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Governing the Network Society: A Biopolitical Critique of Resilience

Christopher Zebrowski
Keele University

Looking at the way risk is employed within the United Kingdom's Civil Contingencies Secretariat's policy of resilience, this article critically examines how contingency is managed within contemporary biopolitical security practices seeking to protect and promote species-life. Underlying these changes, it will be argued, are profound changes in the way species-life is generally understood in terms of a complex adaptive network. Paying particular attention to how contingency is understood within the literature on complex adaptive systems that inform contemporary notions of the 'network society', this article will seek to draw a link between risk and governance within the modern 'network society.' In doing so, this paper seeks to examine how advances in the protocological control of networks are informing biopolitical security practices and their relation to the governmental rationality of neo-liberalism.

All contributions are accepted for publication on the understanding that they represent the original work of their authors. This does not, however, preclude publication

> Even the thought of a possibility can shake and transform us; it is not merely sensations or particular expectations that do that! Note how effective the possibility of eternal damnation was!
>
> *--Friedrich Nietzsche*

It has been argued that the eradication, or at least management, of doubt is the driving feature of modern reason (Caygill, 1993). Indeed, the desire to render the future fully knowable has offered a fleeting horizon for both the disciplines of Political Science and International Relations whose emphasis on predictive capacity has been perpetually challenged by the force of uncertain global events (cf. Gaddis, 1992: 5-58). Indeed the recent incorporation of complexity models into theories of social (De Landa, 2006; Urry, 2003) and historical processes (De Landa, 1997) pose a considerable challenge to attempts to uncover timeless, universal laws upon which the unfolding of history and politics could be understood and ultimately controlled. Rather these theories stress the contingency and non-linear evolutionary properties of complex systems, such as social systems. This article examines how these understandings are shaping the contemporary security environment.

Focusing on the policy of resilience conducted by the United Kingdom's Civil Contingencies Secretariat, this article will trace the relationship

between an emerging ontopolitical conceptualisation of society in terms of a complex adaptive system, and efforts to manage contingency politically. Resilience represents a novel security strategy that recognizes the importance of preparatory measures within a contingent security environment. Resilience, defined as the capacity to bounce-back from external shocks, seeks to secure society from unpredictable systemic shocks by improving the evolutionary capacity, or "fitness," of the population. Thus far resilience has been primarily directed at the rapid regeneration and repair of critical infrastructures in the wake of a crisis within the UK; however these strategies are increasingly being operationalised in Europe as a result of European Union initiatives to create a common policy on European critical infrastructure protection (Burgess, 2007).

This paper will proceed firstly by examining the development of novel conceptualizations of society which stress its contingency and place emphasis on its ontological emergence. Secondly this paper will quickly examine the biopolitical implications of resilience as a novel security policy geared towards the promotion and protection of emergent life. Finally, this paper will examine the political consequences of the focus on contingency within these biopolitical security techniques through an

examination of how political imaginaries of catastrophe are being operationalised within discourses of risk to improve the resilience of British society. In doing so this article is principally concerned with shedding light on the relationship between arts of governance and the history of systems of expertise with respect to the evolution of security practices and politics in general.

The network society as a biopolitical object of security

The Civil Contingencies Secretariat was established in July 2001—three months prior to the September 11th attacks in Washington D.C. and New York City—with the aim of improving UK preparedness in the event of an emergency, be it environmental, viral or terrorist. While the terrorist attacks in Britain and the United States since that time have no doubt played a significant role in the advance of these new technologies, a quote from Bruce Mann, Director of the Civil Contingencies at the Cabinet Office, attests to the changing notions of "life" that have inspired the form of these new technologies:

> There has, since 2001, been a fundamental shift in the purpose and organisation of civil protection in the UK. The Cold War model of civil defence – focused on a single, monolithic threat, managed top-down by central government in secret and restricted to a small community – has gone. In its place has come a model better suited to a modern

> network society with its increased connections and interdependencies bringing with them greater vulnerability to external shock. The new model addresses a wide range of security risks, from terrorism through accidents to natural disasters. It involves a broad range of organisations, in the public sector and beyond. Work at local level is the building block of preparedness. And there is a premium on inclusiveness and transparency (Mann, 2007).

As the above statement makes clear, the introduction of the security strategy of resilience has less to do with the changing nature of threats in the contemporary security environment, and more to do with the changing organisational structure of life within advanced liberal societies; the need to adjust security technologies to the protection of the modern "network society". Coinciding with the advances in the quality of life that international telecommunications networks and just-in-time transportation networks have delivered to advanced liberal societies has been the intensification of certain threats suggesting that these complex networks have also made modern life increasingly vulnerable. The same networks relied upon by advanced liberal societies for a high standard of living are being exploited by other networked communities from viruses (both electronic and organic) to international terrorists who threaten to destabilise the contingent amalgamation of networks that contribute to the "quality of life" experienced in advanced liberal societies. The modern "network society", it is said, is in desperate need of novel solutions, which

take into consideration society's changing form, to protect it from these threats.

