Disaster Times: Perspectives on Crisis Governance in Vancouver, Canada

Jonathan Eaton, University of British Columbia

Abstract

This paper explores ethnographically the relationship between temporality and disaster mitigation efforts in Vancouver, Canada. Based on more than one year of fieldwork that coincided with both the COVID-19 pandemic and a series of climatic disasters in 2021, I contrast emergency preparedness and mitigation mechanisms that prize predictable timelines and quantifiable results—so-called 'hard' infrastructural investments, such as sea walls and seismic retrofits—against 'soft' infrastructure, such as social programs and community connections. Through ethnographic engagements that include participant-observation, one-on- one interviews, and policy analysis, I highlight the efforts of Vancouver residents and City staff who, without minimizing the importance of physical interventions, consider sustained community-building activities to be an essential form of disaster mitigation and preparedness.

Introduction: Converging Crises, Diverging Temporalities

> You can't force trust. You need to actually work at it and foster it, and unless we're going to get to the point where we're building trust, […] we're not going to reach all these other lofty goals that we have. We need each other to do that. (Katia Tynan, Manager of Resilience and Disaster Risk Reduction, City of Vancouver)

From 2018 to 2022, I lived in Vancouver, Canada undertaking both coursework and fieldwork for my PhD. During that time, I witnessed a series of unfolding crises. Each added a layer of uncertainty, precarity, and urgency to a place already experiencing the stresses of highly inequitable distributions of opportunity and wealth and (inversely) risk and vulnerability. As a result, my fieldwork was shaped by varying disaster temporalities. When I moved to Vancouver in 2018, I was surprised to find a flurry of government messaging and public investments around seismic safety. The main focus was on the anticipated M9 earthquake and tsunami along the Cascadia Subduction Zone (CSZ) that would devastate communities along the Pacific coast. And yet, earthquakes are famously unpredictable hazards. Knowing that large earthquakes can occur in this region – something not understood by settler communities until the late 20th century (Thrush and Ludwin 2007) – knowing that they tend to occur every few hundred years (Goldfinger et al. 2012), and knowing that the last major CSZ earthquake and tsunami occurred in 1700 (Ludwin et al. 2005) still allows for uncertainty on the order of several human generations about when the next such event will occur.

Within this atmosphere of seismic uncertainty and facing a convergence of other crises, I witnessed a particular relationship between temporality and disaster in Vancouver that I

explore further in this paper. Emergency preparedness mechanisms that prize predictable timelines and quantifiable results tend to prioritize so-called 'hard' infrastructural investments, such as sea walls and seismic retrofits, over long-term investments in 'soft' infrastructure, such as social programs and community connections. The ethnographic engagements in this paper, however, highlight the efforts of Vancouver residents and City staff who, without minimizing the importance of physical interventions, consider sustained community-building activities to be an essential form of disaster mitigation and preparedness. This paper draws on data from encounters both inside and outside municipal government structures: with neighbourhood residents who have a passion for preparedness and with City staff members whose jobs are a balancing act. All of my ethnographic data was gathered while living and working in a city beset by crises, through a long process of relationship building and participant observation that involved, in some cases, multiple meetings and activities (in person or online) before conducting one-on-one interviews. As Katia notes in the epigraph, building meaningful relationships is a prerequisite to the trust that is necessary to survive disasters in the short term and plan for them in the long term.

As pervasive as the messaging was, a major earthquake was not the only potential disaster looming over Vancouver when I arrived in 2018. That August, as if to punctuate the looming climate emergency, the sky was a sickening shade of grayish brown, the nearby mountains obscured in smoke from surrounding wildfires (see Figure 1). The growing recognition of the effects of climate change led Vancouver to join many other municipalities, provinces, and countries in declaring a climate emergency in 2019 (Stacey 2022) and brought around 100,000 people into the streets of the city for a Global Climate Strike (Crawford, Eagland, and Saltman 2019).

Figure 1. Thick wildfire smoke darkens Vancouver's English Bay on August 15, 2018. Photo by author.

Then, in March 2020, as I was finishing coursework and planning my fieldwork, the world shut down in the face of the SARS-CoV-2 virus and ensuing pandemic.

