Original citation:
Brassett, James and Vaughan-Williams, Nick. (2015) Security and the performative politics of resilience : critical infrastructure protection and humanitarian emergency preparedness. Security Dialogue, Volume 46 (Number 1). pp. 32-50.

Permanent WRAP url:
http://wrap.warwick.ac.uk/65323

Publisher's statement:
Published version: http://dx.doi.org/10.1177/0967010614555943

A note on versions:
The version presented here may differ from the published version or, version of record, if you wish to cite this item you are advised to consult the publisher's version. Please see the 'permanent WRAP url' above for details on accessing the published version and note that access may require a subscription.

For more information, please contact the WRAP Team at: publications@warwick.ac.uk
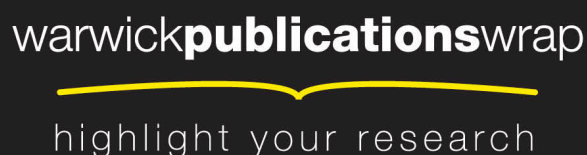
http://wrap.warwick.ac.uk

Security and the Performative Politics of Resilience:
Critical Infrastructure Protection and Humanitarian Emergency Preparedness[1]
Security Dialogue, 46(1) (forthcoming 2015)

James Brassett and Nick Vaughan-Williams (University of Warwick)

Abstract
This article critically examines the performative politics of resilience in the context of the current UK Civil Contingencies (UKCC) agenda. It places resilience within a wider politics of (in)security that seeks to govern risk by folding uncertainty into everyday practices that plan for, pre-empt, and imagine extreme events. Moving beyond existing diagnoses of resilience based either on ecological adaptation or neoliberal governmentality, we develop a performative approach that highlights the instability, contingency, and ambiguity within attempts to govern uncertainties. This performative politics of resilience is investigated via two case studies that explore 1) Critical National Infrastructure protection and 2) Humanitarian Emergency Preparedness. By drawing attention to the particularities of how resilient knowledge is performed and what it does in diverse contexts, we repoliticise resilience as an ongoing, incomplete, and potentially self-undermining discourse.

Introduction: security politics and the rise of resilience

> We must do all we can, within the resources available, to predict, prevent and mitigate the risks to our security. For those risks that we can predict, we must act both to reduce the likelihood of their occurring, and develop the resilience to reduce their impact (Cabinet Office, 2010: 3).

Resilience is fast becoming a mantra of policy making across a wide range of perceived security risks including flooding, terrorist attacks, the collapse of virtual and physical infrastructure, and financial crisis (Brassett, Croft, and Vaughan-Williams, 2013). Such risks are typically associated with low-probability high-impact 'extreme events' necessitating civil contingency planning to protect, maintain, and even *enhance* human well-being (Government Office for Science, 2011). In the UK context, where the discourse of resilience has found

---

particular traction in recent years (Joseph, 2013), these imperatives are reflected in the 2004 Civil Contingencies Act, the establishment of a Civil Contingencies Secretariat, and successive National Security Strategies oriented around a resilient, multi-agency, all-hazards approach to risk management. In short, the UK government's perceptions of the security landscape in the early twenty-first century are increasingly orientated around the concept of resilience.

While there has been a dramatic rise in use of the term 'resilience' in discourses of new security challenges especially since the end of the Cold War, the concept is far from new and has emerged across a range of academic disciplines (Walker and Cooper, 2011). Derived from the Latin *resilio* meaning 'to jump back', it is commonly used by engineers to describe the ability of certain materials to return to their former shape after an external shock (de Bruijne et al, 2010). In the 1970s the term was adopted in the science of environmental management to describe *flexibility* and *adaptivity* to uncertainty as an emergent system property (Holling, 1973). Notions of the 'resilient individual' were first developed in the Psychology literature of the 1980s via studies of the relative influence of innate character traits versus externally learned processes on children's personalities. More recently, social scientists Louise Comfort et al (2010) have defined the concept as 'the capacity of a social system (for example, an organisation, city, or society) to *proactively adapt* to and recover from disturbances that are perceived within the system to fall outside the range of normal and expected disturbances' (Comfort et al, 2010: 9, emphasis added).

Only relatively recently has the concept of resilience begun to animate research in International Relations (IR) and Security Studies. This reflects the broader shifts in policy and social science above as well as an increased concern in the discipline with the related concept of risk (Amoore and de Goede, 2005; Aradau et al, 2008; Petersen, 2012). Thinking in terms of risk diversifies the range of issues brought under the orbit of security and includes

referent objects beyond national and human security to include, inter alia: public spaces and urban environments (Coaffee, Murakami Wood, and Rogers, 2008) populations produced as 'vulnerable' (Elbe, 2008); financial architectures (de Goede, 2007); virtual and material networks and infrastructures (Aradau, 2010; Burgess, 2007; Coward, 2012; Lakoff and Collier, 2010; Lundborg and Vaughan-Williams, 2011; Zebrowski, 2009); and ways of life (Dillon and Reid, 2009; Duffield, 2012). Conceptually, risk-based approaches to security focus not on the attempt to eliminate specific threats *per se*, but rather strategies to identify and manage global uncertainties. It is precisely in this context – one concerned with the question of *living with risk* – that the discourse of resilience has emerged as a corollary, and increasingly central component of, the risk management cycle.

In this article, we draw a line through this broad endeavor to identify and ultimately problematize two dominant approaches to resilience. First, various managerial approaches have sought to capture the *scientific* language of early systems theories to think about resilience as a form of ecological adaptation. This approach – which we call resilience-as-adaptation – suggests that inter-connected and inter-related eco-systems have the capacity to change and adapt in relation to shocks, to form a new, stable, equilibrium. On this view, resilience is a 'positive' value that can, and indeed should be, exported to and inculcated within society in order to help it prepare for, withstand, and ultimately improve when faced with extreme events. Such attitudes are reflected in our opening quotation from the 2010 National Security Strategy and pervade current thinking about UK security at local, regional, national, and international levels (see Brassett and Vaughan-Williams, 2013). Likewise, it is a position that frames much of the literature in social science that seeks to question how 'levels' of resilience can be enhanced, become more effective, and applied in an ever-widening range of settings.

Second, it is possible to identify a seemingly more critical approach, typically inspired by the work of Michel Foucault, which problematizes the role that resilience plays within wider logics and practices of neoliberal governmentality (Duffield, 2012; O'Malley, 2010; Reid, 2012; Zebrowski, 2009). On this view, discourses of resilience-as-adaptation *are themselves* rendered as a characteristic adaptation of advanced liberal society, whereby uncertainty has become an organising principle of life and governance (Dillon and Reid, 2009). Resilience is thus cast as a regime of truth whereby neoliberal subjects are enjoined to take entrepreneurial steps in managing their own risks in lieu of excessive state intervention. This is because, as Julian Reid puts it, 'subjects that are capable of securing themselves are less of a threat to themselves and in being so are not a threat to the governance capacities of their states nor to the governance of the global order either' (Reid, 2012: 74). On this view, resilience is assumed to be a 'negative' value because it produces a 'politically debased' form of subjectivity that secures neoliberal governmentality.

Common to both advocates and critics is the suggestion that practices of resilience can be viewed as a coherent and homogeneous reflexive movement in contemporary neoliberal society. We would argue that although the second is often posited as a critique of the first there is a tacit assumption *on both sides* that resilience 'works': that neoliberal logics – and subjectivities – are fully formed, equally distributed, and inevitably successful. In turn, this leads to the abstraction and reification of resilience as an emergent structural feature in contemporary political life. It is this deterministic outlook and its totalising and homogenising impetus that ultimately we seek to challenge in respect of the two dominant positions taken together.