Here, the network society refers not only to the proliferation of communications, transportation and infrastructural networks which support modern life in advanced liberal states; it refers to the complex myriad of network structures through which advanced liberal societies are organised, supported and composed. The idea of the network society is related to, but goes beyond, the notion of the information society, which stresses the growing size and importance of information flows to contemporary societies (Webster, 2006), to emphasize the organisational structure of advanced liberal societies in terms of a complex of interlinked and interdependent networks (Berkowitz and Wellman, 1988; Castells, 1996). At a macro-level this refers to the co-evolution of economics, information technology and business practices that have produced the interdependent social and economic networks of globalised capitalism in the twenty-first century. It also refers to the complex network of critical infrastructures that support modern day societies and which are responsible for the "quality of life" experienced in advanced liberal societies (Collier and Lakoff, 2008: 33-35). Finally, but perhaps most importantly, it reflects a profound cognitive shift to network tropes and

informatic metaphors in understandings of "life itself", that are manifest within a vast array of discourses surrounding the "life properties" displayed by complex systems (Galloway and Thacker, 2007; Kay, 2000; Rose, 2007).

This new understanding of society poses a number of conceptual, and thus political, problems for the biopolitical security dispositif[1] charged with protecting and promoting species-life (Foucault, 1998: 143). Simply put, security is always directed towards the securing of a referent object (Dillon, 2007: 10-11). Indeed the way in which these objects are problematised through different discourses of danger give rise to different technologies and rationalities involved with their government (Dillon, 2007: 10). The emerging ontopolitical understanding of society contained within the idea of the 'network society' would thus be expected to have an effect on the techniques of governance which seek to promote and protect it. To understand the emergence of resilience as a security practice is thus firstly to understand how the 'network society' is understood and problematised within the contemporary security climate.

[1] I use 'dispositif; here to preserve the connotations held within the French term including 'disposition' and 'arrangement' that are excluded within English translations of the term as 'apparatus' or 'device.'

Unlike the fairly static conception of a society composed of bounded groups in hierarchical organisational structures, the ontopolitical representation of network-life is complicated by the very dynamism of networks themselves. Mathematical renderings within graph theory are forced to prioritise the spatial over the temporal elements of these complex, adaptive networks, providing a snapshot at any given time of the contingent network, but fail to register the most important element: namely, the dynamism of the system itself (Galloway and Thacker, 2007: 34). While contingency may be a problematic feature for taxonomy, it is a vital property of any species insofar as it is a mark of a species' ability to adapt to changes in its environment through evolution. The contingency inherent within any complex system, including living species and human societies, precludes fixed taxonomies based on ontological characteristics, and instead suggests an ontological understanding of life as emergent.

Emergent life, from human populations to viral communities, is defined as an 'adaptive and emergent process of non-linear adaptation and change' (Dillon, 2007: 11). Here, the continuous circulation of information, such as the genetic information contained within DNA, is paramount to any living system. The realisation of "life itself" in turn is dependent upon a

certain critical threshold of connectivity through which vital information is exchanged and above which self-emergence is made possible (Dillon and Reid, 2001: 43). Contingency within these living systems is recognised as a vital systemic property permitting the establishment of recombinatory forms of organisation necessary for the continued circulation of vital information in the event of a systemic shock.

Ironically, the same design elements that contribute to a system's capacity to maximise circulation, namely its dynamism or complexity, make control of these systems difficult, if not impossible to obtain without detrimentally affecting it. In other words, the conceptualisation of species-life in terms of an open and adaptive system precludes prophylactic security strategies. Indeed the fitness of any system is dependent upon its ability to interact with its environment. Instead these systems are secured *through* their contingency, by focusing on optimising the systems ability to respond to threats by evolving over or beyond them (Dillon, 2006). Optimising a system's capacity to evolve over external shocks, thus maximising a system's fitness, is referred to as engendering resilience (Dillon and Reid, 2001: 43-45).

The contingency of species-life and the correlative study of its complex adaptive behaviour thus respectively provide a target and an epistemic base for biopolitical interventions aimed at the security of British society. The next section will trace how these understandings are being applied within the contemporary UK security environment through the strategy of resilience.

Resilience and the Civil Contingencies Secretariat

The Civil Contingencies Secretariat was established in July 2001 within the core executive of the British Cabinet Office and charged with coordinating responses to national emergencies such as Y2K, the fuel tax protest and the foot-and-mouth outbreak that had disturbed British life over the previous year and a half (Dillon, 2005: 1). Operating upon a novel security strategy of resilience, the Civil Contingencies Secretariat was responsible for addressing the challenges to British society arising from the exponential increase in the circulation of people, money, ideas, goods, services, diseases and information that accompanied neo-liberal globalisation. Three months after its establishment, the events of September 11th 2001 propelled international terrorism to the fore of the post-Cold War security discourse and the Civil Contingencies Secretariat was quickly absorbed into Britain's national anti-terrorism strategy (Dillon, 2005).