I carried out the bulk of my fieldwork in 2021, which felt like a culmination of climatic disasters, one after another. A record-breaking heat wave killed hundreds of people and billions of marine animals across BC in June (Shivaram 2021). This coincided with the province's costliest wildfire season to date (surpassed in 2023), which saw fires and smoke encroaching on the Vancouver metro area, as well as the complete destruction of the village of Lytton, 150km NE of the city (Burston and Cecco 2021). In November, massive rainfall from atmospheric rivers triggered landslides, particularly on fire-damaged slopes, blocking all major highways and railways in southwestern BC and cutting off the Vancouver metro area from the rest of Canada (Baum et al. 2021). The rainfall also caused weeks of major flooding in nearby Abbotsford, BC, overwhelming levees and re-inundating a shallow lake that had been drained for agriculture in

the early 20th century (Schmunk 2021). The storms even spawned the first tornado to make landfall in BC in decades, which caused minor damage at UBC and uprooted groves of huge fir and cedar trees in Pacific Spirit Park on the western edge of Vancouver (*CBC News* 2021).

Two ongoing crises underlay these acute events: drug toxicity and housing affordability. In 2016, the province declared the epidemic of opioid and toxic drug overdose deaths to be a health emergency, and since that time, deaths attributed to toxic drug supply have increased, with 2021 the deadliest year on record at the time (Lindsay 2022). While Vancouver's housing affordability had been on an unsustainable trajectory before I moved to the city, since 2020 the cost of housing has skyrocketed. The result has been a loss of household density in some of the wealthiest areas of the city, as families and low-income renters are priced out of their neighbourhoods and even high-income households find home mortgages unaffordable. In February 2020, the City Council officially declared a homelessness emergency (Kotyk 2020), and City staff and residents have repeatedly called Vancouver's overall housing situation a crisis.

Though not all of the events described above occurred at precisely the same time, I refer to these crises as convergent because their anticipation, impact, and lingering effects overlap temporally for intersecting cohorts of variously vulnerable people. Together, these converging crises become part of the place-making pressures of the present. Temporally convergent crises, like the overlapping of ongoing and acute events that affected Vancouver during my fieldwork, and temporally divergent crises, like the uncertain threat of a major earthquake, are all layered within a present that is simultaneously before, during, and after disaster. As Christopher Dole et al. (2015, 2) note in their introduction to *The Time of Catastrophe*, "the temporality of catastrophe is in fact multiple, and varies within and across

geographical, social, and historical contexts." Set amongst convergent crises on divergent time scales, this paper considers what residents of Vancouver do with such an overwhelming informational and experiential encounter with crisis. How do residents of Vancouver plan for future crises while immersed in those of the present? What values underpin their decision-making? Why and how do certain people take notice of certain crises at certain times, while others prefer to look away?

Defining Disaster

> Far from being structureless, a crisis is an event in which structures inevitably take over. The only question is whether the structures will be negative or positive. (Scarry, 2011, pp. 17–18)

The adjacent terms crisis, emergency, and disaster were often used interchangeably by policymakers, commentators, residents, and even me in the course of fieldwork. Prior to analyzing disaster-related governance as observed in practice by residents and City staff in Vancouver, I will draw on literature from anthropology, philosophy, and law to consider these terms in a way that parses their distinct but related social and temporal contexts. Following Didier Fassin and Veena Das (2021), I understand 'crisis' as both objective (a problem that exists) and subjective (in that a problem only becomes a crisis when understood as such). Crises are understood by those that acknowledge them as problems that deviate sufficiently from the norm to require urgent action – though the forms of that action may be debated in public discourse.

Emergencies, on the other hand, demand immediate intervention. This makes the key

difference between a crisis and an emergency one of temporal intensity. As philosopher Elaine Scarry (2011, 7) has noted, emergencies by their very nature set up a strange and, she argues, not entirely necessary dichotomy between deliberation and action: "The implicit claim of an emergency is that all procedures and all thinking must cease because the emergency requires that 1) an action must be taken, and 2) the action must be taken relatively quickly." This high level of urgency combined with low tolerance for deliberation or debate is why an emergency declaration creates what Giorgio Agamben (2005) calls a "state of exception," where the normal rules of governance cease to apply. While an emergency demands a response to address an active threat to life, almost without regard for underlying causes, the acknowledgement of a crisis holds out hope for mitigation. For this reason – and the fact that most of my interlocutors, as well as public commentators, have characterized them as such – I am referring to the convergence of adverse conditions in Vancouver during my fieldwork as crises rather than emergencies.