While we are sympathetic to aspects of both approaches – especially the latter for its powerful diagnosis of what is at stake in the relation between resilience and neoliberal governance – we seek to advance an alternative, albeit complementary approach. On our

view, the politics of resilience should not be reduced either to the working through of eco-systemic adaptations on the one hand, or the success of neoliberal governmental logics on the other hand. Rather, we seek to reflect and develop upon a notion of resilience as an ongoing interaction between various (and often conflicting) actors and logics, which can be viewed as far more contingent, incomplete, and contestable in both its characteristics and effects than is usually acknowledged in the existing literature.

Beyond approaches to resilience that focus on the development of more-or-less effective *yet coherent* resilient 'systems' and 'solutions', we therefore stress the role of ambiguity, indeterminacy, and openness in attempts to protect society against an array of perceived risks via discourses and practices of resilience. Informed by the work of Judith Butler (1993, 2010), we seek to recover the performative *politics* of resilience as a series of *attempted* closures, which are nevertheless always already in excess of their own logic and give rise to unexpected, unforeseen, and disruptive effects. Recast in these terms, resilience is we argue better understood politically as a discourse of performative acts that is neither reducible to a singular logic of adaptation, nor the unwitting complement of some quasi-monolithic neoliberal governmental structure. Once this move is made it is possible to repoliticise the otherwise technocratic nature of resilient knowledge and its effects. In stressing the instability and undecidability of the performative we therefore seek to contribute to the wider critical task – at the core of this special issue – of (re)reading resilience as varied and multiple practice.

We apply our performative approach to the politics of resilience in the context of contemporary UK Civil Contingencies (UKCC) practices. The UKCC agenda emerged prior to the events of September 11 2001 in response to disparate crises such as the Foot and Mouth epidemic and various fuel shortages during the period 1989-2001 (Anderson and Adey 2011). While other cases may also provide fruitful grounds, the UK is recognised as a

privileged site for analysis as it is here that the discourse of resilience has arguably been embraced most enthusiastically in relation to national security (Joseph 2013). Analyses of UKCC have focused on logics of 'governing through contingency' (Dillon, 2007), the 'affective' politics of emergency exercise planning (Anderson and Adey 2011), technologies of preparedness (Adey and Anderson 2012), and the politics of decision-making (Adey and Anderson 2011).

Aside from conceptual innovation afforded by a performative methodological outlook, we seek to contribute to these studies by considering two additional strands of UKCC: critical national infrastructure (CNI) protection; and humanitarian emergency preparedness (HEP). While ostensibly divergent aspects of the UKCC agenda, our rationale for bringing together CNI protection and emergency preparedness is to investigate how resilience knowledge is appealed to and performed in heterogeneous contexts, the extent to which these appeals complement and/or diverge from each other, and whether a focus on varied and multiple practices – and their ultimately unstable and contingent outcomes – might lead to alternative grounds for an assessment of their 'success'.

First, we are interested in these dimensions *precisely because* they illustrate how the resilience agenda seeks to encompass (and apparently unite) the governance and protection of material infrastructures, human subjects, and their interrelation. Our choice of sites for exploring the performative politics of resilience thus demonstrates how pervasive this logic is and the extent to which the search for resilient knowledge is structuring security relations in a variety of contexts with diverse effects. The case studies also indicate the work that the production of vulnerability (of subjects and things) does in legitimating the need for heightened protection throughout society in a circular fashion.

Second, we are curious about how attempts to secure through resilience may paradoxically create new instabilities such that efforts to protect society may also end up

creating further insecurities. In the case of CNI protection, the agency of non-human automated technologies to make (in)securitizing moves authorised by an appeal to resilience both invokes and produces particular conceptions of political community and subjectivity in potentially problematic and unstable ways. In the case of humanitarian emergency preparedness, we find that resilient knowledge about psychological counseling interacts with market actors and (the event of) trauma in a manner that performs resilience as a new technology of affect. In both cases, however, we argue that an excess of politics over resilient knowledge renders outcomes incomplete, ambiguous, and, ultimately, *in*secure: the effort to make resilience more resilient potentially undermines itself

Resilience: adaptation, governmentality, performativity

Various theoretical approaches to resilience are concerned with the foundational question of *what it is* (Comfort et al, 2010: 9; O'Malley 2010; Walker and Cooper, 2011). The ontology of resilience commonly divides around the issue of ascertaining foundational traits – for example, 'adaptability' or 'bounce-back-ability' – as well as the traditional critical divide of problem-solving versus power-oriented enquiry. While there is much merit in the various positions one might develop on the vexed issue of defining resilience, we would like to suggest that addressing the political dimension of resilience necessitates a performative orientation. Here we identify and explore the common limitations of two dominant views on the underpinnings of resilience before making the case for our own alternative approach based on an understanding of performativity informed by Butler.

Resilience as adaptation

Much of the policy-oriented literature on resilience has proceeded in quasi-scientific terms by thinking about resilience as a *natural* trait of individuals or communities that can be studied

and inculcated. This trait, it is suggested, is inherent at some level, but can also be 'learned' and improved (Comfort et al 2010; de Bruijne et al, 2010). Such an understanding has proved influential as a reflexive orientation to policy making in an age commonly characterised as one of uncertainty (UK National Security Strategy 2010).

An important precursor to the understanding of resilience-as-adaptation comes from early work on 'ecologies' and the emergence of general systems theories in the 1960s (Laszlo and Krippner, 1998). Broadly speaking, the concept of ecology refers to a system of alliances between entities in a radically interconnected milieu of interaction. In its initial phase, the aim was to think in evolutionary terms about how ecological systems adapt and change. As C. S. Holling argued, ' […] individuals die, populations disappear, and species become extinct. That is one view of the world. But another view of the world concentrates not so much on presence or absence as upon the numbers of organisms and the degree of constancy of their numbers' (Holling, 1973: 1). On this view, resilience is produced as one possible response to a disturbance or extreme event such as flooding, fires, as well as human activities such as deforestation.

Holling critiqued the notion of a naturally-occurring equilibrium, understood in terms of a balance to which life will eventually return through self-repair. He therefore introduced a key distinction between engineering resilience, which refers to the time it takes for a system to return to its previous state after an external disturbance on the one hand, and *ecological resilience* relating to a more open and complex ability of a system to sustain productivity under pressure, while not necessarily 'returning' to any primordial state on the other.

Holling argued that resilience should be associated with qualities *within* a system rather than any end point or goal and thus 'if we are dealing with a system profoundly affected by changes external to it, and continually confronted by the unexpected, the constancy of its behavior becomes less important than the persistence of the relationships'

(Holling, 1973: 1). By turning to a focus on relationships, Holling's view of ecological resilience becomes extendable to social systems as well. Indeed, as Jeremy Walker and Melinda Cooper argue 'under the sign of resilience, this is an approach to risk management which foregrounds the limits to predictive knowledge and insists on the prevalence of the unexpected', seeking to 'absorb and accommodate future events in whatever unexpected form they may take' (Walker and Cooper, 2011: 6).

This view has prospered in managerial accounts of resilience. For instance, Norris et al (2008) survey a number of ecological approaches (Holling, 1973; Waller, 2001; Klein, 2003; Carpenter et al 2001; Longstaff, 2005) in order to define resilience as '*a process linking a set of adaptive capacities to a positive trajectory of functioning and adaptation after a disturbance*' (Norris, et al 2008:130). A reflexive dimension emerges whereby the interactions of humans and particular ecosystems can combine 'resilience analysis, with a simultaneous focus on adaptive resource management and adaptive governance' (Walker, Holling et al, 2004: 4). Somewhat paradoxically, according to this view, resilience is deemed to be an emergent property of systems and - *at the same time* - a model for future policy agendas.

