Introduction: on resilience and solidarity

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ABSTRACT

In this introduction to the special section on Resilience and Solidarity, Vrasti and Michelsen explore the ambiguous and mobile relationship between these concepts, drawing on resources from political theory, before setting out the challenges that arise out of our current and apparently post-political moment. They argue that thinking through the relationship between resilience and solidarity constitutes a space for interrogation into political possibilities under the contemporary condition. The introduction then reviews and charts how this line of thought runs through the four papers that make up the section.

This special section addresses the sense that contemporary debates around resilience have centred on an ambiguous political content, perhaps even on its political evacuation (see, e.g. Chandler & Reid, 2016; Evans & Reid, 2014; Hall & Lamont, 2013; Joseph, 2013; MacKinnon & Derickson, 2013; Reid, 2012; Smith & Stirling, 2010; Walker & Cooper, 2011). Whereas in socio-ecological literatures (see Adger & Hodbod, 2014), the concept has retained a broadly positive connotation (as a means to conceptualise sustainable resource management) in its socio-political framing, resilience connotes a rather conservative, indeed pacifying rationality of governance that seems not so much to question the order of things as to foster social immunity or adaptability in the face of unavoidable risks (what we might term 'resilience from above'). The contributors to this special section seek to shed light on a number of ensuing questions: Does the rise to prominence of a concept like resilience mean that more agonistic alternatives for solidifying the social bond, like solidarity, must necessarily slip into oblivion? What does it mean to 'act in solidarity' with something or someone, and might this not also require a performance of resilience? How does 'resilience from below' emerge in the intensification of mutual aid ties at the community level, and how might this be related to the pursuit of different, even revolutionary, forms of political solidarity? These questions were initially explored at a two-day workshop titled 'Political action, Resilience and Solidarity' held in September 2014 at King's College, London, out of which the papers that follow were developed.

Resilience often refers to measures designed to make citizens better able to cope with sudden changes in their surroundings by expanding capabilities and training conducts, reinforcing infrastructure or encouraging networks of mutualism and cooperation (see Vilcan,

in this section). Yet, this understanding of resilience eschews the idea that coping with vulnerability, often the result of a depletion of rights, might also require new rights claims: rights to housing, care, political participation, economic and ecological security. Reid (2016) has recently argued that the resilient subject is expected to give up the liberal aspiration for security, enshrined in the social contract, to become an adaptive subject able to cope with exposure to a world that is necessarily hazardous. Resilience policies become in their effects 'managerial'. In the light of such arguments, the workshop set out to examine and problematise the distinct genealogies and interaction between Resilience and Solidarity, with particular focus on the problem of political action or agency. We discussed how the concept of solidarity, rooted in an Enlightenment belief in progress and perfectibility, might be understood to intersect with that of resilience, emergent from the very different vocabularies of complex systems theory, resulting from the homology created in the information age between technological networks and biological, and later social, systems.

The workshop noted that there are various potential grounds for thinking resilience and solidarity together in political terms. If we look at classical political theory, for instance, we can read the organising frame for social contract theory, in particular, as being concerned with the crafting of resilient sovereigns. This tradition, after all, assumes that political community is made, in an event of creative institution, and then must be sustained over time in the face of the pressures the often violent external and internal worlds may cast against it (see Boucher & Kelly, 2003). For Hobbes (2006), most famously, the only truly political action is the passing of the 'natural right' to kill over to the Sovereign, who, in exchange, institutes and administers law and order. Political life is perpetuated thereafter only to the extent that belief in that originary (mythical) political action of the contract is sustained. As Benjamin (1986) famously noted, the problem here is that all that sustains the Hobbesian contract is the ability to keep up the show with the threat of coercive violence. The resilience of the sovereign is predicated only on his (and it is nearly always his) ability to hold his subjects 'in awe' of his superior violence, coloured by fear of the anarchic alternative.

The whole of Hobbes' Leviathan may be read as an exercise in myth-making for political resilience, an attempt to preclude alternative sources of authority that might challenge the right of the Sovereign to sole authority. We can understand the text itself as a craft of myth-making that seeks to secure the resilience of social order with the fear of violence. In the light of the civil war context in which he wrote, Hobbes wanted to preclude any alternative register for, in particular, religious solidarity, which might make individuals risk their lives and so puncture the myth of sovereignty. The stability of the body politic requires that people do not see themselves compelled to risk death for other (higher) solidarist associations. *Leviathan*, as a political text, seeks to shore up and maintain the resilience of the sovereign's claim to an exclusive right to rule against alternative registers of political solidarity.

