheim Palace, to Sandhurst Royal Military Academy, on to Chequers and lunch with the Prime Minister, thereafter to Windsor Castle for afternoon tea with Queen Elizabeth II – a busy two days which culminated in a day of golf on his own course at Turnberry, Scotland. We would certainly expect the residences and estates of 'the great and the good' to play host to the leader of the free world; but, and crucially, entertaining the President in a bespoke series of rural/parkland locations also kept him away from central London, and other urban conurbations – such as Glasgow, Edinburgh, Manchester, Nottingham, Newcastle – where a rainbow coalition of anti-Trump protests were being staged. What is interesting here is not the (geo)political choreography of Trump's UK tour, so much as the questions it raises about security and its spatial imaginaries. Alongside the pomp and the pageantry, the red carpets and robust handshakes, the visit generated a myriad of ostensibly, incongruous scenarios which give us pause for thought on how we currently conceptualise the spatial dynamics of securitisation. A short series of descriptive sketches of the President's tour sets the scene.

At Woodstock, the 'honest, smiling' residents looked on as 'three truckloads of police parked up in the town centre' (Roberts, 2018); business owners, used to advising visitors on the best place to dine, were provided with a list of contact numbers to report suspicious activity; yellow crash barriers were erected at the entrance to the Palace grounds (*ibid*); and Oxford City Council warned the Thames Valley Police and Crime Commissioner that local people feared the 'prospect of a hardcore of far-right supporters converging on communities in the area' (Rust, 2018). Consider also the budget holiday-makers in the departure lounge at Stansted,² who watched bemused as armed police patrolled the tarmac and 'special agents carrying guns' (Cambridge, 2018) awaited the President's arrival; with sightings of rooftop snipers, a 'huge fleet' of military helicopters and armoured cars parked on the runway, the mobilisation of elite SAS soldiers, and the presence of large numbers of 'British cops drafted in from all over the UK' (*ibid*), it was certainly an unusual departure scene for passengers taking off for their holidays in the sun. Residents going about their daily business in the coastal resort of Turnberry, reported that Police Scotland were conducting searches of cars coming into the area, and a large police presence was building on surrounding roads. Moreover, some had noticed the erection of scaffolding being used as make-shift sniper posts; and secret service agents, a motorcade of Chevrolet and Ford cars, surveillance vans and satellite communication vehicles were all observed either parked on stand-by, or moving in and around the golf course and its service routes (Walker, 2018). At Camberley, and other hamlets neighbouring the Sandhurst estate, local people felt 'inundated by American military vehicles' (McKeown, 2018), and some awoke to find a wall of shipping containers strategically placed around the perimeter fence where houses overlooked the grounds.

Yet, perhaps, the most intensely felt and commonly shared experience, and the lasting image of the week, was of 'the hovering gunships' (McKeown, 2018), as one Camberley resident put it. Notwithstanding that multiple locations across London, southern England, and south-

eastern Scotland were declared as 'drone-free', 'no fly zones', many communities were 'spooked' by the aerial manoeuvres of a range of unfamiliar aircraft, and irritated by the levels of noise this generated. In Camberley, residents spotted a tilt-rotor aircraft for transport and medevac operations, a Black Hawk UH-60 and two Marine One helicopters (McKeown, 2018); at Woodstock, a fleet of MV-22 Ospreys, flanked by White Hawk VH-60 helicopters, were observed flying over the Oxfordshire countryside in what appeared to be a 'surveillance operation' (Roberts, 2018). *Metro* readers shared pictures and videos of six Ospreys flying low over the Thames and 'ominously buzzing around' the capital to the north especially, but also to the south at Wandsworth, Battersea and Croydon (Hamill, 2018). The headline captured the mood perfectly: 'Donald Trump's fleet of "creepy" helicopters is scaring children and annoying adults' (*ibid*).

Trump's visit was described as causing 'mayhem for British police' (Embury-Dennis, 2018) with the costs of security operations estimated as running into tens of millions of pounds. With thousands of officers drafted to different parts of the country to both police the protests in urban centres, and provide additional support to the US security detail (Embury-Dennis, 2018), the National Police Federation claimed it was the biggest police operation since the English Riots of 2011 and put pressure on a service already 'creaking at the knees' (Moore, 2018). Yet, and despite the '£30 m ring of steel' (Cambridge, 2018), two security breaches threatened the safety of the Presidential party, both aided and abetted from *within* the security cordon. At Blenheim Palace, George Spencer-Churchill, Marquis of Blandford and Marlborough heir, live streamed the banquet via Instagram, reportedly on a mission to 'up-skirt' Melania Trump (Fruen, 2018); and at Turnberry, a 'panicked Donald Trump ... bursting into (a) trot' was forced to run for cover when a paragliding environmental protester staged a fly-past over the golf resort and circled the hotel lawn (Aitchison, 2018). Co-ordinated and filmed from the hotel lobby by a senior Greenpeace activist (McCool, 2018),³ security again appeared to have been compromised from inside the 'ring of steel'.

There is certainly nothing unusual about the scale or nature of the security protection afforded to the US President on a diplomatic tour. Indeed, this kind of deep-end, high-tech, militarised, multi-sited security assemblage for high profile dignitaries is both explicable and, importantly, is only ever a temporary arrangement of very short duration – as quickly as the 'hovering gunships' appeared on the horizon, the humdrum normality of everyday community life resumed. The vignettes detailed above tell us nothing new about three-dimensional security as a matrix of operational technologies, but they do unsettle and challenge how we write and talk about its spatialities. Put another way, the discourse of vertical security seems to privilege certain *kinds* of space – urban, exceptional, static and enclosed spaces – at the expense of others – rural, everyday, fluid and open spaces. Despite its many innovations in thinking securitised space in three dimensions, current formulations lack the conceptual wherewithal to make sense of the multiple spatialities of the Presidential security assemblage. In the next section, I unpack this claim a little further by critically interrogating key studies in three-dimensional security – work which has been pivotal in shaping the foci and frames of reference for analysis but which also harbours certain theoretical lacunae and empirical blindspots in its spatial orientations.

3. Vertical security: layers, volumes, spheres

Frequently cited as 'the key thinker of the vertical dimension and an inspiration for many of those working in this area' (Elden, 2013, p. 37), Weizman's (2002, 2007) influential reading of the militarised cartographies of the West Bank as a new kind of political space, engineered

² Stansted Airport is London's 'third' airport, handling significantly less air traffic than either London Heathrow or London Gatwick. Stansted's market position relies on the commercial operation of budget airlines and package holiday flights. It is located approximately 42 miles north east of central London, and 5 miles away from the tiny village of Stansted Mountfitchet, Essex.