As a security strategy, resilience differs markedly from prophylactic forms of security primarily concerned with thwarting an attack. Instead, engendering resilience into the social and infrastructural networks that animate species-life directs attention to the performative adaptability of these networks to withstand, re-route and recombine in the wake of a potentially catastrophic event to maintain systemic operability. Here, security does not refer to the absence of danger but rather the ability of a society to quickly and efficiently reorganise to rebound from a potentially catastrophic strike. As the primary threats to modern liberal life increasingly take on the organisational form of the network to operate within (exploiting) and upon (targeting) the complex networks sustaining the life of advanced liberal societies, then biopolitical governance is increasingly directed towards the realisation of a logistical life in these societies based on models of the most resilient of "living networks" (Reid, 2006).[2]

The Civil Contingencies Secretariat describes resilience as promoting "the ability to detect, prevent and if necessary handle disruptive

[2] Cf. John Arquilla and David Ronfeldt, "Fight Networks with Networks," http://www.rand.org/publications/randreview/issues/rr.12.01/fullalert.html#networks accessed: July 3, 2008.

challenges".[3] As a security policy, concerned with enhancing the ability of a society to rebound after a crisis, resilience is primarily focused on optimising the conditions required for the quick and efficient emergency response to any disruption in the provision of community services and resources deemed "essential of life".[4] As a result, resilience is directed at two levels: the first being to optimise the operational conditions for emergency response units; and the second to locate and secure the essential services required at the societal level.

The Civil Contingencies Secretariat is not directly involved with the direction of an emergency response, but instead seeks to optimise the conditions necessary for self-sufficiency and the emergent self-organisation of emergency units in the event of a crisis.[5] Similarly, the Civil Contingencies Secretariat is concerned with encouraging businesses and individuals to develop their own contingency plans so as to engender resilience within the private sector. As Bruce Mann, the

[3] "Capabilities Programme" *UK Resilience* http://www.ukresilience.gov.uk/preparedness/ukgovernment/capabilities.aspx accessed 31, August 2008

[4] Civil Contingencies Secretariat, *Civil Contingencies Act 2004: A short guide (revised)* available online at http://www.ukresilience.gov.uk/~/media/assets/www.ukresilience.info/15mayshortguide%20pdf.ashx accessed 31 August 2008.

[5] The status of emergency units is outlined within the Civil Contingencies act as follows: Category One responders are classified as those organizations at the core of the response to most emergencies (e.g. emergency services, local authorities, NHS bodies). Category Two organisations (e.g. Health and Safety Executive, transport and utility companies) are "co-

Head of the Civil Contingencies Secretariat, puts it, "[o]ur approach is to enable and to encourage".[6] In seeking to enhance society's capacity for self-repair and regeneration, the Civil Contingencies Secretariat is directed towards optimising the conditions of possibility for an emergent emergency response within all sectors of society following a systemic shock.

To compliment the sophisticated horizon scanning technologies of the Civil Contingencies Secretariat, relied upon to anticipate future shocks, resilience is being trained into British society through the use of disaster simulations as mandated within The Civil Contingencies Act Regulations with the stated purpose of "helping participants develop confidence in their skills and providing experience of what it would be like to use the plan's procedures in a real event".[7] Exercises are built around a wide range of challenges from natural disasters[8] to viral pandemics[9] to acts of terrorism[10], and have in the past been

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operating bodies" that are less likely to be involved in the heart of planning work but will be heavily involved in incidents that affect their sector.

[6] Bruce Mann, 'Protecting the UK's critical national infrastructure', *Contingency Today,* http://www.contingencytoday.com/online_article/Protecting-the-UK_s-Critical-National-Infrastructure/416 accessed: 18 August 2008.

[7] 'Exercises' *UK Resilience,* http://www.ukresilience.gov.uk/preparedness/exercises.aspx accessed: 17 August 2008.

[8] cf. 'Exercise "Triton"' *UK Resilience* (conducted June-July 2004,) http://www.ukresilience.gov.uk/preparedness/exercises/nationalcasestudies/triton.aspx accessed: 17 August 2008.