In a disaster, not only is urgency high; so is the scale. A disaster is a convergence of emergencies to excess, perhaps growing out of or layered upon crises, that completely overwhelms the emergency response systems of a given community – meaning that disaster experiences are highly variable for different people and on different scales (i.e., municipal, regional, national). Importantly, a disaster does not exist only as a moment in time. The cumulative result of converging crises and emergencies stems from historical processes that produce social inequity and vulnerability (Faas 2023; Gaillard 2021). Each of these situations – crisis, emergency, disaster – indicates a state of temporal and social novelty and urgency that seems to require exceptional actions outside of the norms of everyday practice and

governance. At the same time, these situations often reinforce the very habits of governance and social inequities that contributed to their emergence.

Governance Habits in Times of Crisis

The advent of crises and emergencies (and by extension, disasters) presupposes novelty and urgency and leads to the assumption that actions outside of the norm must be taken to resolve the situation and return to 'normal.' Potawatomi scholar and activist Kyle Whyte (2020, 53) calls this chain of thought and action "crisis epistemology," a way of "knowing the world such that a certain present is experienced as new." The perceived newness of a crisis highlights an important feature of the relationship between crisis and time that also illuminates further distinctions between colonial and Indigenous perceptions of crisis and disaster in BC.

One example is an impending full-fault rupture along the CSZ – the one that would produce a massive earthquake and tsunami. While these seismic events occur regularly in geological terms, happening every two to six centuries over the past ten thousand years (Goldfinger et al. 2012, see Figure 2), in terms of a human lifespan, they are rare. No one alive today has experienced such a large earthquake along the Cascadia subduction zone. However, the ancestors of Indigenous peoples of the region experienced earthquakes and tsunamis

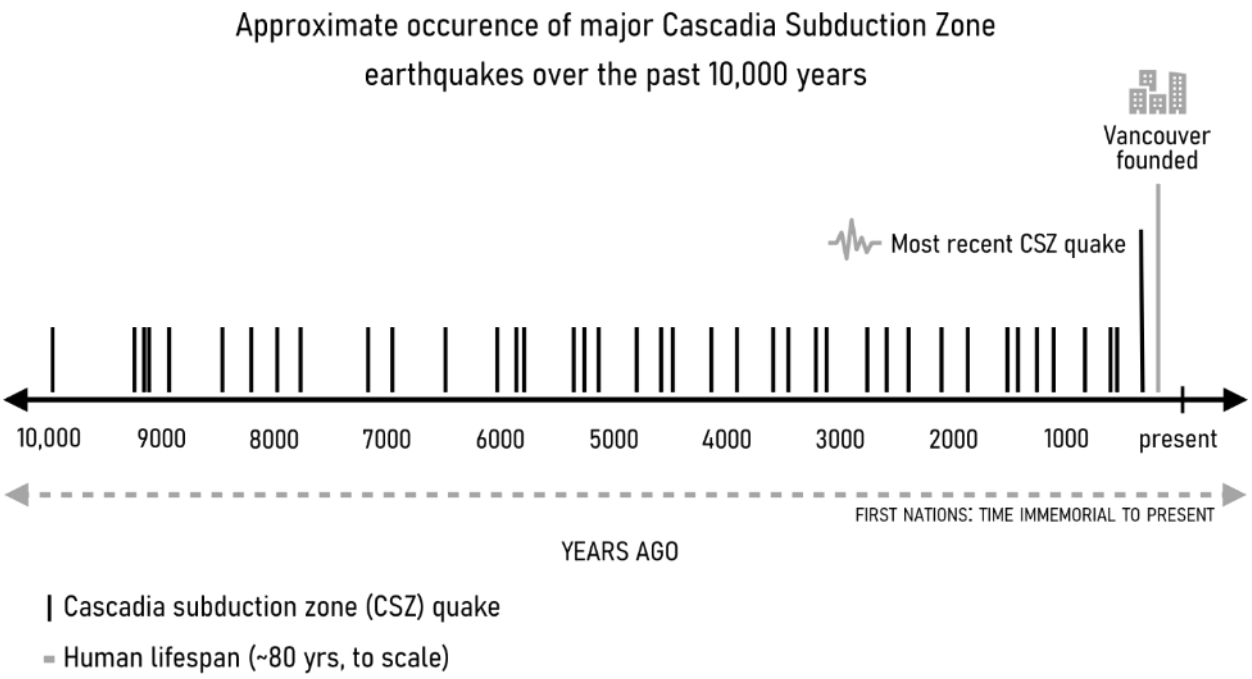

Figure 2. This figure illustrates how the relative frequency and regularity of CSZ earthquakes in geological terms can translate to uncertainty and infrequency in terms of individual human lifespans. Visual by author. Data source: Goldfinger et al. 2012, 90