³ A short video of the aerial protest can be viewed here: <https://www.mirror.co.uk/news/politics/donald-trump-runs-cover-paraglider-12915086>.

to project overlapping sovereignties in three-dimensions, has become the seminal text of the 'vertical turn'. As Weizman notes, this landscape is:

Cut apart and enclosed by its many barriers, gutted by underground tunnels, threaded together by overpasses and bombed from its militarized skies, the hollow land emerges as the physical embodiment of the many and varied attempts to partition it (2007, p. 15).

I share Roy's view that Weizman (and Segal and Weizman, 2003) has produced a 'courageous analysis' (2006, p. 13) which has re-oriented spatial readings of securitised landscapes. However, his thesis puts into circulation a touchstone configuration of verticalised security which not only lacks empirical scope and analytical nuance, but which also projects a somewhat narrow reading of three-dimensional securitised space - a reading which overly privileges certain kinds of settings, and understates the complexities of spatial forms. I address each aspect in turn.

Weizman's 'politics of verticality' are cast from a detailed study of the unique, labyrinthine terrain of the West Bank, where security arrangements are organised and informed by (geo)political disputes over (occupied) territory; hostile environments prone to violence and open, militarised conflict; and the spatial governance and control of fractured populations - see: Graham, 2004; and Special Section on 'Air Target: Distance, Reach and the Politics of Verticality', *Theory Culture and Society*, 28 (7–8). On the Israeli-Palestinian border, vertical security is formed from a network of bridges, overpasses, fences, tunnels, checkpoints, barriers and entry/exit gates⁴ which not only connect 200 non-contiguous 'extra-territorial islands' (Weizman, 2007, p. 178) but also create a mosaic of discrete, differentiated and striated spatialities. There is no disputing these architectural and infrastructural realities, but Weizman's (2007) 'hollow land' of 'splintering urbanism' (Graham and Marvin, 2001) and 'dizzying verticality' (Roy, 2006, p. 13) is an exceptional environment which does not prove the rule of three-dimensional security. Indeed, it is a weak point of departure for making sense of three-dimensional security which may be elsewhere and otherwise.

The multi-sited security arrangements of Donald Trump's visit are a case in point, and they bring into view alternative starting points for analysis. Firstly, in contrast to the delimited and circumscribed geographies of the West Bank, the spatialities of the President's security follow the trajectory of a planned itinerary, and form from the contingencies of a body in motion; secondly, his (body's) movement through UK airspace, punctuated by brief stop-overs in rural/parkland settings, highlights the mutually reinforcing mobilisation of vertical (aerial surveillance, no fly zones, militarised aircraft, sniper posts) and horizontal (crash barriers, armoured convoys, road blocks) security practices which are both continuous and discontinuous, static and fluid, enclosing and circulatory, proximate and distant; thirdly, the President's security operation transformed the everyday spaces of village life and country retreats into ultra-protective zones of exclusion - but far from being a permanent transformation, access restrictions, intensified policing, 'hovering gunships', and shipping containers at the bottom of the garden, were a temporary inconvenience rather than an enduring programme of civil containment and partition; and fourthly, the motility of Trump's 'security circus' is temporally entangled with but spatially removed from the securitisation of peaceful protests taking place elsewhere in urban centres. None of this renders Weizman's account 'wrong' so much as exposes it as context-specific and lacking resonance with the hybrid spaces and heterogeneous forms which 'vertical' security might take. It seems ill-equipped to grapple not only with modes of vertical securitisation in more 'moderate' - or, at least, less extreme - urban settings, but also those which might be assembled

⁴ See: <http://www.btselem.org/English/Maps/Index.asp> for Weizman's maps of the West Bank.

in sleepy villages and holiday resorts, in oceanic and atmospheric spaces, or in sparsely populated rural areas, and other remote locations, such as desert and tundra regions, where the purpose of security practice is not to segregate and control urban populations, so much as manage the flow and spatial dynamics of migration, trafficking, smuggling and piracy, and/or the safeguarding of natural environments from exploitation, pollution and catastrophic harms (Bridge, 2013; Glück, 2015; Noxolo, 2014; Scott, 2011; Steinberg and Peters, 2015).

Taking account of alternative security landscapes foregrounds the variegated geographies of securitised space and the complexities of their spatial forms. Indeed, Elden (2013) warns against thinking the vertical as just an additional axis; while Carter notes this can reproduce a 'state of topographical equilibrium' (Carter, 2014, p. 172) and maintain the 'rectilinear connectivity' (*ibid*, p. 170) and geometric optics of conventional horizontalist frameworks. Moreover, and following Virilio (2001), Elden points out that 'reach, instability, force, resistance, incline and depth matter alongside the simply vertical' (2013, p. 45). Inspired by Sloterdijk's influential *Spheres* trilogy (Sloterdijk, 2011, 2014, 2016 - see also Special issue on 'The worlds of Peter Sloterdijk', *Environment and Planning D: Society and Space*, 2009 27 [1]) - he suggests that 'volume' better encapsulates these spatial variations and has greater analytical leverage on questions of power, politics and the political. Drawing especially from Sloterdijk's (2009) essay on 'airquakes', Elden explores how security, in this formula, is best understood as an assemblage of technologies, calculations, practices and strategies which fill out a three-dimensional and volumetric space.

Elden's work certainly 'opens up new ways to think of the geographies of security' (2013, p. 49) and shifts the terms of reference from verticalities to volumes, and from layers to spheres. However, it is this latter which remains problematic, and compromises the wider value and utility of Sloterdijk's thesis for security studies. In *Spheres*, Sloterdijk revisits Heidegger's (1962/1927) hermeneutics of 'being and time' and extends it to questions of 'being-with and space'. Tracked across micro- (bubbles), macro- (globes) and plural (foam) spaces, Sloterdijk introduces a sensibility to spatialities which insists that our being-together always-already involves a relationality to multiple (social, cultural, political, economic, material, affective) spaces - for example, womb/mother/family/community/world; cell/block/wing/prison/prison-industrial-complex. In the wider geographical literature, both applied and exegetical, 'spheres' have been interpreted as relational entities, as lifeworlds co-created within topological and fluid networks of connectedness which always comprise multiplicities (Elden and Mendieta, 2007; Ernste, 2018; Gielis and van Houtum, 2012; Martin, 2014; Nogueira, 2009).⁵ Yet political geographies of three-dimensional security tend to fall back on a notion of spheres as insular zones of protection and exclusion.