The implicit intersection between political resilience and political solidarity here is hardly only an issue of relevance to Hobbes' social contract theory. Hegel (1977, see also Adkins, 2007) viewed political action as a continuing creative historical praxis. In his account, we see the relationship between the history of political solidarities and the temporal problem of our openness to death take on a role which seems remarkably suggestive of, or at least open to, problematisation in terms of resilience. For Hegel, politics is simply what we do with the consciousness of mortality. Our awareness of our mortal limits drives us to construct different forms of solidarity, in the family, in the formation of the polis, and in civil society. This is how

we sublimate the impossible knowledge of inevitable individual negation, driving the dialectic of history forward in a succession of solidarities, striving towards a greater human or even cosmopolitan community. Indeed, in this sense, as Achille Mbembe (2003, p. 14) once noted, for Hegel 'politics is death that leads a human life'. The history of consciousness (or the 'life of spirit' in Hegel) is precisely the output of humanity's heroic resilience in the face of the brute reality of death (the absolute negation which drives the engine of history). In the step from Hobbesian 'Techne' to Hegelian 'Praxis', we see the origin of the revolutionary ideal: that the oppressive state may be challenged by better and higher registers of solidarity only by facing death. Recognition of the potential for change, for Hegelians, is precisely the result of our knowledge of the brute fact of the negative/death, and our capacity to drive history forward is the manifestation of our resilient adaptation to that knowledge.

In Hannah Arendt's account, politics can also be read as operating at the intersection between solidarity and resilience. For Arendt (1958), political action is no less a myth-making praxis, a continuous creative re-construction of narratives of solidarity or togetherness that institute the life-world of permanence and continuity. This stands in some tension with the Hobbesian ideal of a founding contract inasmuch as it frames itself as a continuing historical process, but Arendt also rejected Hegel's account, largely for its morbid qualities (see Seery, 1996; see also Birmingham, 2011). In seeing political action as a continuing historical praxis centring on the birth of new forms of solidarity, Arendt must nonetheless still hold that such narratives of being together need some resistance (resilience?) to dissolution, in her view acquired through the labour of sustained and continuing narrativisations. As Kateb (1987) observes, for Arendt's vision of creative myth-making political praxis to work, she must assume that communities struggle, sometimes to the death, to sustain their stories of self. This is what confers a process of continuous rebirth or political natality. Politics, understood as storytelling for collective solidarity, assumes the productive encounter with risk, uncertainty and death, as its guarantor (Seery, 1996). In this sense, political action for Arendt is precisely a problematisation of the resilience of political narratives of togetherness – as the labour to sustain and endlessly give rebirth to solidarity in the face of its uncertainty (Dillon, 2002).

All of this suggests that there may be untapped potential for a political conceptualisation of the relationship between resilience and solidarity. But there is also good reason for caution. Resilience thinking, in its contemporary formulation, comes out of left libertarian critiques of the Cold War logic of 'command and control', that strange blend of thinking that connects the California counter-culture to the Silicon Valley cyber-culture, and ecology to cybernetics (Turner, 2006). The complex system theories of the 70s rejected the notion of epistemological certainty and equilibrium, proposing instead an ontology of permanent turbulence, incomplete knowledge and unknown futures (Holling, 1973). Where crisis becomes a constitutive feature of complex life that cannot be prevented or predicted, as is the case with the Anthropocene, the best we can do is become resilient (Robin, 2014). Resilience is the ability of an organism or system to absorb changes and bounce back after external shocks whilst maintaining some sort of imperfect equilibrium (see Walker, Holling, Carpenter, & Kinzig, 2004). It is an attitude of constant preparedness for emergency and precarity and is otherwise generally agnostic about the causes of crisis or the direction of change (Pelling, 2010). According to two widely quoted authors, resilience is 'the acceptance of disequilibrium itself as a principle of organization' (Walker & Cooper, 2011, p. 154). Climate change fits this description best but increasingly also financial markets, political economy in general, resource

management, even democracy, inasmuch as it can be read as a political system that 'programme[s] itself for contingency' (see Luhmann, 1990, p. 49).