[9] cf. 'Exercise "Winter Willow"' *UK Resilience* (conducted 30 January & 19-20 February 2007) http://www.ukresilience.gov.uk/preparedness/exercises/nationalcasestudies/winter_willow.aspx, 'Exercise "Hawthorn"' *UK Resilience* (conducted 5 April 2005) http://www.defra.gov.uk/animalh/diseases/control/contingency/hawthorn/index.htm 'Exercise "Aurora"' *UK Resilience (*conducted September 2005) http://www.ukresilience.gov.uk/preparedness/exercises/nationalcasestudies/aurora.aspx all accessed: 17 August 2008.

conducted in international joint operations with supranational organizations including the G8, NATO, the EU, as well as on a bilateral basis.[11]

Instead of relying on rigid protocol, these exercises aim to promote self-sufficiency in the rapid convergence and emergent self-organisation of emergency units in the advent of a crisis. The capacity to adapt to unforeseen challenges is prioritised over the capacity to develop a single, all-encompassing plan for these challenges in advance (Dillon, 2005). These exercises seek to psychologically prepare emergency responders for real crises by simulating experiences that will build personal and team confidence, and give them experience in making real time decisions. Engendering resilience, however, also relies heavily on the imagination of those responsible for setting up the simulation itself, so that emergency units are continually confronted with a variety of "surprises" that will prepare them for the certain uncertainties that accompany "real" disaster. Here we note the convergence of the primarily American psychological literature on resilience (Bonanno G.A., 2007; Fredrickson, 2003; Kindt, 2006), focusing on the psychological and sociological factors that permit certain individuals or societies to cope with trauma, with the ideas of resilience dealt with in informatic and socio-ecological literature (Gunderson and Holling, 2002; Menth and Martin, 2004; Michael Menth, 2004).

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[10] cf. 'Exercise "Atlantic Blue"' *UK Resilience* (conducted April 2005 in joint operation with the United States and Canada) http://www.ukresilience.gov.uk/preparedness/exercises/nationalcasestudies/atlanticblue.aspx accessed: 17 August 2008.

[11] 'Exercises' *UK Resilience* http://www.ukresilience.gov.uk/preparedness/exercises.aspx#live accessed: 17 August 2008.

Similarly, then, resilience is also built into social systems through experience with actual crises and disasters. American literature, for instance, has examined the sociological differences between New Yorkers and Londoners, following the 9/11 and 7/7 attacks, in light of the psychological resilience built into British society through their historical experience with Irish terrorism (Kindt, 2006). Likewise, 7/7 highlighted the need to build resilience into the British telecommunications infrastructure (Civil Contingencies Secretariat, Cabinet Office, 2006). Interestingly, if resilience is enhanced through "real" disasters, then experience with these events is not necessarily completely undesirable—indeed they are opportunities to enhance resilience and test the morphogenetic properties of society. As a result, security becomes increasingly directed towards the temporal as opposed to the spatial, as the declining capacity for prediction in a complex society necessitates a re-formulation of security in terms of engendering the adaptive capacity to quickly and efficiently organise in the wake of a disruptive challenge.

These strategies are undoubtedly novel in the field of security, but they also reflect a shift in the techniques of governance that are employed in advanced liberal societies. Rather than impose top-down control as in a hierarchical military structure of defence, the Civil Contingencies

Secretariat seeks to promote self-sufficiency amongst emergency response units through training and the provision of a resilient communications infrastructure that units can depend on to circulate information during a crisis. Rather than coordinating the response, the Civil Contingencies Secretariat seeks to optimise the conditions necessary for the rapid convergence and self-organisation of an emergency response. As such, while not making redundant other forms of security, security in the "network society" is formulating new strategies for the specific challenges encountered by a complex society that take advantage of its network form. These changes have associated implications for theorising about governmentality in advanced liberal societies.

Governance in the age of the network society

Governmentality refers to the reflexive rationalisation of governmental practice that provides a discursive field of power/knowledge through which governmental problems are articulated and techniques of governance are rendered "thinkable and practicable both to its practitioners and to those upon whom [they are] practiced" (Burchell et al., 1991: 3). Indeed, the representation of objects of security and the problematics that arise through them suggest particular forms of intervention or strategies for dealing with them, which do not simply work

upon them in a passive and detached manner, but also actively reinforce the representation of these objects of governance. Governmentality is embodied within the ensemble of institutions, strategies and practices that have "the population as its target, political economy as its major form of knowledge and apparatuses of security as its essential technical instrument" (Foucault, 2007: 108). In studying the historical evolution of governmentality, Foucault emphasised how these "arts of government" were constituted by way of a strategic engagement with governmental problematics specific to the given period, and how these complex relationships, when taken together, established a framework through which the boundaries of the political discourse were circumscribed and reiterated (Foucault, 2007).

As Foucault stressed, to govern a hierarchically organised group, one imposes control in a top-down fashion, with attention paid to the production of "docile bodies" through which discipline could have maximum effect (Foucault, 1977). This was the model for the disciplinary societies of the seventeenth and eighteenth centuries where governance was aimed towards fixing subjects within a homogenous ideal—the "norm" (Foucault, 1977). The advent of the population, with its inherent laws and processes of development, required an evolution in

governmental technique from the top-down disciplinary governance of sovereign power, to forms of governmental intervention directed at the population's "own laws and mechanisms of disturbance" (Foucault, 2007: 337). Here, the advent of the network society has not fundamentally changed the object of governance, namely society, but has instead articulated a very different set of laws governing the dynamics of the population.

