Book Review: Daniel P Aldrich (2019) Black Wave: How networks and governance shaped Japan's 3/11 disasters, University of Chicago Press (Chicago and London)

Louise Elstow [1]

Daniel P. Aldrich begins *Black Wave*, by asking the question: Why were there significant differences in mortality rates in the communities affected by the earthquake, tsunami and nuclear disasters that hit the east coast of Honshu in March 2011? His answer is that social and structural relationships are significant; individuals and communities with stronger networks and better governance are both more likely than those without, or those relying on other disaster mitigation approaches, to survive the initial incident and to go on to thrive in the aftermath. One's chances of surviving a tsunami are less likely to do with the massive civil engineering structures being built or indeed rebuilt all along the Japanese Sanriku coastline in the name of tsunami hazard reduction (elevated roads, tsunami forests or sea walls, amongst others) and more to do with the networks and governance at play in neighbourhoods. This was interesting and surprising. I wanted to know more.

Three types of social capital are introduced to the reader: bonding, bridging and linking. Social capital is a social science concept pioneered by Pierre Bourdieu in 1970s and 1980s and then David Putnam in the 1990s, and was already explored by Aldrich in *Building Resilience* (Aldrich, 2012). Social capital provides a lens for looking at networks and governance, two critical factors during the response to the 2011 triple disaster (Aldrich, 2019). *Bonding social capital* describes the horizontal connections between people who are quite similar to one another. This is common between friends and 'people like us' (PLUs) who share the same interests and language and look at the world in the same way. *Bridging social capital*, on the other hand, would better describe someone who is an acquaintance; you have a weak tenuous link with them through perhaps a job or a hobby, but would otherwise not want to spend a lot of time with them (think of

[1] Lancaster University, correspondence address: l.elstow@lancaster.ac.uk

the annoying person at your gym class or work who you know works in PR, but you would not want to invite over for dinner). The third kind of connection, *linking social capital*, describes the vertical connections between people in different echelons (whether they are political, financial or social), linking residents with corridors of power. This might be someone who has a connection with the mayor's office or a wealthy person with influence; essentially this boils down to having a connection with someone with clout.

Individuals and communities with good social capital are more likely, Aldrich suggests, to look out for each other or listen to advice if warned of impending danger. They may also physically assist those who are vulnerable or unable to do so, to take action to protect themselves. Protection includes being made aware of a warning and taking action to move to a safe place. This is critical if the situation concerned is an impending tsunami. Aldrich provides data to support his claim that communities with higher social capital and networks suffered fewer deaths proportionately during the immediate earthquake, tsunami and nuclear disaster and were also able to recover more quickly afterwards. This is the first area to which Aldrich dedicates his book.

Aldrich's second area of investigation concerns the different rates of recovery in the three prefectures most affected by the Japanese triple disaster: Iwate, Miyagi and Fukushima. He uses Japan's National Institute for Research Advancement's (NIRA) recovery index as his starting point. NIRA produced two indices after the disasters, one expressing the status of recovery of basic infrastructure, and second expressing the status of activity. Broadly speaking, the recovery index expresses the overall rate of recovery based on an amalgamation of various variables, including rates of recovery of basic infrastructure, the ratio of number of hospital and medical facilities to pre-earthquake figures and the rate of removal of rubble (NIRA, 2011). The index assumes that the pre-earthquake figure represents 100. By using this index, this implicitly suggests that the goal of recovery is to return to 100 in the future. Ofunato, a coastal area in Iwate Prefecture to the north of Fukushima Prefecture, scored just 23 out of a possible 100 points soon after the disaster according to NIRA's data, but had achieved almost full recovery (99 out 100) a mere three years later. Futaba, a town very close to the Fukushima Dai-ichi Nuclear Power Plant, initially scored 29 in the index. It achieved merely 49 out of 100 three years later and, as a result, in Aldrich's book, is regarded as having a 'slow recovery time' (Aldrich, 2019, p. 91). Good networks and sound governance are at the heart of communities that fared the best in terms of recovery, and Aldrich believes this explains the discrepancy between towns like Ofunato and towns like Futaba.

This is an element of the book that stood out as notably clunky. Aldrich has chosen to present the Fukushima recovery alongside that of Iwate and Miyagi without really acknowledging –particularly early on–just how much impact the evacuation orders and radiation protection measures had on the speed of that recovery. The unique challenges faced by Fukushima are discussed in Chapter 4, by which time nuclear recovery issues have already been blended into

tsunami and earthquake recovery issues throughout the previous chapters. It seemed unfair to compare Ofunato (Fast Recovery Time) with Futaba (Slow Recovery Time). Of course, three years after the incident, Futaba had not been able to recover at the same rate as Ofunato; Futaba is one of the two host communities for the ill-fated Fukushima Dai-ichi Nuclear Power Plant. It has been subject to evacuation orders that are likely to extend for years, if not decades. Futaba's slow recovery is highlighted again later on in the book as if this is surprising and as if the reason for this needs to be unearthed. To this reader at least, it is quite understandable that a community in which vast swathes of land have been set aside to host contaminated soil and which is likely to remain evacuated for years to come may not have made a complete recovery within three years. Is it any wonder that it does not have all its infrastructure back up and running when no one is allowed to live there?