As a concept, resilience is resilient. It is highly adaptable and expandable, signifying endurance, preparedness, adaptability, ingenuity, activation, expansion, collective intelligence and even democratic mutualism (for a study of 'resilience from below' see Rebecca Solnit, 2009). Resilience can have positive connotations (e.g. a resistance movement can be resilient to repression) or negative (e.g. patriarchy can be resilient). It can apply to humans, non-human life, machines, geological matter or a composite of all the above. In fact, it can apply to any series of discreet elements assembled in a complex non-linear system, that is, a system where order emerges without central command and change occurs beyond linearity and predictability. Perhaps we find here the key appeal of resilience. In a post-anthropocentric (yet still anthropogenic) age, where systems seem too complex and increasingly volatile and fragile for human cognition to comprehend or manipulate, resilience recognises the limits and adapts the scale of our aspirations from Enlightenment hubris to a more moderate pursuit of equilibrium and adaptation. Resilience, we could say, is the agentic modality of a post-humanist (post-hubristic?) age. If resilience thinking currently holds any sociological merit for grasping societal processes as complex ecologies, it is perhaps because, with the increased subsumption of our nervous system into digital machines and network technologies (Stiegler, 2010), a cybernetic interpretation of sociology has become perfectly appropriate. But what kind of politics or political action can we expect from this paradigm shift?

With resilience, the question no longer seems to be: Do we agree with the way the world is organised? Does it conform to our conception of the good life? And if not, how do we change it? The question becomes rather: How do we develop conducts or capabilities to cope with or withstand powerful forces outside our control? The classic quest after the 'good life', once a starting point for both an art of living and the art of governing, is replaced by the more minimalist, almost realpolitik, striving for adaptive survival. And, as the philosophical content and humanist centre traditionally required for political action is evacuated, we also witness a shift from denouncing exceptional events, like floods or financial crises, as 'unacceptable' to resigning to them as 'unavoidable'. If we define politics as agonism, the virtue of contestation, as we have generally done in the modern tradition wherein solidarity also emerges, resilience suggests something rather accommodating: it wants to act as a stabilising force in a world of turbulence, uncertainty and, ultimately, anarchy. Unsurprisingly, it has been remarked repeatedly that resilience has established itself as 'a pervasive idiom of global governance' because of an intuitive fit with the neoliberal doctrine of there being no alternatives (see, e.g. Aradau, 2014; Bourbeau, 2015; Evans & Reid, 2014; Hall & Lamont, 2013; Joseph, 2013; Reid, 2012; Walker & Cooper, 2011). More than that, resilience thinking suggests that neoliberal rationalities of government have become so pernicious, according to some critiques (Chandler & Reid, 2016), that we can talk about an undoing or a degradation of the liberal order as evidenced in the shifting of responsibility from the state to the societal level via resilience fostering strategies and the resulting evacuation of the state's liberal political (pastoral) duties.

At the same time, resilience does not shy away from change. It is only agnostic about its content. To be resilient is not necessarily to close off the new (see Grove, 2013; Pelling, 2010). It is to be able to adapt in the face of the new without incurring wider collapse. The most resilient system is that which is permanently adaptive to transformation regardless of goals, purpose or rationale. Capitalism, for instance, is the resilient system *par excellence* not only

because it permanently evolves by learning from that which injures or threatens it, but also because it pursues no higher normative design than the reproduction of its core principle of survivability – abstract accumulation (a quality which Deleuze & Guattari, 1987, referred to as an 'axiomatic'). Capitalism is a complex adaptive ecology, indifferent to the conducts, aspirations and rationalisations of the elements populating it. It is concerned only with the continuation of process, not with the narratives and struggles that drive this process. If, in modern thought, change implies the dialectical striving of progress (essentially a transformation or overcoming of given conditions) in complex systems analysis, change comes in the form of feedback loops that know no history. Change carries little normative worth for resilience thinking. It is merely a reproductive adaptation for continued existence.