Common among these approaches is the notion of society as a set of relationships. The system is not founded upon any subject – be it the individual, institutions or sets of values - but on the *characteristics* of the relationships in times of stress. Thus, for managerial 'resilience as adaptation' perspectives, a given system is not equivalent to any particular state or equilibrium, but is instead adapting and changing over time, and taken to be innately 'positive' if understood as 'resilient'.

Resilience as governmentality

A more critical strand of thought influenced by the work of Michel Foucault has focused on the role of resilience in broader logics of governmentality (Dean, 2012; O'Malley, 2010). On this view, resilience is portrayed as an answer to the larger question of how to re-legitimate and re-energise neoliberalism and therefore a 'negative' value. While the governmental approach echoes a concern with adaptive relationships there is an important emphasis on the *disciplinary* quality of this (Bulley, 2013). Indeed, this literature seeks to problematize *what is at stake* in the discourse of resilience. It does this by focusing on at least four inter-related themes that we identify: the historical shift from liberal to neoliberal rationalities of government; the expansion of what counts as 'emergency'; the rise of anticipatory logics of response; and the production of particular forms of subjectivity.

Mark Duffield (2012) argues that the rise of resilience has been prefaced by two twinned shifts in the course of the twentieth century: that from modernity to postmodernity; and from liberalism to neoliberalism. Whereas modernity sought to banish God from the explanation of disasters as 'accidents or unusual occurrences', post-modernity has witnessed the internalisation of emergency as something intrinsic to human society (Duffield, 2012: 481). Emergency planning under the former paradigm involved predicting events, isolating and relocating threats, and protecting society using military and quasi-military means (Duffield, 2012: 478-80). Resilience, by contrast, is associated with the emergence of the latter paradigm whereby 'instead of fearing disasters per se, we are urged to learn the new life-skills of preparedness […] and so exploit the emergent opportunities that disorder inevitably creates' (Duffield, 2012: 480).

Though Duffield notes that resilience thinking and neoliberalism are not synonymous he argues that they are interconnected by dint of their co-emergence and that since the 1990s resilience has 'quickly become the lingua franca of preparedness, adaptation, and

survivability' (Duffield, 2012: 480). As is well established, neoliberalism – as opposed to classical liberalism – seeks to *maximise entrepreneurial freedom* in the context of private property, individual liberty, free markets, and free trade (Reid, 2012). With its emphasis on individuals reinventing themselves 'as more flexible and more adaptive […] models of their old selves' it is not difficult to see how the discourse of resilience sits comfortably with the main tenets of neoliberalism (Duffield, 2012: 486). More than that, however, this Foucauldian inspired critique of resilience points out that in its very attempt to cultivate self-securing and adaptable subjects, the discourse of resilience naturalises and reproduces neoliberal frameworks of governance (Reid, 2012:68-71).

Central to neoliberal frameworks of governance and the cultivation of societal resilience is the expansion of the concept of emergency (Anderson and Adey, 2011; Duffield, 2012). Whereas the notion of emergency was spatially and temporally contained in the context of older modern/liberal logics this has since become more generalised and is said to constitute 'a new ontology of life' (Duffield, 2012: 481). Thus, for example, as Anderson and Adey have pointed out, the 2004 UK Civil Contingencies Act worked with a broader and deeper understanding of the term to include: 'a) events and situations which threaten serious damage to human welfare, or b) the environment, or c) war or terrorism which threatens damage to security' (quoted in Anderson and Adey, 2011: 1097-8). With the generalisation of the concept of emergency, so their argument goes, society is placed permanently on 'the verge of disruption', which, in turn, necessitates a governmental logic orientated around preparedness and pre-emption (Anderson and Adey, 2011: 1098). Filippa Lentzos and Nikolas Rose argue that this orientation constitutes a profound temporal shift in neoliberal forms of governmentality:

Attention to uncertainty poses problems for rationalities of risk management, nonetheless these uncertain futures must be rendered thinkable, prepared for and pre-empted or mitigated. […] This does not entail a resort to 'non-rational' ways to bring the future into the present, but rather requires the use of different modes of rationalization (Lentzos and Rose, 2009: 236).

Echoing Anderson and Adey (2011), Lentzos and Rose (2009) point to the rise of scenario planning, whereby practitioners seek to imagine different forms of catastrophe.[2] In the context of UKCC, this future preparedness is encapsulated in the discourse of resilience, which 'has become something that can be engineered into systems, organisations, perhaps nations and persons' (Lentzos and Rose, 2009: 243). Thus, a governmental approach places a critical spin on the logic of adaptation identified by managerial approaches by portraying it as an *engendered logic* rather than a straight problem-solving exercise:

A logic of resilience, then, is not merely an attitude of preparedness; to be resilient is not quite to be under protection nor merely to have systems in place to deal with contingencies. Resilience implies a systematic, widespread, organizational, structural and personal strengthening of subjective and material arrangements…[…] Perhaps the opposite of a Big Brother state, a logic of resilience would aspire to create a subjective and systematic state to enable each and all to live freely and with confidence in a world of potential risks (Lentzos and Rose, 2009: 243).

---

[2] Anderson and Adey (2011) argue that emergency exercise planning in the UKCC context is in fact not animated by apocalyptic or catastrophic scenarios, but rather plausible events that may just happen. Nevertheless, both Lentzos and Rose (2009) and Anderson and Adey (2011) agree on the importance of the scenario, foresight, and preemption as a mode of governance in the name of resilience.

In this way, the issue of uncertainty is essentially folded into the governmental logics of neoliberal society via discourses of resilience. It is not a disciplinary logic in the sense of 'orders' or 'sanctions', however. Instead, the production of subjects capable of *living with* (an abstract concept of) uncertainty is promoted as a new framework of security (Dean, 2012: O'Malley, 2010). Furthermore, as David Chandler (2012) has pointed out, what follows from the valorisation of the resilient subject is the rendering of the non-resilient individual or community as 'vulnerable' and therefore in need of intervention of some kind: 'The interpellation as vulnerable can be applied to individuals – the 'at risk', 'socially excluded', or 'marginal' – as well as to communities – 'the poor', 'indigenous', or 'environmentally threatened' – as much as to states themselves – the 'failing', 'failed', 'fragile', 'low income under stress', or 'badly governed' (Chandler, 2012: 217; see also Bulley, 2013).

A performative approach to resilience

Despite their ostensibly different outlooks, both managerial and governmental approaches emphasise the centrality of resilience as a means for coping with uncertainty, either in terms of a positive inherent trait, or as a negative neoliberal idea(l). Resilience is thus presented on both accounts as a privileged existential category, albeit with differing views on its political (and ethical) attractiveness. While both are clearly important in the genealogy of thinking about the broader governance structures of contemporary society, there is a sense in which they equally overstate their explanatory power and (ironically in the case of the latter approach) understate *the contingency of practices of resilience*. In other words, we would argue, it is precisely the contingent dimension of attempts to live with and govern via contingency – the relational, indeterminate, and open nature of appeals to resilience and their multifarious effects – that both perspectives tend to underplay.

By glossing over the particularities, differences, and singularities of happenings problematized and narrated *as* resilience there is a risk of re-producing resilience as an all-encompassing, 'successful', and somehow inevitable logic. This is not so much a wholesale critique as an invitation for analysts of relations of (in)security to foreground the various everyday situations, knowledges, experiences, practices, objects, and materialities that combine to form an intertextual discourse of resilience on the one hand and yet remain characterised by ambiguity and ambivalence on the other. Moreover, we suggest that it is necessary to also question how spaces of resilience are zones of uncertainty, creativity, and contestation as well as about logics of governance.

In addition to remaining sensitive to the broader logics of governmentality that accompany resilience, we argue that it is also important to ask questions about the details of multiple and varied resilience practices: which actors and expert knowledges are involved in contemporary resilience policy and practice; who and/or what is included/excluded; and whether resilience always *does* and *means* the same thing across different contexts.

