The Future of Resilience

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Introduction

> "Don't get involved in partial problems, but always take flight to where there is a free view over the whole single great problem, even if this view is not a clear one."
>
> Ludwig Wittgenstein, 1914.

I'd like to thank David Omand for his kind introduction.[1] I was honoured to be asked to return to RUSI – and especially delighted to find that I was speaking at a session chaired by David.[2]

I am sandwiched between two distinguished speakers – both of whom are talking about specific future challenges (climate change and emerging diseases). I am therefore going to take a slightly different tack, looking at:

- How resilience can help us think about the complex and unstable world we live in.
- How it helps join up our thinking about a series of disparate challenges.
- The role that this process of *connecting the dots* can play in what, at a global level at least, seem certain to be turbulent times.

In other words, I am going to talk less about a specific future challenge to resilience, and more about the future of *resilience thinking* itself – arguing for the power of resilience as a lens through which we can unify our thinking about future challenges.

Starting points

I think that David's work provides me with a starting point to do this.

David is one of a handful of British public servants who have been at the forefront of changing the way we go about increasing resilience in the face of risk. In his work, David has emphasized:

- The growing vulnerability of modern systems to disruption.
- That the risks we face are psychological, as much as they are physical.
- That responses will not be simple, either in their conception or implementation.
- That we need to remember that the organisations which we expect to develop this response are themselves complex systems. In David's words, "more like people than machines." [3]

Drivers

I believe that we now live in a world where:

- Personal experience remains primarily *local* (though many people spent at least some of their time in dematerialised, virtual worlds).
- Politics is mostly *national* – at this level, the major decisions to tax, spend and regulate are taken.
- Issues are increasingly *transnational* – with risks unevenly distributed across borders and negative externalities from an action often falling on far flung groups.

As a result, we can expect to find ourselves time and again in situations where we face the prospect of cascading failure across national borders, in a way that has massive local impact, but that also defies national control.

This is the challenge at the heart of my talk, a challenge that will continue to be intensified by the familiar drivers of globalisation:

- Growing numbers of people will be connected to each other in growing numbers of ways.
- Systems will therefore have to become more complex – as they face demands to deliver more effectively and efficiently.
- At the same time, inequality is – barring an unprecedented shift in priorities – certain to increase, while the supply of strategic resources will become more limited.

The result, as I describe it in a paper that I have written with New York University's Alex Evans for the forthcoming issue of Renewal, will be:

> A potentially toxic combination of unfamiliar stresses and demand constraints, with growing numbers of shocks of greater intensity, and the potential for opportunistic attack from the discontented.[4]

At global, national and local level, we will need systems to perform with unparalleled innovation and efficiency, while not running down reserves, or suffocating us in complexity, and, at the same time, managing a massive transformation from high to low carbon growth.

Resilience thinking – the good news

So how does the concept of resilience help us think about this problem?

On the positive side, it demands that we think about interconnected, and nested systems, searching for what Wittgenstein described as a 'free view over the single great problem'.

It should also – though this is not always the case – force us to confront what I call the *tangible fallacy*, the idea that what matters most are the things we can touch. In general, we are most comfortable discussing infrastructure and other kit on the one hand, and suggesting changes to organisational structure on the other.

Instead, it should encourage us to pay much greater attention to intangibles – messy but vital concepts such as *confidence*, *trust*, and above all, *identity*.

Finally, it can help us escape from *policy paralysis*, by providing a way of thinking about problems that encourages us to identify points of entry and of leverage, and by helping organisations use a systematic analysis of the risks they face to set priorities for action.

Resilience thinking – reasons for concern

But there is plenty of room for humility, caution and concern.

Recent events have discredited those who have maintained that risks can easily be quantified and controlled. Whether faced by short-term shocks, such as the current financial crisis, or longer-term stresses imposed by the growing scarcity of strategic resources, it is clear that policy makers often do not understand the problems confronting them.

And that even when they do, there are substantial and structural barriers to effective collective action. We see this both in the short and long term. The current financial meltdown was widely predicted and has been a pressing cause for concern. It is instructive to look back at the IMF/World Bank meeting of 2006 when "a disorderly unwinding of [global] imbalances" was described as a pressing cause for concern.[5]

What did we do? Not much. If today's economic turmoil is a Black Swan – then the swan's arrival was widely heralded. I think the metaphor of a *slow- motion car crash* is more appropriate.

Looking at a longer-term risk – climate change – we see a very similar pattern. In Bali last year:

- All countries agreed that a post-2012 climate framework should be finalised by the end of 2009.

- The vast majority of countries accepted that global greenhouse gas emissions will need to be cut by at least half by 2050.

- Developed countries (the US excluded) accepted that they would need to cut emissions by 25-40% below 1990 levels by 2020.