By comparison, solidarity begins to look increasingly like a rigid modality from a bygone era. Where are the large collective organisations, the working-class consciousness and the internationalist spirit to provide us with a sensible framework and concrete experience of solidarity? Solidarity seems to imply a kind of coherence of identities or, at least, a community of interest, which critical theories and progressive movements of late have struggled to decompose into 'multitudes of singularities', 'whatever communities' or 'a common ground without a common subject' (Hardt & Negri, 2004; Lingis, 1994; Nancy, 1991). To the extent that we can speak of solidarity in these times of neoliberal counter-revolution, it would make more sense to speak of negative solidarity, a resentful reversal of the original where potential allies (e.g. workers, minorities, the disenfranchised) become free-loading liabilities and rights turn into costly privileges because the only thing still connecting us is the health of the economy. This unlearning of solidarity is not only proof of the defeat of classically articulated socialism; it also bespeaks the blow which democracy (the rule of demos constantly to be recounted) has received under neoliberalism.

The difficulties critics face in trying to articulate the specific political content of solidarity might be resolved by suggesting that its specificity resides in the readiness to constantly redraw the count of those unqualified to rule, those excluded from rule, and in the process rethink the content and domain of democratic rule itself. Where resilience seems to strive towards systemic stability and survivability, solidarity refuses to take the constituted order for granted, imagining itself in an agonistic relation on the side of the emergent potential of constituent power, essentially the power by which humans become agents of their own history. This agonistic confrontation, which is less about taking power in a classic sense than about expanding the counter-power of those declared unfit to rule, is what places solidarity squarely within the domain of the political. We recognise this subtle yet significant difference (between political solidarity and the cooperative exchanges of community work or citizen responses to crisis) for instance, in the German conversation about 'refugees welcome' initiatives that provide basic resources to new arrivals but do not seek to involve them in developing common, self-run structures of care and governance that might increase refugees' capacity to act and, ultimately, citizenship. Some of the most interesting discussions at the workshop circulated around the suggestion that solidarity becomes truly interesting when it brings together non-equals, for example, Palestinians and Israeli anarchists, or union workers and asylum seekers, those who have something to lose and those who have nothing, to draw up the contours of a new common. Forged out of a dialectical conception of the world, solidarity seems to always contain a virtual dimension of a politics of the not-here-yet, and a promise of present conditions overcome. Whilst this transformative vision is what gives solidarity its unique force, we also recognise how, at a moment when modernity finds

its capacities for comprehension and intervention confined by planetary limitations, on the one hand, and computational limitlessness, on the other, solidarity can appear as an exceedingly demanding, indeed purist, aspiration.

In this sense, thinking through the relationship between resilience and solidarity seems to have an abiding significance inasmuch as it constitutes a space for interrogation into political possibilities under the contemporary condition (a point which is also exemplified in Chandler and Reid's unresolved dialogue around resilience and the Neoliberal Subject). The four papers that make up this special forum all suggest how we might begin to make these concepts work for us, and what they might do together. Whilst each paper evokes new terms and directions for debate rather than reaching a conclusion regarding the relationship between the two concepts, the entire forum is illuminated by Michelsen's recommendation that 'we should problematize any neatness and finality with which this is posited as the exclusive political meaning of the concept'. In their own way, each article notes the constitutive and uneasy slippage between the logics of power and their openness to critique at stake in the contemporary exercise of political agency.

The first paper, by Ute and Rhys Kelly, 'Resilience, Solidarity, Agency – Grounded reflections on challenges and synergies', responds to the urgency of the problematic by asking how activists make use of the language of resilience to pursue 'resourcefulness, self-reliance, solidarity and interdependence'. Drawing from survey and interview research conducted with a range of practitioners working in local peacebuilding, community relations projects, green and social justice activism, permaculture and transition towns, they observe the highly reflective manner in which those practitioners engage with the concept in, for example, distinguishing between 'helpful or problematic uses', depoliticising and empowering ones. Contrary to suggestions that resilience constitutes a seamless fit with neoliberalism, the authors suggest that 'the idea of resilience seems to play a role in recovering and supporting a sense of agency', at least within the networks studied in the paper. Kelly and Kelly offer the conclusion that the complex task of building solidarity and facilitating political action today requires more from us than a simple dismissal of resilience as politically degraded.