As Hardt and Negri note, "[t]he same design element that ensures survival, decentralisation, is also what makes control of the network so difficult" (Hardt and Negri, 2000: 299). As contemporary governmental strategies shift to cope with the problematisations that arise from this new aspeciation of life, they turn to the strategies developed within a diverse selection of disciplines that are amenable to the governance of societies, newly articulated through informatic tropes. The Civil Contingencies Secretariats policy of resilience is indeed composed of an amalgamation of strategies which seek to optimise the fitness of society conceptualised in terms of a complex adaptive system. While these strategies differ considerably from sovereign forms of governance, they do not signify any diminishing measure of government in advanced liberal societies as an examination of the governmental practices of the Civil Contingencies

Secretariat makes clear. Instead, governance is shifting from sovereign, top-down methods, to forms of control operating on *the conditions of possibility* of the referent object, which in this case is the species-life of society.

Life, articulated in terms of a network, is governed as a network. Informatic metaphors used to conceptualise the most basic elements and processes of life have encouraged the cross-pollination of ideas between a diverse selection of disciplines rooted in systems and complexity theory, and the conflation of strategies seeking to act upon these processes in the digital and life sciences. In the process, the distinction between biological and informatic "life" have become increasingly conflated when the most basic elements of life—DNA, RNA—are conceptualised and manipulated as code (Kay, 2000; Rose, 2007), when information systems are increasingly articulated in biological terms as "living systems" (Dillon and Reid, 2001; Galloway and Thacker, 2007), and when the threats to these systems not only organise in network form, but also operate upon and within the networked infrastructure depended upon for the realisation of contemporary liberal life (i.e. computer viruses, biological viruses, terrorist networks). The conflation of these different "life forms" is reinforced by, but also encouraging, common modes of

governance which seek to operate on the laws and processes inherent to these "living systems" as they are commonly articulated in both the biological and computational sciences as protocol.

Galloway and Thacker define protocol as "a horizontal, distributed control apparatus that guides both the technical and political formation of computer networks, biological systems, and other media" (Galloway and Thacker, 2007). Protocol is depended upon to connect and manage the relationship between the various networks comprising a complex system. As such it is primarily concerned with managing flows of information within and between networks. Protocol is neither imposed "top-down", as in sovereign modes of governance, nor is it a self-imposed, liberating, anarchic form of order springing from the "bottom-up" (Galloway and Thacker, 2007). Rather protocol is an "immanent expression of control" (Galloway and Thacker, 2007): a heterogeneous and distributed form of governance seeking to direct the flows of information underlying a system, but with an eye to managing the organisational evolution of a system. Put simply, "[p]rotocols serve to provide the condition of possibility, and protocological control the means of facilitating that condition" (Galloway and Thacker, 2007). As such protocological control is interested in complementing, if not controlling, the conditions of

possibility for the realisation of self-regulating order within a system (Galloway and Thacker, 2007).

Unlike disciplinary control, protocological control is a distributed form of control, given the heterogeneous nature of the layered protocols that govern a complex system. The internet, for example, consists of seven layers of protocol, made functional through the principle of nesting, whereby higher layers encapsulate lower ones, allowing smaller decisions to be preformed locally. Upper lays of protocol are thus dependent upon the self-sufficiency of lower layers to "do their job", so that upper layers invoking these lower layers can be sure what to expect. The resilience of a system is measured in terms of "contingency handling", which refers to the ability of a network to manage and adapt to "sudden, unplanned, or localized changes within itself" (Galloway and Thacker, 2007: 61). As such, protocological control, unlike disciplinary control, seeks to optimise the diverse functions of the heterogeneous layers of protocol operating within a system.

In recent years, protocol has been developed within biotechnologies to interface the "dry" networks of computers, with the "wet" networks of biological systems, allowing for the manipulation of organic information by computers (Thacker, 2005). In turn, protocological controls are making rapid advances in their ability to manipulate and control the most basic

processes of life. Dramatic examples include recent work in guiding the morphogenetic properties of stem cells for the creation of more specified cells for the purposes of organ regeneration or harvesting (Cooper, 2006; Dillon and Lobo-Guerrero, 2008: 286-289). These practices are contributing towards an understanding of life as "reprogrammable, instrumentalized and networked" (Joel Slayton in Thacker, 2005: *x*). Biopolitical governmentality has, in turn, been inspired by these governmental strategies, insofar as they are amenable to species-life newly understood as a complex, adaptive system. These sorts of techniques are clearly witnessed within the Civil Contingencies Secretariats strategy of resilience.

Governmentality, as a reflexive process concerned with how to best to govern, is faced with the changing ontopolitical conceptualisation of species-life in network form, and seeks to manage the problematisations which arise from its governance within the methods of governance that allow dynamic and evolving networks to organise and operate. These strategies are clearly evident within the Civil Contingencies Secretariat's policy of resilience that aims to perfect protocological control over the emergent properties of species-life. No doubt this is essential for optimising the conditions for infrastructural and societal regeneration in the wake of a potentially destabilising event, but it is also conducted in recognition that a

society capable of evolving over and through moments of contingent crisis is also one most prepared to capitalise on positive opportunities (Resilience Alliance, 2007: 8).