For example, in his richly nuanced account of 'urban airs' and the expansive reach of securitisation into the atmospheric spaces which circulate, eddy and radiate through the environmental ecologies of the megacity, Adey (2013b) talks of 'secessionary atmospheres', commenting that the drive to protect the megacity from different kinds of airborne threats, pollutants, and odours produces 'a literal hierarchy of air quality and atmospheric comfort which is inextricably bound up with practices of security of a capsular character' (2013b, p. 301,

⁵ Malpas (2012a, p. 78) suggests that Sloterdijk's topological orientation replaces a transcendental view of space as territorialised, demarcated and bordered. However, in later work he goes on to complain that Sloterdijk's attention to spatiality is somewhat superficial; he notes of the *Spheres* trilogy that though it presents itself as 'a new approach to space and place, it actually does little more than mobilise a set of spatial and topological tropes and ideas without ever interrogating their spatial and topological content or addressing the spatial and topological notions that they presuppose' (Malpas, 2016, p. 170 - see also Malpas, 2012b for a nuanced and critical discussion of the theoretical/conceptual merits of philosophical topography and relational geographies).

emphasis added). Adey's recycling of de Cauter's (2005) concept of 'capsularisation' is interesting here, as is Klauser's (2010) invocation of Low's (1997) trope of the 'fortress city'. In an analysis which foregrounds Sloterdijk's 'foam metaphor' (2016), Klauser unpacks the securitised psychogeographies of the contemporary city to elucidate what he describes as 'a highly fragmented, polyspherical patchwork of more or less hermetically enclosed and purified security spheres' (2010, p. 326). In both Adey and Klauser, then, we find a preference for thinking security as a spatialisation of boundedness, differentiation, and stasis - as 'enclosed spheres of togetherness' (Klauser, 2010, p. 329). It seems to me that the notion (*this* notion) of 'spheres' simply reproduces the spatial optics of Weizman's vertically stratified 'islands', but in orbicular form. That is, while volume acknowledges the circulation of power in conditions of spatial heterogeneity, 'spheres' serve only to emphasise a scalar nesting of enclosed, co-isolated, semi-detached worlds of security.

It is tempting to read the spatialities of Trump's security arrangements through the prism of 'spheres' - the Presidential party is transported from one protective, encircled 'bubble' to the next *via* connective arcs of aerial securitisation, all of which align with the tenets of a spherical orientation. However, if we consider the breaches in security experienced at Blenheim Palace and Turnberry, certain lacunae in spherical thinking stand out in sharp relief and trouble our sense of the spatial volume which security might occupy. These two episodes, whilst minor in terms of the actual threats posed to Trump, not only unfolded the horizontal *with* and *through* the vertical, but also the 'real' with the virtual, as well as the inside and outside of securitised space. Metaphorically speaking both of these incidents were 'inside jobs' - George Spencer-Churchill was on the guest list for the banquet at Blenheim Palace; and the Greenpeace senior activist had legitimate access to the hotel lobby at Turnberry. Spatially, however, we need to ask where the boundaries of interior/exterior (secure/insecure) spaces are drawn. To be sure, filming was undertaken 'on the ground' from *inside* the venue at both locations; but its transgressive effects relied on fluid trajectories of interconnectivity and interoperability at the intersections of an infrastructural architecture of digital networks, communications satellites, undersea cables, sensors, signals and social media platforms, hand-held digital camera technologies, and the dissemination of imagery across a myriad of screens which, to paraphrase Foucault, refracted hundreds of thousands of 'tiny theatres of (virtual security fissures)' (Foucault, 1977, p. 113). These spatial entanglements betray the idea of cocoon-like enclaves of security, and suggest that such spaces are more porous, fluid and amorphous than a strict adherence to 'spherical geometries' (Klauser, 2010, p. 338) will allow. While Sloterdijkian 'spheres' certainly enriches our theoretical vocabulary for thinking and talking about 'verticalities' and 'volume', when narrowly read as insular zones of exclusion, 'spheres' ultimately fail to account for the multiple ways in which securitised space assembles and disassembles in more or less nonlinear, volatile and mercurial ways.

For all its conceptual and political innovation, the discourse of 'three-dimensional security' propagates an inherently topographical portfolio, and promotes a frame of reference which foregrounds the kinds of security environments which anticipate spherical modes of enclosure and volumetric zones of exclusion; it emphasises technologies and practices which sustain spatial protection and social segregation; and it encourages the language of stasis, boundedness, differentiation and exceptionality at the expense of fluidity, openness, entanglement and the everyday. In response, I want to propose an alternative point of departure for three-dimensional analyses, and look to security studies for a cue. Taking an interdisciplinary turn at this juncture entails a subtle shift in ontological focus which, I suggest, involves three key analytical moves. Firstly, security analysts recognise all too well that 'security is too flexible, creative and unpredictable to be adequately captured by any static classification' (Valverde, 2010, p. 20). From this perspective, securitised space is rarely an accomplished 'fact' but is a disputed, and continually negotiated terrain; it is more fitting to talk of

spaces of securitisation which are continually in-the-making, never quite settled and stabilised but always susceptible to transformation, re-territorialization and movement. Secondly, given its focus on the processual dynamics of *becoming* secure - that is, how the spatialities (and temporalities) of security emerge through situated and performative practices which are contingent, motile, and relational - security studies eschew approaches which posit the settings, form and content of security as anterior to their spatial materialisation. Rather, attention pivots on the *logic* of securitisation - specifically, the logic of circulation - and how this works to support and (re)produce political, social and strategic objectives which have spatialising effects. Thirdly, security studies bring to the table nuanced accounts of securitisation which reject spatial dichotomies and grapple with the enfoldings of different kinds of space - vertical/horizontal, enclosed/open, proximate/distant, static/fluid, and exceptional/everyday spatialities. There is, then, a sensibility in this scholarship to three-dimensional security as *topologically* rather than topographically configured. In the next section, I develop these ideas further and shift the conceptual focus from securitised space to *spaces of securitisation* by unpacking the theoretical provenance of security studies' frame of reference, and critically exploring pivotal notions of circulations, configurations, contingencies, and the topological imaginary.

4. Spaces of securitisation

Bigo (2008) concludes from his reading of *Security, Territory, Population* (2007), that Foucault never did arrive at a coherent or clear understanding of a 'dispositif of security'. Sometimes described as 'having a whiff of sulphur about it', 'weak', 'marginal', 'embarrassing', 'a parenthesis', and 'a field left fallow' (Bigo, 2008, pp. 93–94), Foucault's 1977–1978 lecture course has nonetheless become the main point of departure for contemporary security theorists; he writes:

(F)reedom is nothing else but the correlative deployment of apparatuses of security. An apparatus of security ... cannot operate well except on condition that it is given freedom (That is), the possibility of movement, change of place, and processes of circulation of both people and things (Foucault, 2007, pp. 48–49).