The second paper in the forum is by Tudor Vilcan, 'Articulating resilience in practice: chains of responsibilisation, failure points and political contestation'. Vilcan's piece launches from a similar set of questions as Kelly and Kelly, in presenting concerns about the folding of resilience thinking into neoliberal discourse. Treating resilience as a concept with still to be established political significance, Vilcan examines the Flood Community Resilience Scheme, a pilot programme initiated in the UK in 2012. Whilst accepting that the ethos of the FCRS seems aligned with the neoliberal impetus to develop new (and depoliticising) chains of responsibilisation for individuals and communities, Vilcan wants to test 'whether or not [these efforts] work in practice and to what extent. If studies of governmentality propose a connection between neoliberal forms of governmentality and the production of neoliberal subjectivity, they also need to detail the mechanism through which this is achieved and its rate of success'. What he finds is that points of failure and issues of political contestation necessarily enter the chain of responsibilisation as it is implemented on the ground. In seeking to encourage individuals to take ownership of flood risk management, practices of resilience asks individuals to develop a disposition of preparedness that brings individuals together to work as a solidaristic community. The process of intervening on the ground to implement such practices, however, is messy and riven with contestation, for instance by continuously producing contending narratives about how to manage flood risks. It generates a host of complexities and unintended

outcomes that confound any reading of resilience as depoliticising by producing instances of political agency outside the prescriptions of the policy. Vilcan's analysis defies any simplistic understanding of resilience in relation to a positive–negative, politicising–accommodating spectrum, since the official chain of responsibilisation always gets complicated by local political empowerment and points of failure on the ground.

The third paper in the forum by Daniel Sage and Chris Zebrowski, 'Organizing community resilience: An examination of the forms of sociality promoted in community resilience programs', continues this line of inquiry by zoning in even closer on the forms of sociality valued and promoted in community resilience programmes. In reviewing, first, the rediscovery of community since the 80s as a useful scale of governmental responsibilisation away from the solidaristic social democratic model of governance, and, second, more recent efforts to use crisis-induced aspirations for greater resilience as opportunities to 'reorganize communities as marketable commodities' from above, Sage and Zebrowski show just how deep a hold neoliberalism has over imaginings of community resilience. Still, like the others in this forum, the authors are reluctant to allow neoliberal governmentalism to claim exclusive ownership over the organisational possibilities contained in the term resilience. Emboldened by the residual potential of the term, they turn to alternative organisational forms associated with the worker cooperative movement.

The final paper in the section is by Nicholas Michelsen, 'On the genealogy of strategies: Resilience in the Revolution'. As with the previous papers, Michelsen launches from claims that Resilience cannot have a politics because of its intuitive fit with neoliberalism. Locating the root of many of these critiques in a genealogical approach, Michelsen revisits Foucault, and Nietzsche who first developed genealogy as a method. This methodological study suggests that resilience is not one thing, but a cloud of associations, ideas, concepts, practices and strategies captured and assembled by diverse forces or agents at distinct points in history. As a means to crack open the political possibilities of resilience, the paper then focuses on revolutionary strategies which bear the hallmarks of resilience thinking. Looking at seminal texts from the Latin American guerrilla movement, the paper argues that modes of resilience thinking are clearly far from the exclusive domain of neoliberal post-politics. Michelsen notes that some contemporary attempts to deploy nomadic strategies against the neoliberal state have done so precisely by extending the logics of resilience to build their own networks of solidarity that interrupt or parasitically inhabit the value chains of late capitalism. In this sense, Resilience seems to carry at least the potential for counter-conducts of radical political solidarity.

Disclosure statement

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References

Adger, W. N., & Hodbod, J. (2014). Ecological and social resilience. In G. Atkinson, S. Dietz, E. Neumayer, & M. Agarwala (Eds.), *Handbook of sustainable development* (pp. 91–104). Sheffield: Greenfield Publishing.

Adkins, B. (2007). *Death and desire in Hegel, Heidegger and Deleuze*. Edinburgh: Edinburgh University Press.

Aradau, C. (2014). The promise of security: Resilience, surprise and epistemic politics. *Resilience: International Policies, Practices and Discourses, 2*, 73–87.

Arendt, H. (1958). *The human condition*. Chicago, IL: University of Chicago Press.