Addressing these otherwise occluded lines of enquiry could give some important insights on how resilient knowledge is performed: less as some unwieldy monolith and more as a set of knowledge practices that may or may not cohere, or even work, on their own terms. On this view, the everyday performance of resilience is not deducible to grand logics of adaptability or neo-liberal governmentality – though they tell a part of the story – but must engage with details, of how such logics materialise and affect different subjects in various ways.

Our approach to performativity draws upon the work of Butler (1993: 2) to examine the 'reiterative power' of the discourse of resilience 'to produce the phenomena that it regulates and constrains'. The politics of this 'reiterative power' lie in the onto-political insight that any attempted closure entailed in a given performative is always already

contingent: as Butler (1993) argues, such closures depend on audience reception, uptake, phrasing, and – under certain circumstances – the potential for subversive readings. Thus, drawing on Butler's famous example, gender may well be performed in hetero-normative terms – with a set of oppositions (e.g. to homosexuality and transgender identities) and regulatory hierarchies (e.g. within and between sexes), but the very fact that it depends upon such exclusions means that the performative is inherently unstable. As Butler has recently underlined:

> [...] breakdown is constitutive of performativity (performativity never fully achieves its effect, and so in this sense "fails" all the time; its failure is what necessitates its reiterative temporality, and we cannot think iterability without failure). Its moments of breakdown are also important for another version of "critique" (Butler, 2010: 153).

On our reading, performativity entails fragility, complexity and radical intertexuality, and a performative approach is one that poses questions such as: *Does a particular knowledge-practice 'perform'? If so, how? If not, how?* Instead of reducing discourses of 'resilience' to a coherent underlying logic (whether it be of adaptation or governmentality), we draw on Butler's thought to reorientate our analytical focus towards what different material-discursive practices of resilience actually *do* and with what effects for *whom*. A performative approach emphasises that resilient knowledge has different genealogies, is performed in discreet (and sometimes overlapping) fields of application, and enlists (and is enlisted by) different professionals, technologies and aesthetics, to diverse and multiple ends. To this end, we now turn to a study of UK Civil Contingencies to investigate how resilient knowledge is articulated and performed with a specific focus on CNI Protection and Humanitarian Emergency Preparedness.

Critical National Infrastructure Protection

One of the chief methods through which successive UK governments in recent years have striven for a more resilient security architecture has been the development of an enhanced CNI protection programme. The term 'national infrastructure' is understood in broad terms as 'a complex mix of networks, systems, sites, facilities and businesses that deliver goods and services to citizens, and support our economy, environment, and social well-being' (Cabinet Office, 2011). UK national infrastructure is composed of nine interconnecting sectors: food; energy; water; communications; transport; health; emergency services; government; and finance. Of these, certain assets are defined across these sectors as being 'critical' to national infrastructure. Nationally, such assets are identified through the National Risk Assessment and listed as part of the National Risk Register (see Hagmann and Dunn Cavelty, 2012), while locally they are identified by Local Resilience Fora (Brassett and Vaughan-Williams 2013). In order to mitigate against a range of perceived risks from terrorism and other malicious acts, major accidents, and/or natural hazards, resilience is sought throughout CNI understood as 'the ability of assets, networks, and systems to anticipate, absorb, adapt to and/or rapidly recover from a disruptive event' (Cabinet Office 2011: 15).

The notion of resilient CNI is clearly not new. Indeed, the government of material infrastructures has been traced back to the eighteenth century (Lakoff and Collier, 2010). CNI protection as a matter of national security more specifically emerged with the problematization of enemy societies' dependence on infrastructures in the context of World War Two (Duffield, 2012). New forms of intelligence such as the US Strategic Bombing Survey (1944-6) were required in order to establish what CNIs existed and who depended upon them, which in turn informed decisions about allied morale bombing campaigns. These developments also led Western strategists and planners to see their own territory in terms of its potential weaknesses and this shift in spatial thinking paved the way for reconfiguring

national spaces in terms of 'threat, vulnerability, and response capacity' (Lakoff and Collier, 2010: 255). In the UK, the 1930s saw the emergence of the concept of civil defence followed by the use of enactments during the Cold War – the 'Protect and Survive' campaign being an obvious case in point of contingency planning, preparedness against a nuclear attack from Soviet Russia, and the mobilisation of society on an emergency response footing.

Despite this longer history the securitization of CNI has arguably intensified in recent decades – particularly so since 9/11 – and this trend both reflects and has itself enacted developments in knowledge of risk framed as resilience. The 2010 UK National Security Strategy (NSS) referred to the improvement of the resilience of CNI as one of the key tasks facing the nation. Investment in CNI protection has reached an historic high with expenditure between 2001 and 2010 having tripled to £3.5billion per annum (Cole, 2010). At the heart of the UKCC agenda is the paradox that CNI is simultaneously regarded as both a protective layer of security throughout society and yet also one of the UK's chief vulnerabilities necessitating its own protection. Though usually considered to be a low probability event, the perceived risk of CNI collapse pervades UK government security policy and resilience planning. This fear is exacerbated by the fact that since the 1980s the privatisation of 80-90% of CNI means that the UK government is increasingly reliant on businesses (and citizens at large) to cultivate resilience at their own expense. The example that we use to illustrate the performative politics of resilient knowledge production in the context of CNI protection is the 'smart sensing platform' developed by the multinational defence firm CNIguard: a system designed to ensure the resilience of resilient CNIs.

CNIguard was established in 2005 with offices in the UK and US. According to its website (http://www.cniguard.com), the company 'works closely with government and industry at policy and operational levels to deliver smart solutions to water, electricity, oil and gas, chemical, telecommunications, border and defense sectors'. Its operations are

approved for the safety and security of CNI by the UK Centre for Protection of National Infrastructure (CPNI) and US Department of Homeland Security (DHS). One of its main products, the 'CNI2000 Intruder Detection System' (IDS) is designed to protect CNI assets such as electricity substations, water reservoirs, diesel tanks, oil rigs, gas pipelines, container terminals, and telecom towers by detecting interference with or intrusion into access points such as hatches, infrastructure doors, and covers. The system is comprised of a series of sensors that detect intrusions, disruptions, and systems failures arising from a range of possible attacks. Thousands of CNIguard IDS systems have been installed across a range of CNI assets – particularly water storage facilities perceived to be vulnerable to terrorist disruption or contamination – across the UK.

Unlike conventional sensing technologies the kind of resilient knowledge performed by the CNI2000-IDS does not operate according to a simple binary logic of opening and closing. Rather, as Figure 1.2 below illustrates, the system consists of a series of interconnected auto-calibrating technologies that can independently *learn* in any given environment and then self-adapt according to its own interpretation of emerging conditions. Sensors have seismic detection properties that can identify the specific frequencies of activities such as banging, cutting, and drilling. Information about individual frequencies is then cross-referenced against an existing database of pre-identified frequencies to rule out potential false positives caused by other sources of activity such as adverse weather conditions or, as one customer of the CNIguard system notes on its website, 'youths gathering to drink or occasionally host impromptu barbecues'.