In seeking to optimise the conditions for self-emergent order, the governance characteristic of the "network society" breaks fundamentally from top-down models of sovereign governance and instead operates through diverse and distributed modes of control typical of network forms of organisation. This does not suggest, however, that sovereign forms of government are in the process of being replaced entirely. Rather, sovereignty is complemented and reconfigured by emerging forms of governance which take into consideration the ontopolitical reality of the "network society". Locating how legal and disciplinary modes of control are reconfigured within this emerging "order of the real" is therefore an important question for contemporary political theorists.

As the biopolitical governance of the "network society" is increasingly directed through the "living networks" said to comprise modern society, then the techniques of security begin to resemble the immediate and continuous control characteristic of the Deleuze's "control society" (Deleuze, 1995). Here, "ultrarapid forms of free-floating control" operate outside the old disciplinary institutions, to be effected continuously and without end

(Deleuze, 1995). Indeed, species-life in the "network society" is made amenable to these types of control through risk

Risk and contingency

While uncertainty has long posed an obstacle for statesmen, its understanding has been far from static throughout history. Its understanding as fate, or more precisely Machiavelli's *fortuna*, was radically altered in the wake of Pascal's discovery of probability which allowed chance to be quantified and measured (Hacking, 2006). Risk, in turn, commodified chance, allowing it to be bought, sold and thereby distributed through market-mechanisms in the form of insurance. As such, risk is much more than a particular disposition towards an unknown future; it is a social technology for rendering the future knowable and actionable, through the accumulation of actuarial statistics (Aradau et al., 2008: 150). Far from existing prior to the rationalities and technologies that reify it, risk is constructed through the practices which attempt to tame the uncertainty of the future by making it knowable. As such, risk is not something objective, something that exists prior to the discourses that render it understandable, but exists within the myriad of rationalities and technologies that mobilise it as a problematic to be governed. In light of the developments in biopolitical security practices the question is raised

as to how risk is mobilised as an instrument of biopolitical governance for societies increasingly conceptualised in terms of their contingency?

The large scale, catastrophic and highly contingent risks faced by the "network society" and dealt with by the Civil Contingencies Secretariat are extremely difficult to calculate because of their size and low frequency, exhausting the actuarial tools usually relied upon to calculate risk which require high iterations of an event. Instead, that which is beyond the limit of calculability must be approached though imagination, of what could *possibly* happen. As the simulations conducted by the Civil Contingencies Secretariat exemplify, imagination is increasingly being relied upon, as opposed to statistics, in order to reify the future and render it operable. In the process risk becomes virtual. Not in the sense that it is not real, but in the Deleuzian sense of the:

> potentiality that is immanent in every object and every situation. Unlike "the possible" which is opposed to the real, the virtual *is* real, which is to say that it exists as concretely in the present…a future to come that is already with us, but which remains ungraspable (Braun, 2007).

The way the future is thought, including what is acknowledged and prioritised, has real effects on the present. The way the future is thought can therefore lend considerable force towards a particular future that

could have been otherwise. Imagining some futures and not others has political implications (De Goede, 2008). While the risks dealt with by the Civil Contingencies Secretariat are approached through the imagination of what could *possibly* happen, these risks in turn structure the political imagination, enabling and constraining decision-making in the present. It is the imagination, not of a predicted future, but of a *possible* future, that structures and moulds the techniques and rationalities that comprise the contemporary security environment. As these imaginaries proceed to get increasingly darker, in order to exhaust the potential for "surprise" encountered within an actual crisis, the *virtual* level of threat, which is folded back into the present, increases exponentially, creating a persistent feeling of threat in advanced liberal societies. Rather than being harmful, however, the persistent articulation of threat is productive insofar as it has encouraged the operation of neo-liberal forms of governance as articulated by Foucault in his 1979 lecture series *The Birth of Biopolitics* (Foucault, 2004).

Neo-liberalism as a rationality of governance

In his lecture series, *The Birth of Biopolitics,* Foucault investigates the evolution of governmental rationality and techniques characteristic of neo-liberalism (Foucault, 2004). From the Ordo-liberals of West Germany to

the Chicago School, Foucault traced the development of neo-liberalism as the extension of market logic to understandings of social behaviour and the associated movement of promoting the market form as the organisational ideal for both state and society (Foucault, 2004: Ch. 3-4). In particular Foucault focused on how neo-liberalism relied upon the "responsibilisation" of individuals with respect to the risks they faced. Here, prudence entailed treating one's self as an enterprise with attention to one's own "human capital". These forms of governance and subjectivity are evident within the operational structure of resilience and raise interesting questions as to the ways in which neo-liberalism and protocological governance are mutually reinforcing in the governance of the "network society".