The aspiration is clear – and informed by the unprecedented threat posed by inaction. But there is, I believe, very little prospect that we will reach a deal in Copenhagen and, if we do, even less that it will have anything like the ambition that countries aspired to in Bali. And *even then*, there is plenty of reason to be sceptical that any agreement would be implemented.

McKinsey has estimated that we need a ten fold increase or more in carbon productivity to achieve a stable climate.[6] This carbon revolution, it argues, must be achieved in one-third of the time taken by the equivalent transformation in labour productivity achieved in the Industrial Revolution. It's doable – but have we the will and the ability to co-ordinate the action of a sufficient numbers of actors? And can we do it at a time when the world will be confronted with a series of other pressing problems as well?

Finally, there is another worrying inevitability. As we become better at understanding the peculiarities and idiosyncrasies of interconnected global systems, and at applying that knowledge to make our systems, so will those who are engaged in deliberate disruption. There is no monopoly on knowledge. We are all reading the same research. We must therefore be prepared to expect an arms race with very different visions of the world, each using the same tools and techniques to propagate, evolve, impose and survive.

Definitions

At this point, I think it would be useful to pause and consider definitions. This talk complements one I gave earlier in the year, here at RUSI's fascinating Critical National Infrastructure conference.[7]

In that talk, I argued that:

> Resilience implies that *our* system maintains its identity in the face of threat. So it's not about rigid conservatism – a refusal to change under any circumstance, but instead an ability to flex and absorb threats, and to shift in response to them in a way that protects, reinterprets, and fulfils our own identity.

The definition of resilience that I prefer is as follows:

> The capacity of a system to absorb disturbance and reorganise while undergoing change so as to still retain essentially the same function, structure, identity, and feedbacks.[8]

At the heart of my definition is the key phrase – the potential of our system to 're-organise while undergoing change.' Let me offer a very brief and very broad categorisation of the *type* of future threats where we will have to tread this precarious path.

My typology has four parts – with a fifth that is both an add on, and more important than the other four combined.

- First, we have *catastrophic* events – the area which Bruce Mann has made his own at the Civil Contingencies Secretariat.[9] In the future, we can expect these to become more serious for three reasons. (i) The impact of climate change could make them more intense and/or more frequent; (ii) the way we live could make them more expensive and/or difficult to recover from; (iii) and globalisation will make us more exposed to events suffered by others – either through economic disruption or because migration is triggered.

- Second, *systemic malfunctions* – of the kind which we are currently seeing in the financial system. I won't say much more about this, other than to notice the characteristic pattern whereby growing quantities of risk became 'lost' in the system.

- Third, *deliberate disruption*. Again, I have already mentioned this, but just to underline that we face threatening actors that will learn to be more effective, either through conscious reflection and self-education, or through an evolutionary pattern or trial and error, combined with imitation and replication.

- And fourth, *new politics of scarcity* – what happens to systems that are constrained in their access to key strategic resources: food, water, energy, land and atmosphere space for emissions. One does not need to indulge in Malthusian determinism to notice that things will be very different in a world in which, along certain dimensions, there is only very limited space to expand.

Response – the biggest challenge

Unfortunately, many of these new threats are givens.

Indeed, I would argue that the only source of vulnerability that can be controlled is our own responses – and that the quality of this response is therefore the paramount future challenge to resilience. Brian Walker and colleagues express this well. "Because human actions dominate in social-ecological systems," he argues "adaptability of the system is *mainly a function of the social component* – the individuals and groups acting to mange the system." The actions of these individuals and groups – in most part the *unconscious* ones, but to a limited extent the *conscious* ones – are what will decide whether resilience increases or decreases.

I do not want to trespass too much further into the space occupied by tomorrow morning's session, which will look at how this response can best be shaped, but let me offer some very broad pointers.

First, I think we can see some common features in what happens when we respond poorly. On the one hand, we see *ignorance*, where actors simply fail to understand the risks they face, and *paralysis* (risks are identified, but an effective response is not forthcoming). On the other, we see a more fundamental *institutional failure*, where incentives are misaligned. This probably is both spatial (actors no longer behave as if they have shared interests) and temporal (actors increase their focus on short-term needs, while applying an ever-steeper discount to longer term goals).

What we see are thresholds or tipping points between:

- *Virtuous cycles of co-operation* where actors pursue their own interests, but within a framework that enables positive sum outcomes.

- *Vicious cycles of conflict* – where actors seem almost 'forced' to pursue divergent interests that lead to a negative sum outcome at a systemic level.

Policy responses have to 'nudge' systems in ways that make virtuous cycles more likely to develop, vicious cycles less like to do so. Resilience, then, is about creating conditions where long-term interests can be pursued.

Conclusion

So let me close by suggesting six steps that we might take to a broad, comprehensive and *political* response to increasing resilience.[10]

First, I think we need to use the work that has been completed on emergency preparedness as the kernel for a new paradigm for resilience. The aim should be to take what is still a functional area and push it into the mainstream of our political, economic and social life.