When new disturbances are detected their frequencies are recorded and added to the database, which then allows the network as a whole to *learn from* new experiences as they emerge and thereby self-generate new forms of resilient knowledge. Audio technologies are employed as a rejection method: sensors arrive at their own 'decision' about the nature of the

activity and then feed this information back to a smart sensing platform that interprets the results. Thus, in contrast to more traditional forms of surveillance, the CNIguard system 'does not rely on human interpretation to determine if a threat is real', but makes this assessment independently: it is capable of making its own (in)securitizing moves. According to Dr Edward Klinger, CEO of CNIguard, the product is designed to 'behave like a living organism that will develop and grow in its sensing capacities, and in keeping with threats posed by changing circumstances and end-user requirements'.[3]

Figure 1) The CNIguard 2000 IDS
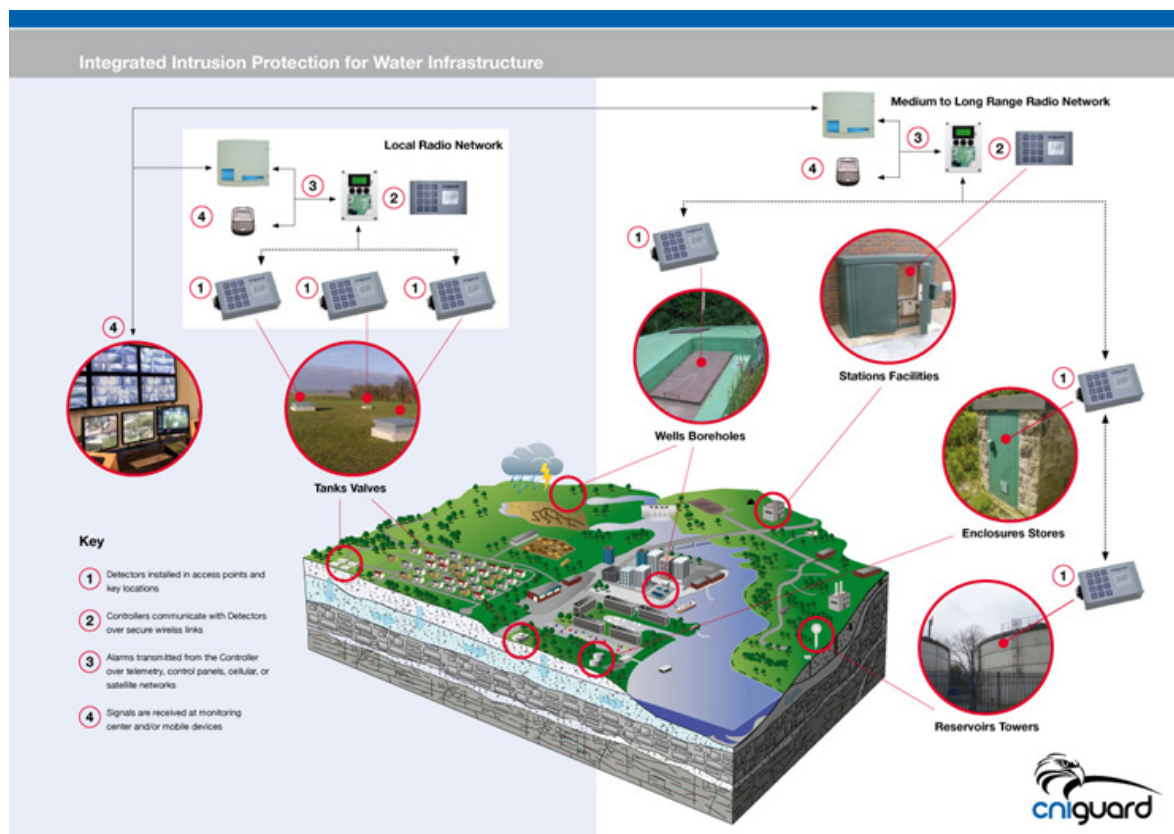
What can this system tell us about the contemporary performative politics of resilience? With its agential capacities to detect, analyse, report on, and learn from

---

[3] Comments made during a presentation by Dr Klinger entitled 'Drilling and Cutting Detection' attended by the authors at the 'Critical National Infrastructure' Conference, Britannia International Hotel, London, 9 June, 2011.

disturbances, the CNIguard 2000 IDS is an example of the emergence of complex automated systems designed to enhance the resilience of resilience. These automated technologies raise several issues hitherto unaddressed in the literature on resilience concerning what is at stake not only in the securitization of CNI (Aradau 2010), but also how efforts to enhance the resilience of CNI systems are also sites of performative (in)securitization. In the environment depicted by Figure 1 non-human 'smart' sensors – rather than human security professionals – interpret a given situation, cross-reference against existing databases of knowledge, and then decide whether a particular event constitutes a threat to national security. While the role of automated systems in categorising and assessing risk is already well-documented in the context of dataveillance (Amoore and de Goede, 2005; Amoore, 2009), the CNIguard example is novel precisely because it refers to the emerging reliance of discourses of resilience on non-human assemblages of *self-protection* in the risk management cycle. Put another way, it illustrates a belief in and dependence on the agentic capacity of technologies of protection to secure themselves: to ensure that infrastructures of resilience remain resilient.

The significance of automated self-learning technologies such as the CNIguard system for an analysis of the performativity of contemporary resilience politics can be drawn out in several key respects. First, there is a new onto-political dimension to consider when agentic capacities are located in non-human assemblages designed to enhance resilience knowledge and practice. Automated efforts to produce a resilient society challenge the dominant anthropocentric lens through which contemporary relations of (in)security continue to be analysed. This example therefore not only illustrates the importance of discursive-material interactions in those relations (Aradau, 2010), but also the performative agency of non-human systems in making intelligence-led risk assessments and *enacting* (in)securitizing moves – with open-ended and contingent effects – in the name of resilience (Bennett, 2010; Braun and Whatmore, 2010).

Second, while *prima facie* the securitization of CNI appears to be only of bureaucratic and technocratic significance, the prospect of automated systems performing (in)securitizing moves in response to perceived threats posed by *human* subjects introduces an additional ethico-political dimension. In online promotional materials CNIguard draw attention to an alleged incident on 14 May, 2013 at the Quabbin Reservoir in the US, which supplies drinking water to Boston, Massachusetts.[4] The advert refers to the 'suspicious' behavior of a group of foreign 'perpetrators from Pakistan, Saudi Arabia and Singapore' who, despite claiming to be 'recently graduated chemical engineers curious about the reservoir' were 'caught trespassing' the site after midnight. While the advert acknowledges that FBI investigations are ongoing and that the 'intentions of the intruders' are unknown, it nevertheless uses the case to demonstrate the need for 'heightened security measures at water treatment facilities across the United States'. In other words, as Roberto Esposito shrewdly observes of efforts designed to protect contemporary liberal societies at large, the advert seeks to 'adapt the perception of risk to the growing need for protection' via automated self-learning systems of resilience rather than 'adapting the protection to the actual level of risk' (Esposito 2011: 16).

Third, what the advert also illustrates is the performative connection made between (the framing of the need for) the securitization of CNIs and the perception of risk posed by *certain* human subjects – usually perceived to be of Asian ethnic origin – whose behaviours are deemed to fall outside of the 'norm'. The promise of the CNIguard system is to produce the kind of resilient knowledge that mitigates that perceived risk, but the performative nature and effects of this kind of interaction between automated sensing technologies throughout society and human subjects remain undetermined and may itself be a source of risk to liberal democratic values fuelled by an unintentionally self-undermining logic. For these reasons it is

---

[4] 'Security breaches impact two US water treatment facilities', http://www.wwdmag.com/security-breaches-impact-two-us-water-treatment-facilities (accessed 11 February 2014).

not merely the fact that non-human technologies of resilience are capable of making (in)securitizing moves that is at stake politically in our chosen example, but rather that technologies such as the CNIguard are, in Jef Huysmans' formulation, 'actants "netting" people, objects and issues together' in different ways under the rubric of resilience that may render diverse publics less secure (Huysmans 2014: 161). Only by tracing the performative effects of multiple and varied practices can we repoliticise the otherwise supposedly technocratic, value-neutral, and 'successful' façade of resilient technologies designed to enhance the resilience of CNIs.