If there is any organising logic to Foucault's security dispositif it is the centrality of circulatory freedom. Periodised to the emergence of liberal society and economy, security requires the free circulation of goods, transactions, information, people, natural resources, communication and money, where the emphasis is placed on the optimisation of flow and movement, and the minimisation of risk and uncertainty (Bigo, 2008; Elden, 2007). For Foucault security is woven into everyday routines and is not the necessary product of the emergency event, or a 'state of exception' (Agamben, 2005) in which coercion, enclosure, isolation, or the suspension of liberties is called for (Lentzos and Rose, 2009). Rather, security anticipates moments of contingency, and the aleatory dynamics of a situation; it is, therefore, future-oriented and takes account of what *might* happen based on calculated probabilities and the statistical distribution of potential harms (Lentzos and Rose, 2009). As Foucault argues, there is no binary distinction to be drawn across good and bad circulations, or between permitted and prohibited phenomena; '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' (2007, p. 6). Security, then, looks for average distributions of, say, environmental pollutants, pathogens, cyber-viruses, terrorist threats, migratory movements, and criminal activities, to specify what is 'normal', and target that which lies beyond, or at the margins of acceptable and manageable risk. As Bigo notes, '(s)ecurity lives in the struggle and insecurities of the margins' (2008, p. 106). What, though, of spaces of securitisation; and what is their relationship to spaces of sovereignty and discipline?

Sovereign power relies on a space of jurisdiction, on the delineation

of territorial and symbolic frontiers, and on the setting of boundaries which mark out a cartography of authority to control, confine, prohibit, protect, and exclude. Disciplinary power, on the other hand, structures spaces (and temporalities) of partition, inspection and hierarchy, and works to normalise, surveil, intervene, enclose and prescribe the heterogeneity of individual practices in the social body. By contrast, security 'requires the opening up and release of spaces' (Elden, 2007, p. 565) and 'the development of ever-wider circuits' (Foucault, 2007, p. 45). As Lentzos and Rose comment: '(c)ontemporary rationalities of security ... do not operate in the closed spaces of institutions, but across the many planes of movement of persons, commodities, knowledge, communications within and between nations' (2009, p. 234). To put this another way, security mobilises a centrifugal rather than a centripetal (discipline) or territorialising (sovereignty) force (Deukmedjian, 2013). However, there is a danger in aligning each of the three dispositifs of sovereignty, discipline and security to discrete and periodised spatial logics, not least because in practice, rationalities and technologies of power interact, overlap and resonate with each other. As Foucault pointed out: 'there is not a succession of law, then discipline, then security, but that security is a way of making the old armatures of law and discipline function in addition to the specific mechanisms of security' (2007, p. 10).

In his critical review of the reception of *Security, Territory, Population* (and *The Birth of Bio-Politics*, 2008) into the academy, Collier (2009) complains of a widespread myopia in respect of this point. Coloured, he argues, by the influential exegeses of Fontana and Bertani (2003), and the 'overwhelming privilege' (2009, p. 79) ascribed to *Discipline and Punish* (1991) via its vast secondary literature, the lecture course(s) has been narrowly read as introducing new objects of analysis, that of 'the state' and the government of 'whole populations'. For Collier, this obscures the analytical innovations of Foucault's later work; specifically, he points out that there is a shift in Foucault's diagnostic style which moves from making 'epochal and totalising claims about the characteristic forms of power in modernity' (2009, p. 79) to a more temporally fluid and less systematised analytical approach. Collier identifies a new configurational principle at work here, one which is attentive to heterogeneity, assemblage and disassemblage, transformation, contingency, emergence, and relationality. In short, Collier talks of Foucault's 'topological turn' and his summary of this crucial (and subtle) shift in Foucauldian analytics of power is worth quoting at length:

(I)t suggests a configurational principle that determines how heterogeneous elements – techniques, institutional arrangements, material forms and other technologies of power – are taken up and recombined. This configuration of elements, and the principle through which they are related to each other, is what Foucault calls a 'system of correlation'. It would be preferable, perhaps, to call it a topology of power (Collier, 2009, p. 89).

Collier, however, makes no specific mention of the enfolding of space and power, yet the topological principle he draws attention to is alive and well in studies of border security. Indeed, this scholarship is exemplary in its exposition of the fluidities and contingencies of security at the intersections of space, mobilities, and the governance of population flow and circulations. This critical analytical work points to the shifting geo-spatialities of contemporary bordering (Broeders & Hampshire, 2013), and recognises the deterritorializing effects of security practices which rely on 'remote control', biometrics, smart technologies, digitized data-capture, and a myriad of pre-emptive, filtering, screening and scanning technologies (Amoore, 2006; Broeders, 2007; Cote-Boucher, 2008; Muller, 2010). The notion of a border as geographically fixed at the territorial frontiers of a political community is superseded by a sense of its 'everywhereness' (Lyon, 2005), its ubiquity (Balibar, 2002), its simulation (Bogard, 1996), its performativity (de Lint, 2008; Schouten, 2014), and as part of a continuum of securitisation which not only relocates border securities to 'the public spaces

of the railway station, shopping mall and sports stadium' (Amoore, Marmura, & Salter, 2008, p. 96) but also 'brings remote and forgotten locations – islands, deserts, metropolitan peripheries, hidden parts of airports and ports – into topological proximity with the conspicuous and visible heartlands of nation-states and political regions' (Mezzadra and Neilson, 2012, pp. 68–69).

Border thinking certainly draws our attention to the centrifugal effects of contemporary border practices, and to security landscapes which are dis-placed, dispersed, entangled and continually in-the-making. However, it may also understate the extent to which 'conventional' bordering techniques of enclosure and exclusion continue to flourish and proliferate. Mountz et al.'s (2012) review essay of the spatial (and temporal) logics of border management in the face of uncertainties wrought by mass migration and global mobilities, is instructive here. Arguing against the grain, these authors evidence the proliferation of containment strategies, pointing to the growth in numbers of detained populations in multiple national contexts. They reflect critically on an intensive, expansive and diversified border enforcement industry (see also: Loftus, 2015) which has overseen the development of purpose-built facilities replete with '(l)aser controlled door sensors, locked cells, head counts, and daily sign-ins' (Mountz et al., 526), and serving as hubs for the social sorting, legal categorization and risk assessment of migrant bodies to determine the grounds for their deportation, transfer, or dispersal. For Mountz et al. the key issue is not so much the resurgence of carceral landscapes but that these enclaves are entangled within 'global circuit(s) of deportation' (Khosravi, 2009, p. 54 cited in; Mountz et al., 2012, p. 528) and capture the paradoxical synergies of containment and mobility.⁶ A different topological dynamic is at work here; where 'security as circulation' emphasises the collapse of territorialised border spaces and the coalescence of proximity and distance, centre and periphery, Mountz et al. expose the spatial enfolding of stasis and movement, fixity and fluidity, and cast a spotlight on the imbrication of centripetal and centrifugal practices.

Studies of border security help to dismantle the idea that spatial securitisation can be parcelled up in neat binary packages which differentiate spatialities of proximity, exceptionality, confinement and stasis from those of distance, the everyday, mobility, and flow. Rather, space is best understood as an 'a posteriori' category (Marres, 2012, p. 292), as taking form in the density and intensity of socio-material and socio-political practices, and as generated in and through an assemblage of heterogeneous elements which transform and modify, shape and support, conflict and contest security's 'intertwined ambitions to channel, filter and follow circulations' (Klauser, 2013, p. 296). Yet, as Mountz et al. have convincingly shown, none of this supposes that processes of securitisation are 'simply awash in fluidities' (Marston et al., 2005, p. 423); even given the potential for endless variations, spatially generative circulations (sooner or later) encounter blockages and coagulations that 'congeal in space and social life' (*ibid.*, p. 423) to form 'bounded spaces institutionalized through particular struggles' (Jones, 2009, p. 501).