If neo-liberalism is characterised by the extension of market logics and forms of organisation into the social domain, then one must take into account the massive changes in economic, governmental and societal organisation with respect to the processes of neo-liberal globalisation since Foucault's death in 1984. As Foucault made clear, political economy has been a considerable source of governmental knowledge given that political economy reflects on how organisation and distribution within a society can maximise national prosperity (Foucault, 2004: 13;

Foucault, 2007). The globalisation of production is organised within a myriad of flexible networks, from supply-chains, to finance to telecommunications infrastructure, allowing multinational corporations to take advantage of gross differentials in labour between states by outsourcing production and many services overseas. The privatisation of public services within neo-liberal globalisation is built upon the same logic in which these contracts are outsourced, or privatised, to competing enterprises within the private sector, with the intention of lowering costs and boosting efficiency. The efficient networked structure of modern day capitalism is therefore a blueprint for an efficient model of governance and society. The emerging modes of governance associated with this conceptual shift should not be confused however with a declining measure of governance. Neo-liberalism may be associated with "de-governmentalisation of the state", but surely not "de-governmentalisation" *per se'* (Barry et al., 1996: 11). Instead, the governance of advanced liberal societies needs to be understood in terms of the strategies increasingly being adopted from disciplines already engaged with questions concerning the government of dynamic systems organised in network form.

Like protocological control, neo-liberal governance is directed towards optimising the conditions of possibility for the self-realisation of a dynamic, efficient and ultimately self-governing social system. To achieve this, neo-liberal governmentality is directed towards fostering a certain subjectivity, in which the subject is "resposibilised" to make prudent choices concerning their own future (Dean, 1999; Foucault, 2008). Indeed it is in the marriage of the complex, adaptive network structure of advanced liberal economies to a governmentality committed to optimising its conditions of possibility that the changing nature of biopolitical security needs to be understood in advanced liberal societies. Here we note the formation of a tight spiral in which the conceptualisation of society through network tropes encourages certain techniques or strategies of governance developed for the management of dynamic networks. In turn, the production of subjectivities that complement these structural forms also encourage their proliferation, confirming these ontopolitical imaginaries of species-life.

When neo-liberal techniques of governance seek to encourage the self-management of individuals and groups so as to optimise the nested, network structure of the modern "network society", then the individualisation of risk becomes a necessary step in producing the forms

of subjectivity necessary for optimising the efficiency of this form of organisation. “Preparedness” ensures the perpetual mobilisation of the public in anticipation of emergent threats while the individualisation of risk encourages individuals and businesses to develop prudence with respect to their own risk and security in advanced liberal societies. But it also shifts the responsibility of the state away from protection, and towards compelling businesses and individuals to develop their own contingency plans and providing tools for aiding them in this endeavour. This is clearly witnessed within the operational logic of the Civil Contingencies Secretariat’s policy of resilience.

The Civil Contingencies Secretariat is not itself directly responsible for reorganising society upon a more resilient model, but instead seeks to induce resilience through optimising the conditions necessary for the self-realisation of resilience by interested parties. This means focusing on building a resilient infrastructure to support emergent organisational structures and self-sufficiency amongst emergency responders, such as the development of a resilient telecommunications infrastructure through which critical connectivity of emergency workers can be ensured in the event of a crisis. But it also means encouraging a risk-responsible culture by promoting prudence amongst businesses and individuals in regards to

the management of their own individualised risk. UK Resilience, the website of the Civil Contingencies Secretariat, provides a wealth of information to facilitate risk-management within the private sector. This includes the National Risk Register, "designed to increase awareness of the kinds of risks the UK faces, and encourage individuals and organisations to think about their own preparedness[12] advice concerning the merits of regular risk-assessments[13] and aids for the development of contingency plans to ensure business continuity."[14]

If resilience is premised upon the constitution of prudent subjects, such as individuals and businesses, responsible for the management of their own risk, then it cannot be taken for granted the degree to which security technologies such as resilience are facilitated by the persistent articulation of risk through terror alert codes, CCTV risk spaces and emphasis on the spectacular in the media which abound in the political culture of contemporary liberal societies. Here, the formulation of the "war on terror" in terms of a war without geographic or temporal end is both a product of the emphasis placed on contingency in advanced liberal

[12] "Risk" *UK Resilience,* http://www.ukresilience.gov.uk/preparedness/risk.aspx accessed 17 August 2008.
[13] "Risk" *UK Resilience,* http://www.ukresilience.gov.uk/preparedness/risk.aspx accessed 17 August 2008.
[14] "Business Continuity" *UK Resilience,* http://www.ukresilience.gov.uk/preparedness/businesscontinuity.aspx accessed 17 August 2008.

societies as well as the source of enormous insecurity used to facilitate neo-liberal forms of governance (Reid, 2006: Ch. 1). Similarly, the dark imaginaries employed to create novel scenarios for resilience exercises, in a sense fold back onto reality becoming important tools for liberal governance aimed at "conducting the conduct" of populations through manipulation of their fears and insecurities (C.A.S.E Collective, 2006: 468).