Well-managed and well-connected communities governed by institutional structures that listen to them and distribute resources effectively, he suggests, were able to rebuild the social and physical infrastructures needed to enable communities to return more quickly to their new post-disaster normal. Governance, we are told, is the political version of social capital and encompasses all the 'formal and informal interactions at the local, regional and international levels by which politicians and civil servants deliver services and make and enforce rules' (Aldrich, 2019, p. 20). These connections allow people to make their local political representatives aware of what they want and need, and to influence decision-making and policy setting that will determine those outcomes. Communities with good governance in the affected towns in Japan were able to leverage the connections that they had to get access to public and private funding, to connect with outside partners and to reflect the needs and wants of their communities in the recovery plans that they were putting together. Those communities with poor governance were hamstrung by bureaucracy, stymied by following seemingly arbitrary but mandatory instructions sent down from national government (such as instructions about specific sea wall heights) and shut off from providing feedback on the ongoing reconstruction plans. This resulted in some communities experiencing declining populations and poor economic outlooks while others flourished.

Black Wave follows on from research and arguments presented in Aldrich's *Building Resilience*, which received some criticism (including Gill, 2014, and McCormick, 2013) at the time, including of the methodology, for example, with Aldrich choosing to use crime rates as a proxy for social capital. McCormick felt that the level of detail on research methods in *Building Resilience* may not have 'entranced' some readers, and *Black Wave* appears in part to be a continuation of, and a response to, those kinds of criticisms. Aldrich points out in the introduction that 'social scientists can make the most interesting subjects dull and lifeless. Overemphasizing methodology—*how* we know what we know—rather than what we have learned may be partially responsible' (Aldrich, 2019, p. xv, italics in original). Perhaps as a science and technologies scholar, I am predisposed to think that that is precisely where the interest and the crux lie. In the introduction, Aldrich, responding presumably to the criticisms of his earlier book that there was too much by way of methodological explanation, rationalizes the paucity of methodology in the

book by trying, as he notes to 'submerge the methodological skeleton' into the appendix (Aldrich, 2019, p. xv), but this is perhaps swinging from one extreme to another.

I was fortunate to attend a talk by Aldrich about this book in Tokyo in July 2019. As with his confident writing style, Aldrich is an assured and persuasive speaker. His new safety myth, one concerned about sea walls rather than nuclear power stations, was presented alongside graphs of mental health statistics and political connections. I left the talk feeling that I ought to agree with the graphical and numerical figures that were presented to support his statements (and how can you argue with data?) but remained somehow uncertain. I hoped that the book would address this lingering uncertainty and wanted to understand more about the methods Aldrich had used to generate the data and the graphs. Where had the data had come from and how had he arrived at the host of graphs (here there is a positive correlation between variables, here there is no correlation between variables) that were used in the presentation. The same graphs I found out subsequently, were used to illustrate points throughout *Black Wave*.

It is clear that Aldrich and his research colleagues have invested a lot of time interviewing people and gathering statistical data. However, the mixture and volume of qualitative and quantitative data sources used, bounces the reader between one piece of statistical information to another and then on to a case study or anecdote, but with little explanation about the methodology. Some explanation was given, for example, about how Aldrich and his colleagues investigated the link between social capital and tsunami survival, but without an understanding of statistical methods, the supporting tables of data in Appendix A1 can be rather impenetrable. Aldrich seems to be asking us, as per Ted Porter, to trust in the numbers (Porter, 1995).

Initially, the structure of this compact book appears to be relatively simple. Aldrich addresses the issues of networks and governance through the lens of different levels, the individual, local, prefectural, national and international, devoting a chapter to each. By zooming out further in each chapter, he is able to show how different scales relate to the same issue. Nevertheless, within each chapter, he then weaves in the temporal aspects of initial response to the incident alongside longer-term recovery. Incorporating different geographical areas, Miyagi, Iwate and Fukushima, poses a further layer of complexity. Jumping back and forth between different times, here 2011, there 2018 and then back to 2012, can make it difficult to keep track of when the narrative is taking place. I found that I wanted to have some kind of [road]map, to refer to as I went along in order to put things into context and keep track of which area was being discussed as I moved through the book. The chapter structure imposes a neat order that belies the complexity of the information within the book.