Humanitarian emergency preparedness

Our second case study further explores these themes by examining another albeit seemingly distinct plank of UKCC in the form of 'humanitarian emergency preparedness'. Under the policy domain of 'Improving the UKs ability to absorb, respond to and recover from emergencies' the Cabinet Office has collected documentary knowledge and guidance on humanitarian emergencies with the resolution that 'The provision of humanitarian assistance is a multi-agency activity and it is important that this work is coordinated'.[5] In this way, aspects of humanitarian emergency preparedness echo the kinds of issues and actors that animate the case of CNI protection: it is orientated to the flexible coordination of multiple agencies in the context of the potential for as yet unknown extreme events.

However, an interesting dimension of this area of UKCC planning is the centrality of human subjects who might be drawn into the sphere of resilience practices through the experience of disaster, per se. While CNI seeks to performatively protect the physical and built environment to ensure that resilient systems are themselves resilient, humanitarian

---

[5] https://www.gov.uk/government/publications/humanitarian-assistance-in-emergencies (accessed 25/3/04).

emergency preparedness targets the idea of securing humans, to ensure the resilience of (potentially) resilient humans.

One mechanism that has been identified as central to this form of preparedness is the management of the psychological effects of trauma. This issue requires resilience planners to relax their technical aspirations and allow practitioners to engage with the human and *lived experiences* of disaster. As Tessa Jowell illustrates in her foreword to the Humanitarian Assistance guidelines document:

> The death of a relative or friend, or serious personal injury will in almost every case change lives forever. We know that the sensitivity and effectiveness of support people get in the first hours and days after such a trauma have a profound effect on how and whether they eventually come to terms with what happened.[6]

Indeed, the guiding logics of resilience in the field of psychological support/intervention – both individual and community centered approaches – have sought to break new ground in identifying how the traumatic dimensions of emergencies can be attended to in the most pro-active, coordinated, and yet *least harmful* ways. In this sense, the rise of resilience thinking about and planning for the effects of disaster on human subjects can be seen as an attempt to move beyond some of the worst excesses of 'therapeutic governance' that have already been outlined and critiqued by Vanessa Pupavac (2001). On this view, the genealogy of resilience in humanitarian emergency preparedness carries particularities that distinguish it from the ideas about resilience in other areas: specifically a normative component that (ideally) would

---

[6] 'Foreword to: Humanitarian Assistance in Emergencies: Non-Statutory Guidance on Establishing Humanitarian Assistance Centres', p. 3.
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/61221/hac_guidance.pdf
(accessed 25/3/04).

turn away from invasiveness, victimisation, or generalising the experience of trauma. Indeed, as we discuss below, trauma drops out of the discourse (semantically at least) to focus on the positive coping abilities of different subjects.

The central knowledge structure underpinning the logic of humanitarian preparedness as set out in a series of non-statutory guidelines of humanitarian assistance in relation to emergencies both echoes and develops the line of CNI protection considered above. First, there is a similar focus upon fostering multi-level, multi-agency co-ordination. As the humanitarian assistance centre guidance stipulates: 'The humanitarian response to any emergency will be a package of care, with a range of agencies working together. The exact focus and nature of provision will depend on the type of emergency, the impact it has had on the community, and people's needs'.[7] Thus, Local Resilience Fora are advised to develop strategies for planning and coordinating activities between multiple organisations that are expected to focus upon the provision of Humanitarian Assistance Centres (HACs). The expectation is that HACs can provide: a first point of contact for responders to provide basic shelter; information about what has happened; financial and legal support; *emotional support and hand holding*; advice and direction on how to get further assistance; communication facilitation – allowing people to meet each other; a link to any ongoing police investigation where relevant; and a point of contact for longer-term support.

Secondly, and somewhat differently from CNI, however, there is a more pervasive focus on developing particular knowledge about resilience in order to cope with and indeed mange the psychological impact of disasters. Picking up on a range of arguments within the sociology of psychological support, UKCC stands as a focal point in the shifting knowledge structure of disaster response from trauma to resilience as the key organising principle of disaster response (Howell, 2011). As National Health Service (NHS) guidelines suggest:

---

[7] Humanitarian Assistance in Emergencies: Non-Statutory Guidance on Establishing Humanitarian Assistance Centres'https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/61221/hac_guidance.pdf p. 10 (Accessed 25/03/14).

Current knowledge about resilience, risk and protective factors shows that it is difficult to predict who is likely to recover from their immediate reactions or from distress with support from families or provision of community and welfare services and who may have more sustained distress or develop a mental disorder. For these reasons, the generalised picture […] of how people respond psychosocially to traumatic events is intended to underpin planning, preparing and strategic management of services rather than to suggest that there is a single orthodoxy of clinical provision (NHS, 2009: 24).

The move to resilience signals a shift in psychological knowledge about what constitutes the most appropriate forms of intervention for subjects who experience traumatic events (Bisson, 2007). In a review of best practice, Dr Anne Eyre (2006), who is also closely associated with *Disaster Action* (a prominent counseling organization and NGO), charts moves from Critical Incident Stress De-Briefing, through to Psychological De-Briefing and then 'Psychological First Aid' as key examples of response modes by counselors. This shift was the result of nearly three decades of debate and reflection within the psychological community over the veracity of Psychological Debriefing as a mechanism for 'treating' so called 'trauma victims' (Brassett and Vaughan-Williams, 2012).

Whereas earlier techniques encouraged the immediate 'working through' of emotions at-the-scene, latter techniques were designed in light of a) the capacity of Psychological De-Briefing to 're-traumatise' and further the possibility of the individual developing Post-Traumatic Stress Disorder (PTSD), and b) better reflect the natural coping strategies of humans in relation to stress situations (in other words exhibit stress after a traumatic event is perfectly normal and by no means an indication of pathology). At the heart of this debate there emerged a critical divergence between a definition of the human as either *susceptible to*

PTSD, or more latterly, as resilient and capable of exercising natural faculties for coping with and responding to a traumatic event (Howell, 2011). On this view, resilience is posited as a more positive, less invasive way of understanding and responding to individuals that have experienced disaster.

However, for all the laudable intentions of counselors and UKCC guidelines, the performance of resilience via trauma counseling has been marked by several contradictions and breakdowns. While the resilience agenda seeks to reduce levels of intervention and over-diagnosis, there are important stipulations with regard to the 'types of human' and the kinds of professions that respond. For instance, while there is an interesting opening of the time frame for the event within resilience discourse - whereby an 'event' can be experienced in different ways (at different times) - there are also contradictory logics and practices which close down such possibilities. In particular, the definition of resilience in negative terms within UKCC, as not providing a 'blue-print' for response, actually licenses a range of models to be coordinated in and around resilient practices.

Despite the professed aim of understanding the positive coping abilities of individuals, a definition of the human *does emerge*, which allows for forms of categorisation according to psychological traits. Indeed, the non-statutory guidelines identify 'four types of human being': 1) Resistant people; 2) Resilient people; 3) People who have more sustained or persistent distress associated with dysfunction and/or impairment; and 4) People who develop a mental disorder. In this sense, as we have been suggesting alongside other commentators, a foundational subject is interpellated performatively through discourses of resilience, which is also simultaneously productive of other subjectivities as 'vulnerable' (Chandler, 2012). Resilience, posited as the reverse-positive of trauma, is thereby performed as a category.

Moreover, in the context of multi-level, multi-agency involvement, the nature of humanitarian assistance on psychological issues becomes a subject of negotiation between

voluntary and commercial actors in the NGO sector. In this complex milieu, Anne Eyre (2006: 3) suggests that common sense practices can downplay the importance of processes of working through: 'emergency planners often base their efforts on myths about human behaviour and reactions during and after disaster. Other common pitfalls, such as fragmented approaches to mental health and social support, and a tendency to see disaster planning as a product rather than a process'. As with CNI protection, private organisations are tasked with providing for their own ongoing psychological requirements, fostering a set of market incentives for Psychological De-briefing (as 'product) that is portrayed as a straightforward quick fix solution to the (managerial) 'problem' of trauma.