dozens of times over the course of millennia, and they passed on this knowledge in the form of oral histories, songs, dances, and art (Ludwin et al. 2005). Settlers, on the other hand, built societies and cities in the Pacific Northwest in ignorance of this risk, disregarding Indigenous oral histories until dendrological and geotechnical analyses confirmed the threat (Thrush and Ludwin 2007). In the absence of handed-down ways of knowing, understanding, and acting about earthquakes, settler society in Vancouver has had to rely on a hodgepodge of messaging and planning about seismic risk that feels at best non-urgent and at worst unreal in the absence of lived earthquake experience. While public messaging is reaching ever greater numbers of people, it has not yet made the sharing of earthquake knowledge and preparedness a social habit in Vancouver – at least not one that takes precedence over the other habits of life.

At the same time, the presumptions and rhetoric of crises can also repeat, reinforce, and be used to justify long-established forms of colonial power relations. Anthropologist Emma Feltes and legal scholar Jocelyn Stacey, working with the Tŝilhqot'in National Government (2023), demonstrate Whyte's crisis epistemology in action through government responses to the 2017 wildfires in the interior of BC. That year set the record in BC for most hectares burned (1.2 million; surpassed in 2018 and more than doubled 2023), highest cost of fire suppression ($649 million; surpassed in 2021 and 2023) and longest-ever provincial State of Emergency (70 days; surpassed in 2020-2021 with the COVID-19 pandemic).[1] In the face of this threat, carefully negotiated agreements that recognized Tŝilhqot'in sovereignty and responsibility for people and place were disregarded by Canadian institutions. In response to the wildfires, provincial and national governmental actors, including the Royal Canadian Mounted Police (the federal police force), defaulted to colonial habits of dispossession, including the withholding of information and services and the threat of child apprehension, that violated Tŝilhqot'in jurisdiction and sovereignty while hindering response efforts.

Drawing on the example of the 2017 wildfire season, Feltes et al. demonstrate how crises quickly revitalize ingrained colonial legal habits, illustrating a conclusion about emergency actions that Scarry (2011) posits in her book *Thinking in an Emergency.* When urgency precludes deliberation, habits take over, habits which are overwhelmingly informed by unconsciously acquired cultural norms. At the same time, the practice of defaulting to well-

[1] For these wildfire figures and summaries of each wildfire season starting in 2009, see the "Wildfire Season Summary" web page published by the BC Provincial Government: https://www2.gov.bc.ca/gov/content/safety/wildfire-status/about-bcws/wildfire-history/wildfire-season- summary.

worn modes of governance (colonial or otherwise) in the face of disaster is more than just habit. It is also *habitus*, which, to paraphrase Pierre Bourdieu (1980), is an unconscious system of organized action that works under and alongside conscious deliberation. *Habitus*, as conceived by Bourdieu, has a similar relationship to urgency and action as the habits described by Scarry.[2] Responses shaped by *habitus*, Bourdieu (1980, 53) writes, "are first defined […] in relation to a probable 'upcoming' future, which […] puts itself forward with an urgency and a claim to existence that excludes all deliberation." Habit and *habitus* play a strong role in determining how people and institutions respond to present and future crises.

Disaster Temporality

In her deep time study of fluvial lifeways within the massive Lake Winnipeg watershed, anthropologist Stephanie Kane (2022, 28) sets riverine flooding "in the precarious intersections of our historical and geological times." Similarly, the potential for damaging earthquakes in the Pacific Northwest exists on a geological scale of time that far exceeds human lifespans; we only encounter such events when they intersect with historical time, affecting our lives and homes in the present. In his analytical-phenomenological treatise *The Anthropology of Time*, Alfred Gell (1992, 315) argues that time exists independently of human action and cognition but that it can be studied, viewed, and experienced in many different ways, marking "a distinction between time and the processes which happen in time." In other words, geological scales of time don't need human perceptions of temporality to exert agency over materiality. Plate tectonics affect and shape the world whether or not we can truly grasp their scale in anything but the most

[2] Remarkably, Scarry does not invoke Bourdieu in *Thinking in an Emergency*.

technically abstract ways.