As noted by Nietzsche in the epigraph introducing this article, this is far from the first time that fear has been used to garner control over a population. However, the relationship between risk and contingency within conceptualisations of the "network society" not only facilitates forms of neo-liberal governance seeking to "conduct the conduct" of populations, but similarly permits the proliferation and intensification of the most illiberal security technologies, such as those introduced within the contemporary "war on terror", for the protection of "our liberal way of life". As such, an understanding of how contingency is hyperbolised within the contemporary security discourse is dependent on recognition of the role of contingency within contemporary conceptualisations of species-life in terms of a complex adaptive system and the biopolitical

security dispositif charged with its protection and promotion (Dillon, 2007).

Conclusion

While security remains the foundational idea underpinning the legitimacy of the State, an analysis of the biopolitical security technique of resilience employed by the Civil Contingencies Secretariat suggests a fundamental shift in the rationalities and techniques of security employed in contemporary liberal societies. Far from the prophylactic conception of security normally considered in academic literatures, the strategies aiming to engender resilience into British society are specifically tailored for the promotion and protection of species-life newly articulated in terms of a complex adaptive system. This differs considerably from the notion of security that Western political philosophy for centuries has promoted as integral to the foundation and continued legitimacy of the State (Hobbes and Gaskin, 1996). Rather than a device for leveraging humanity out of the chaos and violence encountered within the state of nature, premised on the idea of a protection racket, biopolitical security strategies based on the notion of resilience re-characterise the State as the facilitator of an emergency response (Dillon, 2007: 19). Here the legitimacy of the State rests on its capacity to provide and organise, through a mix of private,

public and non-profit organisations, emergency relief and planning in the event of a catastrophe.

While this marks an important shift in the way security is understood and performed in advanced liberal societies, it has been considerably under analyzed within the security studies literature insofar as it does not fit into the "state/legitimate violence complex" (Lobo-Guerrero, 2008) characteristic of traditional approaches to International Relations and Political Science. A biopolitical approach to these new forms of governance offers an analytical tool for understanding the shift in security rationalities and technologies characteristic of the "network society". Especially in light of the "war on terror" that has hyperbolised the fear of low probability/high devastation threats characteristic of terrorism within the security discourse, an appreciation of how contingency is understood and employed within the biopolitical security dispositif is fundamental to explaining the changing nature of governance within advanced liberal societies.

As a reflexive rationalisation of how best to govern, biopolitical governmentality is constantly surveying for novel strategies to optimise the conditions of possibility for emergent life. Advances in biotechnology,

which through protocological control have been increasingly able to manipulate the most fundamental of evolutionary life processes of the stem cell, have provided a model of effective governance for the "network society" aimed at optimising and directing the pluripotentiality of species-life. As biopolitical security rationalities and techniques increasingly seek to bolster the fitness of species-life, the pluripotence of the stem cell represents the ideal form of heterogeneous evolutionary potential sought in advanced liberal societies while protocological control becomes the technique for optimizing the pluripotentialty of logistical life. In advanced liberal societies protocological control is directed through neo-liberal mechanisms of governance, based fundamentally in the individuation of risk.

As Foucault stressed, far from replacing existing modalities of governance, the emergence of new forms of governance tend to reconfigure the old to complement the new (Foucault in Burchell et al., 1991: 102). The analysis of risk and contingency within this paper suggests that the 'governance at a distance' characteristic of liberal societies is depended upon the production of a certain form of subjectivity, in this case, the production of prudent citizens responsible for their own risk-management. But where the disciplinary mechanisms

associated with disciplinary societies sought to produce subjects based upon the ideal of a homogenous "norm", the subjectivity produced by contemporary governmental practices is aimed towards the constitution of prudent subjects able to respond to changes quickly and efficiently. This, in effect, produces heterogeneity in the citizenry, as would be required by complex "network societies" and makes governance more efficient. These "chains of enrolment" produce an efficient networked form of governance, whereby subjects, who are empowered and "resposibilised", operate with a degree of autonomy from the state, while governance is dispersed through a mix of private and public institutions (Barry et al., 1996: 12).

An examination of the techniques of governance employed by the Civil Contingencies Secretariat clearly demonstrates how risk is being employed to "conduct the conduct" of subjects in advanced liberal societies. However, it also shows how contingency is becoming hyperbolised within the contemporary security environment. Indeed, as the war on terror has demonstrated, the contingency of international terrorism has induced a security environment whereby the most illiberal of security techniques are now being justified on account of the protection of "our" liberal values, and "our" liberal lives (Dillon, 2007). The "terror of contingency" and the "contingency of terror" are therefore mutually

reinforcing to create a climate of fear that permeates the security discourse (Dillon, 2006) with potentially disastrous consequences for societies “governed through freedom” through an emphasis on risk and individual responsibility.

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