Drawing these points together, while knowledge about resilience points away from certain practices of rapid reaction intervention, the fact of allowing for private organisations to 'buy' a product means that such practices can continue, and indeed, on some arguments, encourage intervention through the inclusion of the voluntary and private sector actors with unstable income streams.[8] In this vein, it is instructive to note several innovations that proffer psychological resilience training devices and programmes. For instance, the Royal College of Psychiatrists now recommends that individuals practice Cognitive Behavioural Therapy Skills at the 'Mood Gym', a computer programme designed to give subjects a psychological 'workout' in order to avoid depression and other psychological symptoms.[9]

As with CNI protection, the unpredictable role of technology in producing new subjects can also be sketched through growing interest in psychological training packages. For example, the private organisation Trauma Resilience Training (TRT) provides bespoke programmes for organisations seeking to build resilience amongst their employees.[10] TRT is, according to its website, a proactive programme designed to help individuals and

---

[8] Indeed, confidential interviews suggest that trauma counseling NGOs that might otherwise view psychological de-briefing as problematic are nevertheless aware of the potential revenues of such activities and will tailor their practices to fit such market niches when necessary.
[9] https://www.moodgym.anu.edu.au/welcome (Accessed 11/02/13)
[10] http://www.traumaresiliencetraining.co.uk/ (Accessed 11/02/13)

organisations with an increased risk of exposure to 'traumatic events'. A central component of the course is to enable what they call 'positive adaptation in the event of a critical incident and aid a swift return to normal functioning levels', both at home and at work. Thus, focusing on pre-disaster resilience, TRT's manta is: '*Preparing to control trauma with resilience. Recovering more quickly from adversity. Learning for better survival. The secure approach to potential disaster*'. Reflecting the broader shifts towards anticipatory thinking in security politics also associated with CNI protection, the laudable critique of invasive practices *after* the event are replaced with more generalised practices of intervention *before* it unfolds. Dilemmas aside, there is also an interesting deferral of the very concept of trauma in this movement. A notion of psychological and emotional wound, so deep and painful that it cannot be expressed, is moved from its status as something that 'changes lives forever'. Instead, it becomes something that can be controlled through resilience; 'humans' can learn to avoid trauma by doing the appropriate 'cognitive exercises'.

What can these developments in the area of humanitarian emergency preparedness tell us about the performative politics of resilience as multiple and varied practices? First, there is an important specificity to the way that resilience has emerged from (and tried to overlay) debates over the limits of previous knowledge about trauma and PTSD. While resilience has a normative component – a respect for the human's potential coping abilities and encouragement of non-invasive care practices - there is an important politics to the naming and production of particular people and events as central to the security problematic. An (initially) ethical move entails an onto-political closure which levels down the apparently contingent and open experience of disaster that was apparently foregrounded.[11] By investing

---

[11] Such trends can be associated with wider critiques in the development literature that suggest the move to resilience has left untouched the basic premises of humanitarian intervention. This includes assumptions about individuals as potentially failing and in need of support, rather than members of thick social relations with hierarchies and/or rights (Gaillard, 2010; Cannon and Muller-Mahn, 2010). As per our critique of governmentality approaches, while we are sympathetic this general point, we would suggest that whether and

computer programs with cognitive-behavioural knowledge for the support of (unknown) individuals, in advance of disastrous events, resilience is performative of both insecurity and over generalisation (to the point of farce).

Secondly, as with the case of CNI protection there is a curious legitimacy in the resilience manoeuvre, that seemingly licenses agents and capabilities in a manner that creates new possibilities for the generation of (in)securities. Rapid reaction psychological de-briefing (as product) continues to risk (indeed encourages) the 'over-intervention' that resilience thinking sought to avoid, while various training packages and manuals seek to prepare individuals through the somewhat questionable practice of 'mood training', itself sold as a new stage of market preparedness. Paradoxically, the move away from judging post-event psychological reactions as 'traumatic' has been met with a far more ambitious project of building cognitive resilience in (potentially) any human, at any stage in their life.

Conclusion

Clichés abound in the interdisciplinary study of resilience. Indeed, there is a worrying consensus across government, business, and some quarters of academia that resilience is an unquestionably 'good' value to be striven for, invested in, and cultivated throughout society at whatever cost. However, while in many respects highly seductive, the concept of resilience remains somewhat abstract—both in theory and in practice. Metaphors such as 'bouncing back' tell us little about what this concept might mean, where it has come from, what work it does in authorising a range of policies and practices, who it affects, how, and why. At the same time as our politics are increasingly saturated with so-called 'resilient solutions' we seem disturbingly unaware of the political stakes of resilience as a technique of government and the subjects and objects performatively produced in its name. But while critical resources

---

how resilience re-articulates existing discourses like vulnerability, trauma, or civil defence, is an important and interesting question to ask of its performative politics.

exist in the governmentality literature for problematising resilience as a neoliberal response to uncertainty, these works tend towards abstraction and pay less attention to the contingent dimensions of governing via contingency. By contrast, drawing on Butler's notion of performativity we have sought to stress the unstable, relational, and ambiguous dimensions of contemporary discourses and practices of resilience in the context of the current UKCC agenda and the undecidable subject-positions that they give rise to.

Both of our cases demonstrate how a performative politics of resilience can play out in distinct, unintended, and paradoxical ways. In the case of CNI protection, a particular confluence of market logics with the objective of securing a potentially insecure infrastructure means that technology is imbued with agentic capabilities to shape the nature of the event and responses to it. This raises important questions about how non-human entities such as the CNIguard system increasingly 'net' and shape human subjectivities and political community in the name of performing societal resilience. In the case of humanitarian preparedness, well-meaning suggestions about how resilient knowledge might 'improve' the experience of disaster cross over with market providers to produce different and arguably more generalised forms of intervention. The licensing of trauma throughout the body politic (as something to be avoided through the nurturing of resilience) has, even through critique and revision, led to a pervasive acceptance that 'the event' is going to happen and that people must be mobilised to achieve a resilient subjectivity that may only be experienced randomly, if at all.

Across our case studies there are several points of commonality: the way resilient knowledge interacts with different issues and actors; how technology is enlisted to resilient practices; and the legitimacy that is both produced by and supports the continued roll-out of resilience practices. However, the diverse settings of CNI protection and Humanitarian Emergency Preparedness demonstrate that resilience as multiple and varied practice 'does'

different things in different contexts and often with internally contradictory outcomes: the CNI guard system performatively produces some subjects as 'threats' whereas the Mood Gym seeks to cultivate others as 'resilient individuals'. Yet it is precisely these undecidable and contingent effects that occupy a blind spot in both managerialist and governmental approaches. Ultimately, the performative politics of resilience instantiate diverse and often contradictory relations between human subjects and technologies, the experiences and outcomes of which may be productive, tragic, and/or banal: to recover this contingency (re)politicises resilience.

References

Adey P and Anderson B (2011) Event and anticipation: UK civil contingencies and the space-times of decision. *Environment and Planning A* 43:2878-2899.

Adey P and Anderson B (2012) Anticipating emergencies: technologies of preparedness and the matter of security. *Security Dialogue* 43(2): 99-117.

Amoore L (2009) Algorithmic War: Everyday Geographies of the War on Terror. *Antipode* 41: 49–69.

Amoore, L and De Goede M (2005) Governance, Risk and Dataveillance in the War on Terror, *Crime, Law and Social Change* 43: 149–173.