Benjamin, W. (1986). Critique of violence. In *Reflections: Essays, aphorisms, autobiographical writings*. London: Trentham Books.

Birmingham, P. (2011). Arendt and Hobbes: Glory, sacrificial violence, and the political imagination. *Research in Phenomenology, 41*(1), 1–22.

Boucher, D., & Kelly, P. (2003). *The social contract from Hobbes to Rawls*. London: Routledge.

Bourbeau, P. (2015). Resilience and international politics: Premises, debates, agenda. *International Studies Review, 17*, 374–395.

Chandler, D., & Reid, J. (2016). *The neoliberal subject: Resilience, adaptation and vulnerability*. London: Rowman and Littlefield.

Deleuze, G., & Guattari, F. (1987). *A thousand plateaus: Capitalism and schizophrenia*. New York, NY: Continuum Books.

Dillon, M. (2002). *Politics of security: Towards a political philosophy of continental thought*. New York, NY: Routledge.

Evans, B., & Reid, J. (2014). *Resilient life: The art of living dangerously*. Cambridge: Polity Press.

Grove, K. (2013). On resilience politics: From transformation to subversion. *Resilience, 1*, 146–153.

Hall, P. A., & Lamont, M. (Eds.). (2013). *Social resilience in the neoliberal era*. Cambridge: Cambridge University Press.

Hardt, M., & Negri, A. (2004). *Multitude: War and democracy in the age of empire*. New York, NY: Penguin Press.

Hegel, G. W. F. (1977). *Phenomenology of spirit*. (A. V. Miller, Trans. with Analysis of the Text and Foreward by J. M. Findlay). Oxford: Clarendon Press.

Hobbes, T. (2006). *Leviathan*. New Haven, CT: Yale University Press.

Holling, C. S. (1973). Resilience and stability of ecological systems. *Annual Review of Ecology and Systematics, 4*, 1–23.

Joseph, J. (2013). Resilience as embedded neoliberalism: A governmentality approach. *Resilience*, 1, 38–52.

Kateb, G. (1987). Death and politics: Hannah Arendt's reflections on the American constitution. *Social Research, 54*, 605–616.

Lingis, A. (1994). *The community of those who have nothing in common*. Bloomington: Indiana University Press.

Luhmann, N. (1990). The future of democracy. *Thesis Eleven, 26*, 46–53.

MacKinnon, D., & Derickson, K. (2013). From resilience to resourcefulness: A critique of resilience policy and activism. *Progress in Human Geography, 37*, 253–270.

Mbembe, A. (2003). Necropolitics. *Public Culture, 15*, 11–40.

Nancy, J.-L. (1991). *The inoperative community*. Minneapolis: University of Minnesota Press.

Pelling, M. (2010). *Adaptation to climate change: From resilience to transformation*. London: Routledge.

Reid, J. (2012). The disastrous and politically debased subject of resilience. *Development Dialogue, 58*, 67–80.

Reid, J. (2016). Resilience: The biopolitics of security. In D. Chandler & J. Reid (Eds.), *The neoliberal subject: Resilience, adaptation and vulnerability* (pp. 51–72). London: Rowman & Littlefield.

Robin, L. (2014). Resilience in the anthropocene. In J. Frawley & I. McCalman (Eds.), *Rethinking invasion ecologies from the environmental humanities* (pp. 45–63). New York, NY: Routledge.

Seery, J. E. (1996). *Political theory for mortals: Shades of justice, images of death*. Ithaca, NY: Cornell University Press.

Smith, A., & Stirling, A. (2010). The politics of social-ecological resilience and sustainable socio-technical transitions. *Ecology and Society, 15*(1), art. 11.

Solnit, R. (2009). *A paradise built in hell*. London: Penguin Books.

Stiegler, B. (2010). *For a new critique of political economy*. Cambridge: Polity Press.

Turner, F. (2006). *From counterculture to cyberculture: Stewart Brand, the whole earth network, and the rise of digital utopianism*. Chicago, IL: University of Chicago Press.

Walker, J., & 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. S., Carpenter, S. R., & Kinzig, A. (2004). Resilience, adaptability and transformability in social–ecological systems. *Ecology and Society, 9*, art. 5.