Second, we need to use this effort to achieve a synthesis across our understanding of local, national, regional and global risks. The aim should be to build shared awareness and a common language across a network with a steadily widening participation.

Third, as a general principle, we must follow Robert Axelrod's advice to encourage co-operation by 'extending the shadow of the future'.[11] I do not have time to develop this point in detail – but at all levels, the extent of our future orientation is a critical to effective development.

Fourthly, we need to respond to turbulent times with what I call the *Phoenix from the Fire* strategy. At a time of change, space always opens up for leadership, but leaders

with as many dangerous solutions as potentially productive ones. Our role is to make sure there is a powerful vision for strengthening global systems, while also indicating that retreat from globalization is not possible. A prosperous, secure, but unintegrated world of seven, eight or nine billion people is simply inconceivable.

Fifthly, we should move from this design to an institutional approach. And I use the word institution rather than organisation advisedly. An individual organisation is merely one player in the game. Institutions are the rules of the game itself, or what Douglass North calls 'the incentive structure of a society.'[12] It is at this level we need to operate if we are to favour the production of public goods, not their destruction.

Finally, a focus on resilience offers a chance to fundamentally reassess the role of government – and to look again at government's essential mission of providing security and prosperity. In effect, we need to draw a line in the sand, placing:

- On the one side, actions that genuinely contribute to resilience and fulfil government's role of providing public goods that non-state actors cannot supply unaided.
- On the other, alluring and appealing actions that, however popular, fail to produce a long-term outcome, while consuming scarce time, attention and financial resources.

In the years ahead, the world will be shooting the rapids. For governments, it will be a time to avoid distractions and focus once again on what they are *really* for.

Further reading:

'Shooting the Rapids: multilateralism and global risks', paper by Alex Evans and David Steven, commissioned by Gordon Brown and presented to heads of state at the Progressive Governance Summit, 5 April 2008. Available at http://globaldashboard.org/wp-content/uploads/2008/04/Shooting_the_rapids.pdf

'Looking Forward: how do we build resilience?', speech by David Steven to the RUSI Conference on Critical National Infrastructure, 5 April 2008. Available at http://globaldashboard.org/wp-content/uploads/2008/04/RUSI_170408.pdf

'Risks in the era of globalisation' article by Alex Evans and David Steven, for Renewal, forthcoming

For ongoing coverage of these issues, see http://www.globaldashboard.org/resilience

[1] Sir David Omand, Vice-President, RUSI and the UK's former Security and Intelligence Coordinator. http://tinyurl.com/3z5f8k
[2] The Royal United Services Institute: http://www.rusi.org
[3] Sir David Omand, Demos Security Lecture 2006, 20 December 2006. http://tinyurl.com/4fhz5a
[4] Alex Evans and David Steven, 'Risks in the era of globalisation', *Renewal*, forthcoming 2008.
[5] Opening Address by the Chairman, the Hon. Bharrat Jagdeo, Governor of the Fund and the World Bank of Guyana, at the Joint Annual Discussion. http://tinyurl.com/4c7pyk
[6] McKinsey estimate an increase from $740 GDP per ton of CO2e today to $7,300 GDP per ton of CO2e by 2050, but this is to stabilise at 500ppm, higher than most stabilization targets. McKinsey & Company, 'The Carbon Productivity Challenge: curbing climate change and sustaining economic growth', June 2008. http://tinyurl.com/4h6t85
[7] David Steven, 'Looking Forward: how do we build resilience', speech to RUSI Conference on Critical National Infrastructure, 16 April 2008. http://tinyurl.com/4aksrc
[8] Brian Walker, C.S. Holling, Stephen R. Carpenter and Ann Kinzig, 'Resilience, Adaptability and Transformability in Social-ecological Systems' in *Ecology and Society,* Volume 9, No. 2, Art 5, 2004. http://tinyurl.com/4d4sxk
[9] http://www.ukresilience.gov.uk/ccs.aspx
[10] For more detail on the approaches outlined in this conclusion, see Alex Evans and David Steven, 'Shooting the Rapids: multilateralism and global risks', 5 April 2008. http://tinyurl.com/3jft8q. And Alex Evans and David Steven 'Towards a Theory of Influence for Twenty-First Century Foreign Policy: Public Diplomacy in a Globalised World?', chapter in *Engagement: public diplomacy in a globalised world*, Foreign & Commonwealth Office, 2008. http://tinyurl.com/6k2ydo
[11] 'What makes it possible for cooperation to emerge,' writes Axelrod, 'is the fact that players might meet again. This possibility means that the choices made today not only determine the outcome of this move, but can also influence the later choice of players. The future can therefore cast a shadow back upon the present and thereby affect the current situation.' Robert Axelrod, 'Evolution of Cooperation', Basic Books, New York, 1984
[12] Douglass C. North, The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 1993, Prize Lecture, 9 December 1993. http://tinyurl.com/ywppys