For all this, and whatever its other credentials, security studies have been slow to take stock of the verticalised operations of power in security settings. In the hands of security analysts, circulations tend to follow horizontal trajectories, moving across planar surfaces as circuits or networks of mobilities and distributions; while enclosures are imagined as sedentary areas of immobility and confinement which have no height, depth, verticality or volume (Campbell, 2016). To be sure, this is easily addressed by paying more attention to the three-dimensional topologies of securitisation, and there is embryonic work which does precisely this – see: Grove, 2015; Shapiro, 2016; Turner and Peters, 2017. Consider, for example, the Cairo-based initiative of HarassMap, an online, interactive platform for the anonymous reporting and

⁶ See also, Special Issue on 'Borders and mobilities', *Mobilities*, 2013, p. 8(1).

mapping of incidents of sexual harassment in real time (Grove, 2015); this crowdmapping technology enfold a 'networked assemblage of technological devices, including global positioning and imaging technologies, mobile phones, and Ushahidi software' (*ibid.*, p. 346) with everyday experiences of sexual violence encountered on the Egyptian street. As Grove notes, this topological (and biopolitical) configuration generates 'spaces in need of intervention' and produces 'a particular knowledge of targeting that resonates with other projects of securitisation' (*ibid.*, p. 346). Similarly, Shapiro's research on urban infrastructures emphasises the multiple verticalities of security governance, pointing to the 'mangle of wires, utility poles, and lamps; street signs, traffic lights, and billboards; surveillance and third-storey "kibitzers"' (2016, p. 293) which mediate and interweave the horizontalities of 'eyes on the street' (Jacobs, 1961, p. 35) through panoptic systems of (geo-)vigilance and panoramic visualisation. However, merely taking account of three-dimensionality in terms of urban hardware, street/residential life, and digital technologies perpetuates the urban as the *classicus locus* of securitisation, and elides other settings where securitised space emerges from alternative topological configurations - those 'remote and forgotten locations - islands, deserts, metropolitan peripheries' noted by Mezzadra and Neilson (2012, p. 68); or the rural, coastal, and private parkland settings in which Trump's security arrangements took shape. It seems to me that securitisation in such spaces relies as much (or more, perhaps) on the geophysical dynamics of spatial form, as it does on the affordances of built environments. Though not concerned with security matters, Steinberg and Peters (2015) have persuasively argued for an approach to three-dimensionality which foregrounds the *geophysicalities* and *materialities* of space; in setting out an innovative proposal for a 'wet ontology', they critically explore the ocean as a *voluminous* space⁷ of depth and breadth, flow and stasis, and an environment which is undergoing continual 'churnings, driftings, and reborderings' (2015, p. 257). Their conceptualisation of oceanic space is instructive:

We understand the ocean not as a space of discrete points between which objects move but rather as a dynamic environment of flows and continual recomposition where, because there is no static background, 'place' can be understood only in the context of mobility (2015, p. 257).

In conditions of liquidity and flux, the materialities of the ocean - water, ice, vapour, seabed, waves, reefs, tides, currents, silts - mutate their physical state, not only changing solids into liquids into airs, but also converting vertical energies into horizontal movements, and *vice-versa*. Taking stock of the mutability of hydrospheric (atmospheric and terrestrial) materialities has implications for (geo)political and governmental projects of capture and control, and can render securitisation - such as coastal protection, fishery rights, oil and gas extraction, and maritime safety - highly problematic. Bridge's (2013) commentary on the political-legal technologies of subsurface natural resource extraction is exemplary here, as is Scott's (2008) historical analysis of the colonial geographies of mining and subterranean treasure hunting. Though we may imagine a geometric reciprocity (and symmetry) between underground cartographies and the ways in which surface landscapes are exploited, used, owned, appropriated, annexed, and secured, the voluminous, material properties of subsurface space -

⁷ In their preference for 'voluminous' over 'volumetric' space, Steinberg and Peters avoid the slippage between 'volumetric' and 'cubic capacity' - as in 'the capacity of a container' (2015, p. 254) - and encourage an ontological prospectus less wedded to Euclidean topographies of depth, breadth and height, and more attuned to the motilities and enfoldings of the horizontal with, over, in and through the vertical - in short, the topological immanence of space. More recently, Peters and Turner (2018) have re-imagined the notion of 'volumetric capacity' and advance 'a manifesto' for three-dimensionality more attuned to the flow and circulations of power 'conveyed through maximum and minimum capacities; density and mass; and capacity-building techniques' (2018, p. 1037).

anything from subsidence, flooding, seepage, explosion, seismic activity, or contamination - can disrupt even the most carefully laid geopolitical plans (Bridge, 2013). All this said, the motilities of the high seas, and the shifting subsoils of subterranean geologies, are as prone to stasis, enclosure and segmentation as they are to movement and flow. In this sense, the topological and the topographical are not diametrically opposed to each other, but are spatially immanent and emergent through and with one another. Put another way, the voluminous does not supersede the volumetric, so much as expand the concept of volume beyond its initial formulation as calculable three-dimensional space.

Acknowledging the geophysicalities of securitisation enlivens analyses, and encourages more spatially curious and contextually ambitious perspectives which look beyond the urban as the primary setting of security. Nonetheless, such an expansive and generic outlook carries its own dangers; to paraphrase Adey's (2006) commentary on mobilities, if processes of securitisation emerge everywhere and anywhere, then they are also nowhere. Indeed, given their emphasis on relationalities, emergence, fluidities and contingency, topological frameworks have difficulty in locating the *some-where* of securitising practices and technologies. For Amin, the *somewheres* of continuously changing spatial formations are 'situated moments' (2004, p. 34); while Massey talks of 'articulated moments in networks of social relations and understandings' (Massey, 1994, p. 154, *emphasis added*). More recently, Featherstone (2011) has traced the genealogy of 'articulation', from its roots in critical cultural studies (Grossberg, 1986; Hall, 1980; Laclau and Mouffe, 1985), to its 'post-structural after-lives' (*ibid.*, p. 139) to make the case for its analytical utility for relational theories. Indeed, 'articulation theory' is Lawson's (2011) collective term for a broad array of concepts grappling with the problematic of situated co-presence and connectivity in conditions of fluidity and flux. There are different theoretical influences represented here, but notions of 'site ontology' (Marston et al., 2005), 'fractal space' (Chettiparamb, 2013), 'phase space' (Jones, 2009), 'antagonism' and 'intercalation' (Lawson, 2011), and 'embodied articulation' (Noxolo, 2014), all attempt to capture the elemental convergences of, respectively, scale, temporalities, military imaginaries, and securitised migratory bodies in relational space. The Foucauldian notion of the *milieu* sits easily alongside/within this family of concepts, and shares with them an attentiveness to points of articulation within motile and emergent networks of shifting composition and durability. It offers a certain bespoke applicability for voluminous security analyses given its embeddedness within Foucault's thesis on the circulatory dynamics of securitisation; but beyond this superficial resonance, the Foucauldian milieu has added heuristic value for three-dimensional geographies in their wider sense, and extends 'articulation theory' in several innovative ways - that is, it allows us to not only map spaces of securitisation-in-the-making but also observe (know, understand) how entanglements of manifold formations are contingently formed, may be the effect of *disarticulation* (as much as connectivity and alignment), and emerge at the intersections of material and immaterial, human and nonhuman, natural and artificial elements. In the following section, I unpack the analytical contours of milieu-thinking, making critical reference to its incipient usage in political geography through the lens of two case studies - the first focuses on the security milieu which emerged at the Stade de France, Paris, in November 2015; the second reflects on the spatialities of counterinsurgency practices in Ferguson, Missouri, in August 2014.