Aradau, C Lobo-Guerrero, L and van Münster, R (2008) Security, Technologies of Risk, and the Political: Guest Editors' Introduction. *Security Dialogue* 39: 147–154..

Aradau C (2010) Security That Matters: Critical Infrastructure and Objects of Protection. *Security Dialogue* 41: 491-514.

Bennett, J (2010) *Vibrant Matter: A Political Ecology of Things*. Durham, NC: Duke University Press.

Bisson, J (2007) Post-traumatic Stress Disorder, *British Medical Journal* 334: 789–793.

de Bruijne, M, Boin, A, and van Eeten (2010) Resilience: Exploring the concept and its

meanings. In Comfort, L, Boin, A and Demchak, C (eds) *Designing Resilience:*

Preparing for Extreme Events. Pittsburgh: University of Pittsburgh Press, 13-32.

Brassett, J. and Vaughan-Williams, N. (2012) 'Governing Traumatic Events' in *Alternatives*,

37(3): 183-187.

Brassett, J Croft, S and Vaughan-Williams, N (2013) An Agenda for Resilience Research in

Politics and International Relations. *Politics* 33: 221-228.

Brassett, J and Vaughan-Williams, N (2013) The Politics of Resilience from a Practitioner's

Perspective: An Interview with Helen Braithwaite OBE. *Politics* 33: 229-239.

Bulley, D (2013) Producing and Governing Community (through) Resilience. *Politics* 33:

265-275.

Burgess, P J (2007) Social Values and Material Threat: the European Programme for Critical

Infrastructure Protection. *International Journal of Critical Infrastructures* 3: 471-487.

Butler, J (2010) Performative Agency. *Journal of Cultural Economy* 3(2): 147-161.

Butler, J (1993) *Gender Trouble: Feminism and the Subversion of Identity*. London and New

York: Routledge.

Cabinet Office (2010) *A Strong Britain in an Age of Uncertainty: The National Security*

Strategy. Presented to Parliament by the Prime Minister. London: HMSO.

Cannon, T and Muller-Mahn, D (2010) Vulnerability, Resilience and Development

Discourses in the Context of Climate Change. *Natural Hazards* 55: 621-635.

Carpenter, S, Walker, B, Anderies, J, and Abel, N (2001) From metaphor to measurement:

Resilience of what to what? *Ecosystems* 4: 765–781.

Chandler, D (2012) Resilience and human security: the post-interventionist paradigm.

Security Dialogue 43(3): 213-229.

Coaffee, J, Murakami Wood, D and Rogers, P (2008) *The Everyday Resilience of the City: How Cities Respond to Terrorism and Disaster*. Basingstoke: Palgrave Macmillan.

Cole, J (2010) Securing our future: Resilience in the twenty-first century. *RUSI Journal* 155(2): 46-51.

Comfort, L, Boin, A and Demchak, C (2010) (eds) *Designing Resilience: Preparing for Extreme Events*. Pittsburgh: University of Pittsburgh Press.

Coward, M (2012) Between Us in the City: Materiality, Subjectivity and Community in the Era of Global Urbanization. *Environment and Planning D: Society and Space* 30: 468-481.

Dean, M (2012) Rethinking Neoliberalism. *Journal of Sociology*, first published online, April.

De Goede, M (2007) Underground Money. *Cultural Critique* 65: 140-163

Dillon, M and Reid, J (2009) *The Liberal Way of War: Killing to Make Life Live*. London and New York: Routledge.

Dillon, M (2007) Governing through contingency: the security of biopolitical governance. *Political Geography* 26(1): 41-47.

Duffield, M (2012) Challenging environments: danger, resilience, and the aid industry. *Security Dialogue* 43(5): 475-492.

Elbe, S (2008) Risking Lives: AIDS, Security and Three Concepts of Risk. *Security Dialogue* 39: 177-98.

Esposito, Roberto (2011) *Immunitas: The Protection and Negation of Life*. Cambridge: Polity Press.

Eyre, A (2006) Literature and Best Practice Review and Assessment: Identifying People's Needs in Major Emergencies and Best Practice in Humanitarian Response. Commissioned by the Department for Culture Media and Sport.

Gaillard, J G Vulnerability, Capacity and Resilience: Perspectives from Climate and Development Policy. *Journal of International Development*, 22: 218-232.

Government Office for Science (2011) *Blackett Review of High Impact Low Probability Risks*. London: HMSO.

Hagmann, J and Dunn Cavelty, M (2012) National Risk Registers: Security Scientism and the Propagation of Permanent Insecurity. *Security Dialogue* 43(1): 79-96.

Holling, C (1973) Resilience and Stability of Ecological Systems. *Annual Review of Ecology and Systematics*, 4: 1-23.

Howell, A (2011) *Madness in International Relations: Psychology, Security and the Global Governance of Mental Health*. London and New York: Routledge.

Huysmans, J (2014) *Security Unbound: Enacting Democratic Limits*. London and New York: Routledge.

Joseph, J (2013) Resilience in the UK and French Security Strategy: An Anglo-Saxon Bias?' *Politics* 33: 253-264.

Klein, R, Nicholls, R, and Thomalla, F (2003) Resilience to natural hazards: How useful is this concept? *Environmental Hazards* 5:35–45.

Lakoff, A and Collier, S (2010) Infrastructure and Event. In B Braun and S Whatmore (eds) *The Stuff of Politics: Technoscience, Democracy, and Public Life*. Minneapolis: University of Minnesota Press.

Laszlo, A and Krippner, S (1998) Systems Theories: Their Origins, Foundations, and Development. In Jordan, J S (ed.) *Systems Theories and A Priori Aspects of Perception*. Amsterdam: Elsevier Science, 47-74.

Lenztos, F and Rose, N (2009) Governing Insecurity: Contingency planning, protection, Resistance. *Economy and Society* 38: 230-54.

Longstaff, P (2005) Security, resilience, and communication in unpredictable environments

such as terrorism, natural disasters, and complex technology. Syracuse, New York: Author.

Lundborg, T and Vaughan-Williams, N (2011) Resilience, Critical Infrastructure, and Molecular Security: The Excess of "Life" in Biopolitics. *International Political Sociology* 5: 367-383.

NHS (2009) NHS Emergency Planning Guidance: Planning for the psychosocial and mental health care of people affected by major incidents and disasters: Interim national strategic guidance. Prepared by Emergency Preparedness Division.

Norris, F, Stevens S P, Pfefferbaum B, Wyche, K F Pfefferbaum, R L (2008) Community Resilience as a Metaphor, Theory, Set of Capacities, and Strategy for Disaster Readiness. *American Journal of Community Psychology* 41:127–150.

O'Malley, P (2010) Resilient subjects: uncertainty, warfare and liberalism. *Economy and Society* 39: 488-509.

Petersen, K (2011) Risk Analysis – A Field Within Security Studies? *European Journal of International Relations*, 23: 1-25.

Pupavac, V (2001) Therapeutic Governance: Psycho-social Intervention and Trauma Risk Management. *Disasters* 25: 358–372.

Reid, J (2012) The disastrous and politically debased subject of resilience. *Development Dialogue*, available on-line first in April.

Walker, J and Cooper, M (2011) Genealogies of resilience: From systems ecology to the political economy of crisis adaptation. *Security Dialogue* 42: 143-160.

Walker, B, Holling C, Carpenter, S and Kinzig, A (2004) Resilience, Adaptability and Transformability in Social–Ecological Systems. *Ecology and Society* 9: 1-5.

Waller, M. (2001). Resilience in ecosystemic context: Evolution of the concept. *American Journal of Orthopsychiatry*, 71: 290–297.

Zebrowski, C (2009) Governing the network society: a biopolitical critique of resilience. *Political Perspectives* 3:1-38.