Regardless that time exists independently of human engagement, the temporality of disaster is inescapably linked to human practice and perception. Disasters do not exist absent human vulnerability. As noted by many social scientists studying disasters, disasters are not natural (Puttick, Bosher, and Chmutina 2018). Hazards are only hazardous in relation to their potential for harming people and the things we value. All natural hazards stem from physical processes that are ordinary, emplaced, and essential forces of the world: earthquakes result from the movement of tectonic plates; fires occur according to the spatiotemporal rhythm of the seasons as the Earth orbits the sun and are part of forest ecology (McLauchlan et al. 2020). The fact that certain natural hazards such as wildfires and floods are increasing in frequency and/or intensity as a result of anthropogenic climate change drives home the fact that the processes that turn hazards into disasters are inescapably linked to human action, inaction, and perception that shape our inequitable vulnerability. Thus, human understandings of temporality and anthropocentric scales of time are inescapable features of disaster temporality.

The preeminent expression of temporality in contemporary disaster management is the disaster cycle (see Figure 3). The disaster cycle (sometimes called the disaster management cycle) is used by many disaster and emergency management agencies to structure different kinds of activities in phases that correspond to subjective periods of time before/after a disaster event (Center for Disaster Philanthropy, n.d.; Province of BC 2019; Lai, Papadoulis, and Ryley 2022). The disaster cycle is temporally grounded in relation to the triggering event itself, with two phases before (mitigation and preparedness) and two phases after (response and

recovery), at which point the cycle starts again. In the temporality displayed by the disaster cycle, the aftermath of one disaster is always the prelude to another.

Despite its cyclical appearance, this representation of time is still simplistically linear. Even with the acknowledgment that each phase is messy and overlapping, the disaster cycle reinforces the idea that disaster events are discrete entities occurring one after another along a timeline, rather than historically embedded in social processes that produce vulnerability along multiple simultaneous axes over time. As an organizational tool, the disaster cycle is effective for coordinating institutional activities towards specific hazard-focused outcomes, but it takes a shallow approach to time – holding planners and responders in a cycle that keeps them busy addressing the effects of disasters, rather than their root causes.

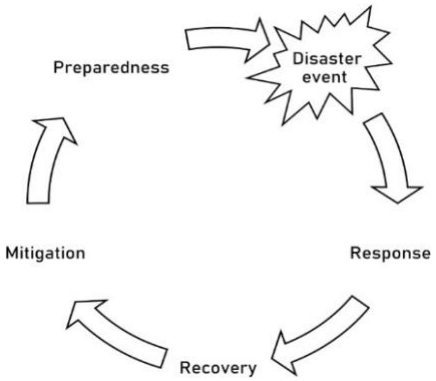

Figure 3. The traditional disaster cycle organizes disaster management activities into four distinct phases: response, recovery, mitigation, and preparedness. Illustration by author.

In contrast, Whyte (2018) puts forward a different temporality that emphasizes historical awareness and social responsibility as essential for avoiding, surviving, and recovering from disasters. Whyte discusses how many Indigenous societies of North America keep essential ancestral knowledge present through approaches to temporality in which past, present, and future flow together. Drawing on Anishinaabe perspectives on intergenerational

time, Whyte (2018, 228–29) introduces the concept of a "spiraling temporality," which he characterizes as "the varied experiences of time that we have as participants within living narratives involving our ancestors and descendants." Those participating in spiraling time engage in acts of speculative ethical reflection on how past and future generations would interpret the present situation and our actions in it. Spiraling time does not foreclose linear thinking but encourages a deep time approach that eschews presentism by foregrounding relationships of mutual care and responsibility. Through spiraling time, the knowledge of ancestors that have dealt with world-shattering disaster – including climate disaster – and of descendants that will inherit the world we create today informs the ways that we confront the many crises of our seemingly-unprecedented present.

The following sections demonstrate how the convergence of crises in the present challenges the ways people imagine and anticipate future disasters. In Vancouver's Dunbar neighbourhood, a tight-knit group of residents is working to prepare their community for disasters through a two-pronged focus on emergency survival and social connection, in the face of dwindling public support. Meanwhile, at the City of Vancouver, staff members struggle within and against societal pressures and governance habits to support community leadership and engagement in disaster preparedness on meaningful timelines.

Diving into DEEP

As was often the case during my pandemic-era fieldwork, I first met the members of the grassroots Dunbar Earthquake and Emergency Preparedness (DEEP – named for the neighbourhood on the west side of Vancouver where the group is based) group virtually before

encountering them in person. In early October 2020, I joined the group's executive committee on Zoom for its first meeting since March – the start of a series of discussions where we strategized how to reach out to neighbours safely at the height of the pandemic while the world still awaited the first vaccines. So, I was both nervous and excited when in November, after just three virtual meetings over a few short weeks, members of the group invited me to meet them in the heart of the Dunbar neighbourhood's stately Memorial Park West to check on the condition of DEEP's emergency supplies.