5. Security milieus

Though commanding only a brief discussion in *Security, Territory, Population* (2007, pp. 20–23, 29–30), Foucault's concept of the milieu signals a mode of spatial thinking which not only eschews the notion of securitised space as a fixed and stable entity, but also underwrites the topological sensibilities of his thesis on security. He describes the milieu

as 'a set of natural givens – rivers, marshes, hills – and a set of artificial givens – an agglomeration of individuals, of houses etcetera. The milieu is a certain number of combined overall effects bearing on all who live in it' (Foucault, 2007, p. 21). This short extract suggests an orientation to space involving three key ontological moves. The first is the recognition that space is emergent and is the *effect*, rather than the cause, of a particular configuration of relations. The milieu, then, is a space of motile and changing composition – what Woodward et al. describe as a 'dense event space' (2010, p. 278) and an 'unfolding state of affairs' (2010, p. 274) through which bodies, doings, sayings and things, in complex and fluid movements, converge, jostle, disassemble and re-assemble to 'carve out a specific materiality' (Woodward et al., 2010, p. 274, *original emphasis*). In this sense, the milieu is not so much a given space, as an 'experimental matrix of heterogeneous elements' (Rabinow, 2003, p. 56), a contingent, temporary but situated moment of social, technological and spatial entanglements alive to the unexpected and the 'unthought' (Foucault, 1973), and alert to what Bennett refers to as 'vibrant matter' – an energetic pulse, a 'something else', which she figures as 'a not quite human force that addle(s) and alter(s) human and other bodies ... an irreducibly strange dimension of matter, an *out-side*' (2010, p. 2–3, *original emphasis*). Contingency, then, is not only a question of chance, but also the dynamic which underwrites the creativity, openness and uncertainties of milieu formation which is always-already prone to misalignments, disarticulations, and dis-assemblage.

Second, for Foucault, relationality is captured in a multiplicity of intersecting trajectories, interactive circulations and vibrant connectivities involving human and nonhuman actors, natural and artificial landscapes, material and discursive practices. In other words, conventional dualisms – and we can include here spatial dichotomies of verticality/horizontality, enclosure/openness, proximity/distance, the everyday/exceptional – are abandoned in favour of an ontology which acknowledges how such binaries are hybridised, enfolded and co-constituted. It is a prospectus which allows us (invites us) to look beyond the urban to the elsewhere and otherwise of securitisation – to coastal, oceanic, rural, remote, subterranean, aerial settings – where 'making secure' is pivotal on the geophysical and material dynamics of space and their (sometimes unanticipated) co-articulation with circulations of aerial, hydrospheric and terrestrial technologies, and human practices.

Third, a milieu emerges at the interstices of a myriad of circulating and colliding elements – such as road traffic, communication networks, commuter mobilities, financial transactions, transport hubs, waterways, bridges, tunnels, weather systems, valleys, slopes and cliffs – and is a 'point of articulation' (Lemke, 2015, p. 13) of 'aleatory intersections between elements' (O'Grady, 2013, p. 256). For O'Grady, this interstitial positionality gives the milieu an epistemic quality as a site of knowing which 'enables observation of elements from a particular position' (2013, p. 249), at the same time as this positionality constitutes an integral component of a relational field; that is, the milieu is both a mode *and* a medium for grasping the spatial co-ordinates and normalised distributions of circulatory flows such that an optimal circulation of people and things can be managed and maintained. As Foucault argues, securitised space is not achieved by 'establishing limits and frontiers, or fixing locations, as, above all and essentially, making possible, guaranteeing, and ensuring circulations: the circulations of people, merchandise, and air, etcetera' (2007, p. 29).

We find in Foucault's concept of the milieu a topological (and Deleuzian) sensitivity which seems to have largely escaped the attention of Foucauldian and topological analysts alike. Indeed, more than is supposed, Foucault embraces the kinds of intensive spaces conventionally associated with Deleuze and Guattari (1987) and DeLanda (2002, 2006) – that is 'spaces of possibilities' (DeLanda, 2002, p. 10) which have no 'extrinsically defined untiy' (*ibid*, p. 12) but which emerge from a 'general economy of the contingent' (Dillon, 2007, p. 9) rather than some metrical principle of enclosure, frontier, or finite

circuit.⁸ Overlooked by security analysts, despite the sustained attention paid to the source text, the milieu has nonetheless featured in recent work in human geographical research on security. Though not focused on three-dimensional space, O'Grady (2014) and Barnett (2015) have deployed milieu thinking to better understand the anticipatory turn in emergency fire and rescue (O'Grady, 2014); and the temporal registers of deliberative responses to securitisation and its effects (Barnett, 2015). Both of these studies unpack the temporal dimensions of milieu formation, recognising (respectively) that contemporary practices of fire securitisation, and 'concerted public action' (Barnett, 2015, p. 257) against emerging security forms, entangle and enfold the lessons and experiences of security pasts, presents and futures. For example, O'Grady's detailed case study of the British Fire and Rescue Service (FRS) demonstrates very persuasively how a myriad of risk analysis technologies are 'enrolled within and facilitate specific temporal imaginaries through which the FRS both makes sense of fire as a risk and intervenes before fire occurs' (O'Grady, 2014, p. 512). Even as a security milieu emerges and unfolds in the present, it does so through temporal relationalities of our preparedness for, resilience against, responsiveness to, and recovery from emergency events. Topologies of time signal the innovatory potential of milieu-thinking, demonstrating not only its value and utility for security analyses but also its versatility as a concept.