Despite my misgivings about the structure and methodology of the book, I found that it provided some very thought-provoking points, such as the suggestion that post-disaster recovery

can often be viewed, in the eyes of the government as a technical issue rather than a social one. If governments view disaster in this light, the solutions tend to be technical as well, which leads in this case, to mammoth engineering projects and huge long-term budgetary upheaval. These government super-structures, welcomed initially by many people, have become increasingly more problematic over time as residents have become faced with the physical presence in daily life all along the coastline. Physically dominating of the landscape, social scientists have noted previously that such super-structures bring with them a host of negative social implications (Kimura, 2016), including communities physically shut off not only from (some) of the danger, but also its warning signals. The fishing communities most affected by the tsunami are additionally being cleaved of their access to the water and environment on which they rely. This point has far-reaching implications for public spending and public policy, not least as a guide to how, when and where to channel public funds.

One recommendation in the book is that communities promote not just engineering as a means to overcoming disasters, but that they are encouraged and allowed to promote instead the building of strong bonds within and outside of communities. These should be fostered internally and externally, with investment in the establishment of diverse bonds and networks with other partners outside the community. Nevertheless, concentrating solely on social networks being the answer to the issue of survival and recovery, to the exclusion of all other aspects (including physical infrastructure and engineering) is, I think, doing a disservice to the idea of strength in networks and connectivity. This is because it removes the efficacy of networks from other available disaster mitigation tools. I wonder therefore, if the answer is less about abandoning physical infrastructure projects in their entirety, in favour of bolstering social infrastructure exclusively, and more about finding a better balance between them.

Having undertaken a somewhat more informal research project myself in 2013 as a Winston Churchill Travelling Fellow looking at urban community resilience in Canada and the United States, Aldrich's book seemed to echo the idea that I had found, the idea that multiple diverse connections do good things in emergencies (Elstow, 2013). I too came to roughly the same conclusion that Daniel P. Aldrich comes to in *Black Wave*, that is, that people, networks and connections are more significant when responding to disasters and emergencies than we give them credit for. Aldrich's *Black Wave* takes this concept many steps further and provides some evidence for why this might be and what individuals, scholars and government officials can do to address common misconceptions about recovery and what works. Those who enjoyed Black Wave may also enjoy Lucy Easthope's *The Recovery Myth* (Easthope, 2018), which looks at recovery from an ethnographic approach, applying recovery lessons from flooding in Doncaster in the UK to post-disaster New Zealand. Easthope's work, although methodologically different to Aldrich's, nevertheless also highlights the importance of local networks, recovery tools and informal structures in fostering recovery. As such they may make a good pair.

Stuffed full of vignettes, statistics and real-life examples from not only the 3/11 aftermath, *Black Wave* makes a worthwhile contribution to the field of disaster management and recovery

planning by linking social capital to long-term recovery. This book would be of interest to those seeking to understand better the factors that help to contribute most favourably to post disaster recovery. This could include local government officials across the world, struggling to come to terms with the impact of a different wave, that of a pandemic. Students of disaster management will also enjoy the text as it demonstrates a good balance of theory against qualitative data, as long as the methodological style and structure is not distracting. It may also be relevant to those with a personal interest in finding out more about the 3/11 disaster, community resilience, sociology and geography. It is written in an accessible style, suitable for academics and laypeople alike.

References

Aldrich, D. P. (2012). *Building Resilience: Social Capital in Post-Disaster Recovery*, by Daniel P. Aldrich. Chicago: University of Chicago Press.

Aldrich, D. P. (2019). *Black Wave: How networks and governance shaped Japan's 3/11 disasters*, University of Chicago Press (Chicago and London).

Aldrich, D. P. (2019, July). *Black Wave: How Networks and Governance Shaped Japan's 3/11 Disasters*, talk presented at Institute of Social Science, University of Tokyo, Japan.

Easthope, L. (2018). *The Recovery Myth: The Plans and Situated Realities of Post-Disaster Response*, Palgrave Macmillan.

Elstow, L. (2013). 'Community Resilience in Urban Communities - Beyond Z-Cards and Grab Bags', Winston Churchill Memorial Trust, available online at www.wcmt.org.uk/fellows/stories/louise-elstows-story

Gill, T. (2014). Review of 'Building Resilience: Social Capital in Post-Disaster Recovery'. *Social Science Japan Journal*, 17(1), 118-122.

Kimura, S. (2016). 'When a Seawall Is Visible: Infrastructure and Obstruction in Post-tsunami Reconstruction in Japan', *Science as Culture*, 25:1, 23-43

McCormick, R. (2013). 'Book Review: Building Resilience: Social Capital in Post-Disaster Recovery by Daniel P Aldrich', *LSE Review of Books*, published 14 February 2013, available at https://blogs.lse.ac.uk/lsereviewofbooks/2013/02/14/book-review-building-resilience-social-capital-in-post-disaster-recovery/

Porter, T. (1995). *Trust in numbers: The pursuit of objectivity in science and public life*. Princeton, N.J.: Princeton University Press.

Siisiäinen M. (2000). 'Two Concepts of Social Capital: Bourdieu vs. Putnam', Paper presented at ISTR Fourth International Conference "*The Third Sector: For What and for Whom?",* Trinity College, Dublin, Ireland, July 5-8, 2000.