Here, though, I want to focus on Shaw's (2017) recently published work on aerial (re)territorialisations and atmospheric enclosures, not only because it has considerable resonance for thinking security in three dimensions, but also because Shaw positions the Foucauldian milieu in the foreground of his analysis. That said, his reading and application of the milieu, are betrayed by certain lacunae which expose the topological blindspots in his account. He sets out his empirical stall very clearly:

(T)oday's urban environments are enveloped – and governed by – an armada of aerial actors with ontologically disruptive object-spaces. Blimps, planes, helicopters, and now drones add a complex Z axis to urban (in)security and state violence. These prostheses are unimpeded by terrestrial obstacles and can access subjects from above, reconfiguring the interface between capital, state, and sense (Shaw, 2017, p. 893, *original emphasis*).

Shaw's focus on aerial securities and atmospheric enclosures certainly speaks to an important strand of vertical studies which critically examines the skies as a geopolitical theatre of militarism, scientific exploration, aviatorial orbits and capital accumulation – see, for example, Adey, 2010, 2014; Adey, , Whitehead, , & Williams, 2013; Gregory, 2011; Williams 2010, 2011, and Special Section on 'Air target: distance, reach and the politics of verticality', *Theory, Culture and Society*, 2011, 28 (7–8). For Shaw, the cumulative effect of the colonization of airspace and its 'bubbling object-spaces of flying robots' (2017, p. 885) is the formation of a dronified skyscape and an enveloping, 'atmospheric state' (*ibid*, p. 885, *original emphasis*). However, his highly

⁸ Foucauldian-Deleuzian alignments have been highlighted and critically explored by a number of scholars. For example, in his review of Foucault's *dispositif* and the city, and in contrast to accounts which insist on carceral and disciplinary spaces as the point of departure for Foucauldian spatialities, Ploger (2008) talks of Foucauldian space as generative, active, open, immanent and relational. This resonates very well with Deleuzian-inspired spatial ontologies predicated on dynamics of emergence, flow, folding, and of 'flux, plurality and movement' (Leach, 1997, p. 292). Indeed, Stephen Legg very persuasively argues that Deleuze and Foucault 'should be thought together' (Legg, 2011, p. 128). Tracing the interconnections across their respective conceptual innovations – such as agencement, *dispositif*, (de)territorialisation, bodies without organs, assemblages, apparatuses, milieu, machine, regime – Legg reminds us of Deleuze's indebtedness to Foucault's work, and unpacks the way that both theorists 'emphasise relational ontologies, heterogeneity, relational causality, constant change and space-time relationships' (2011, p. 129). See also, Philo (2012).

textured and nuanced exposition of the contemporary 'reenchantment of the atmosphere' (*ibid.*, p. 891, *original emphasis*) relies on a reading of the milieu as continuous with the logics and politics of pre-modern and modern systems of enclosure. In so doing, Shaw not only reasserts the language of spheres and bubbles, but also overlooks the provenance of milieu-thinking which moves historically from Greek philosophy (Hippocrates) to physics (Newton) to biology (Lamarck), and sociology (Comte) through to Deleuze and Guattari's (1983, 1987) reconfiguration of the concept of milieu as machine – see Altamirano, 2014, for a fuller discussion. Indeed, a genealogy of its usage across the human and natural sciences foregrounds the topological energies of the milieu which, as Philo notes, is 'full of lively, risky, unpredictable "stuff" whose co-incidental juxtapositions can release all manner of disruptive effects' (2012, p. 508). It is precisely the 'disruptive effects' of 'unpredictable stuff' which are glossed over in Shaw's account.

Consider, perhaps, how a security milieu emerged in the evening of 13 November 2015, when the Stade de France, Paris, became the first target of a series of co-ordinated, multi-sited terrorist attacks. At 9.20pm, near the entrance to Gate D, Bilal Hadfi detonated his suicide vest, killing himself and a bystander (Mullin, 2015); two more blasts outside the stadium followed at 9.30pm and 9.53pm. Inside the national stadium, 79,000 people – including the French President, François Hollande, and the German Foreign Minister, Frank-Walter Steinmeier – were watching France play Germany in an international football match. Though players momentarily appeared distracted, the match continued, and spectators believed the explosions to be firecrackers (Homeland Security Advisory Council [HSAC], 2016). Concerned that the attackers intended to create a stampede of people out of the stadium and then ambush the fleeing crowds, Hollande instructed that the exit gates should be locked down and the match should run its course, before he was discreetly escorted away to convene an emergency cabinet meeting (Boffey & Zeffman, 2015). In the event, this pivotal security decision saved hundreds of lives, and at the final whistle, players and fans remained not only safe within the sporting amphitheatre but also largely unaware of unfolding events at six further locations south of the stadium (Borden, 2015; HSAC, 2016). However, what may have appeared as a judicious security call – or, perhaps, the remarkable calmness of 79,000 people – actually turned on the serendipity of weak signal strength and patchy cell reception within the stadium, making the use of mobile phones and social media difficult (HSAC, 2016, p. 23). Securitisation at the Stade de France, then, is etched from the horizontal/vertical entanglements of, on the one hand, the grounded architecture and fixed geospatial co-ordinates of the stadium and, on the other, the orbiting transmissions of an infrastructural network of sensors, satellites and radio antennae; it is a milieu which emerges at the interstices of human/technological misalignments and (dis)connectivities, where a hiatus in communicative interoperabilities and interactions – the 'something else' of a situation – created the conditions of possibility for minimal (rather than optimal) circulations; a secure space which was exposed and proximate to danger, at the same time as being temporarily (and fortuitously) protected and distanced from it. At best, we can only say that the colonizing enclosures of the 'giant robotic canopy' which Shaw (2017, p. 903) envisages, are always-already partial, fractured, uncertain, and prone to be scuppered by 'terrestrial obstacles' (*ibid.*, p. 893).

At the same time, Shaw's vision of 'a rising atmospheric state' (2017, p. 902) is decidedly dystopian and imagines a seamless, and somewhat conspiratorial alliance of militarism, capitalist accumulation, securitisation, and geopolitical reterritorialization. To be sure, this aerial colonization does pose a range of clear and present dangers, but it also brings affordances and opportunities which may serve less malign purposes.⁹

⁹This might include UNICEF's expanded use of drone technology to deliver HIV treatments to remote and hard-to-reach African communities (Burgess, 2016); or the development of high-altitude balloons and other experimental aeronautical platforms – such as Facebook's Aquila project – which seek to

The co-existence of 'good' and 'bad' colonizations is exemplified in the policing of the Ferguson (Missouri) protests in August 2014 – events precipitated by the fatal, police shooting of Michael Brown, an unarmed 18 year old African-American man (Department of Justice, 2015). Re-gaining policing's three-dimensional strategic control over the 'unruly geography created and utilized by (Ferguson) residents' (Edge City Collective, 2014, p. 3) relied on a coalition of horizontal and vertical spatial techniques including the setting up of a command centre, strategically located on the high ground of the strip mall. This positioning not only overlooked the primary conflict zone, but also allowed rapid access into the flatlands of adjacent residential housing blocks; it facilitated the setting up of sniper posts and check points, and the effective use of barricades, fortress architecture and surveillance which controlled entry to and exit from the main sites of protest. Importantly, however, the enactment of a No Fly Zone simultaneously permitted the deployment of police helicopters but disallowed 'aerial media coverage from documenting any potential acts of aggression or violence towards protestors' (Edge City Collective, 2014, p. 4); this reminds us that three-dimensional security is always-already embedded within other aerial (and terrestrial) circulations serving purposes which run counter to the enclosing and prohibitive techniques of urban policing. Though, on this occasion, journalistic interventions were disabled and encumbered at the peak of the riots, the potential for airborne reportage to expose Ferguson's securitisation to the critical gaze of a myriad of non-police actors, was ever-present. Even through their absence (or exclusion), competing circulations can transform and disrupt the dynamics of operational security practice; yet there is no hint from Shaw (2017) of the kinds of contingencies which prompt disconnectivities and inoperabilities, nor of the emergence of a milieu through the topological entanglements of earth and sky, human and nonhuman actors, or of intersecting trajectories of containment and circulation.

6. Conclusion: conversations at the interstice

If we encounter spaces of securitisation as an entanglement of contingent formations, then it makes no sense to talk of such spaces in pre-fabricated terms, as 'layers', 'splinters', 'capsules' or 'bubbles'. Rather, securitised space is neither horizontal nor vertical, volumetric nor spherical, but is a relational, emergent configuration of different elements which is always-already in-the-making. From this vantage point, notions of spatial partition and difference read across binary landscapes of vertical/horizontal, proximate/distant, open/enclosed, everyday/exceptional spaces, give way to hybridised spaces which are enfolded, twisted, and stretched in and through each other. Indeed, Foucault's concept of the milieu subsumes a relational ontology whereby a security milieu does not denote a pre-existing, protected site, but emerges from a contingent co-articulation (and disarticulation) of a heterogeneity of materialities, temporalities, technologies, affects, discourses and practices. As demonstrated through the dramatic events at the Stade de France, and the riotous protest in downtown Ferguson, a security milieu emanates from a plurality of entanglements at the interstice of voluminous space, human and non-human motilities, and the distribution of a myriad of risks and affordances.

The milieu underwrites the epistemological currency of the interstice, and denotes an interstitial positionality which is not merely a 'situated moment' in processes of securitisation, but also a space of knowing, perception and observation. The milieu, then, brings into

(footnote continued)

extend Internet access to desert locations and other inaccessible parts of the world (Metz, 2016). No-one is pretending that such applications do not also generate significant commercial capital and, moreover, they can be surreptitiously co-opted into less humanitarian agendas (Holton et al., 2015). Nonetheless, such innovations do signal a more complex and nuanced account of 'aerial colonization' than Shaw (2017) allows.

view an overlooked and fruitful dynamic to security analyses, one which puts questions of knowledge-generation centre-stage of research endeavours. What would other knowledges, and alternative ways of knowing contribute to our understanding of the security milieus of different kinds of spaces? O'Grady (2013, 2014) and Barnett (2015) have certainly opened up an interesting dialogue with (and about) the different knowledge communities who co-participate in milieu formation - fire and rescue professionals, and concerned members of the public respectively. But how is the relational immanence of a security milieu read (known) through the lens of digital camera technologies, or the algorithms of big data; how is it grasped from the standpoint of migrants and refugees adrift in the Mediterranean Sea, or those perilously stranded on the landslide-prone terrain of the Bangladesh-Myanmar border; and how might it be observed and apprehended through the eyes of persons who, in the midst of their everyday mobilities through city (and other) spaces, become ensnared within an unfolding security emergency?

Taking account of the multiplicity of human and non-human 'knowers' calls for a more immersive methodological prospectus which not only helps to dismantle vertical studies' 'excess of abstraction' (Steinberg and Peters, 2015, p. 248) but also prompts us to 'imagine volume' beyond what Adey refers to as its 'state/technocratic' framing (2013a, p. 53). This is not an argument for 'ethnographic hegemony' but a shift in gear away from a deductive orientation to a more inductive approach which remains alert to, and has a speculative eye for the contingencies and relational dynamics of security formations. To be fair, Adey's (2013b) work on the atmospheres and airs of the mega-city (Mumbai) opens up important conversations about 'the body's "immersion" in these sorts of settings' (2013a, p. 53); equally, Hewitt's and Graham's (2015) critical reading of 20th century science fiction literature, recognises how it serves 'as a source of critical commentary and as a mode of knowledge' (2015, p. 923) about three-dimensional urban spaces. Even so, in both studies, voluminous space is figured as an objective given; either as an inert and passive setting in which bodies act, or as a self-evident configuration of vertical/horizontal natural landscapes, technological infrastructures or built environments which can be inscribed into and projected through literary narratives and cultural representations. What is needed, then, is the kind of methodological immersion which probes our prior assumptions about the kinds of space we describe as 'securitized', acknowledging that such spaces are processual rather than formed, and are emergent, hybridised, and are contingently constituted by and constitutive of bodies, texts, practices, affects, discourses, and materialities.

Reading voluminous spaces of security through the lens of the milieu has the potential to advance our grasp of three-dimensional security in ontologically, epistemologically and methodologically inventive ways. However, Massey's comments on the relational turn are instructive here, and signal the potential for a more politically curious orientation. She notes:

Conceptualising space as open, multiple and relational, unfinished and always becoming, is a prerequisite for history to be open and thus a prerequisite, too, for the possibility of politics (2005, p. 59).

'Vertical studies' has never shied away from a critical engagement with questions of power, politics and the political - even if Harker (2014) complains that it has tended to pursue an overly (and overtly) suspicious trajectory. While this discussion has argued for the Foucauldian milieu as an epistemic device which fosters an interdisciplinary dialogue across security studies, and political and urban geography, it is also clear that it introduces new analytical tools which can probe into a mixed economy of political interests and concerns. Taking account of *whose* knowledge, and *what* forms of knowledge and knowledge-generation are implicated in the formation of security milieus, democratises and pluralises our political analyses of contested and complex constellations of relationships. Securitisation is not *de facto* a matter of controversy and dispute, but it is rarely a neutral

process. From the standpoint of a security milieu, social injustices - such as discrimination, marginalisation, exclusion, over-policing, hyper-surveillance - born of racialized, gendered, classed and ageist spatial practices are traced (and traceable) through a myriad of intersecting political relationalities; just as questions of volume, enclosure, exceptionality, and proximity, cannot be settled in advance of milieu formation, the politics of three-dimensional security emerge through the contingent, creative, dynamic and unpredictable interplay of multiple trajectories of power.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.polgeo.2018.11.010>.

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