I arrived at the park 10 minutes early and strolled over to the tennis courts. No one was playing on this damp, gray day. Sandwiched between tennis and basketball courts sat two innocuous shipping containers – one a dull brown, the other forest green and topped with solar panels. One of these containers, I knew, was used by DEEP, and I was willing to bet it was the one with solar panels. I checked the time on my phone, and as I glanced up again, I noticed a middle-aged couple strolling towards me—one dressed very practically in rain jacket and boots, the other stylishly (and not *un*practically) in a wool coat, plaid scarf, and tweed driving cap. Ann Pacey (rain jacket) and Tim Beale (tweed cap) introduced themselves and welcomed me warmly to the DEEP container. As Ann bent down to open the lock on the green container, she explained that the other shipping container – the brown one – contained cots and blankets to be used by Vancouver's Emergency Support Services in case the adjacent community centre needed to serve as a mass shelter in an emergency, as long as that emergency was not a seismic disaster. Since the centre had yet to be seismically retrofitted, it was doubtful that the structure would be safe enough to serve as a shelter after a major earthquake.

Figure 4. Inspecting the emergency supplies in the DEEP container on a subsequent visit, July 2021. Note the adjacent basketball court, where tents and tables would be set up during a deployment. Photo by author.

When Tim pulled back the bolts and swung open the doors, I got my first look inside the container. The view that greeted me resembled a well-stocked janitor's closet (see Figure 4). A narrow centre aisle was lined on both sides by a bonanza of emergency gear: pop-up tents, tables, chairs, a generator, radios, personal protective equipment, first aid kits, rudimentary cooking supplies, some dry food and coffee – all carefully stowed as if on a ship, in the hopes of preserving some semblance of order after an earthquake. As we checked the condition of the supplies, including the solar panels and batteries, Tim and Ann described how the system would work in a disaster. DEEP members would arrive as soon as it was safe to do so and open the container. Utilizing the adjacent asphalt basketball court, DEEP members would set up an info board, registration table, communications desk with walkie talkies and ham radio, and small sitting area. Their goal would be to serve as a hub for reconnecting separated loved ones,

facilitating neighbour-to-neighbour mutual aid, and communicating with municipal authorities in the event of a disaster.

Recognizing that emergency services would be overwhelmed in the event of a major disaster, DEEP was founded on the principle of neighbour helping neighbour. In founding DEEP, Ann was inspired by a movement called "transition networks," whose interests focus on activities from gardening and solar power to "place making and alternative currencies." Transition networks are a global movement started in the United Kingdom that works to transition society towards low-carbon, community-centred forms of production and care.[3] In Ann's words, transition networks ask, "How do we strengthen our communities so that they can adapt to the coming crises […] like peak oil, climate change, and financial instability? And how do we create those structures in our community so that we can actually not only get through them, but prosper?" Ann's involvement with Village Vancouver, a transition network in Vancouver, inspired many of the same values and principles in DEEP.

DEEP's structure as a community-based disaster preparedness initiative also followed an earlier program called Map Your Neighbourhood (MYN), which emergency planner LuAnn Johnson developed in Washington state around the turn of the millennium. MYN involves aworkbook and series of videos that are meant to structure a neighbourhood meeting about disaster preparedness. Topics range from how to turn off a home's gas and water connections after an earthquake to maintaining a list of neighbours with helpful skills to designating a gathering space and care centre for children, the elderly, and other neighbours with special needs. As the name suggests, MYN participants map these resources onto a rough sketch of

[3] See "What is Transition?" Transition Network. https://transitionnetwork.org/about-the-movement/what-is-transition/

surrounding streets. The geographical scope of the 'neighbourhood' in question is left to participants but manageability tends to determine that neighbourhoods include 20-30 houses at the most. Following this approach, the Dunbar neighbourhood of some 14,000 people across 3.6 square kilometers would be broken down into dozens of more manageable 'neighbourhoods' consisting of one or two blocks of homes. A few alterations also make the program work for a single apartment building as the 'neighbourhood' to be mapped. The MYN program reflects the idea that neighbours will be best positioned to help each other in an emergency if they know each other and their needs. MYN has been a foundational activity for DEEP, introducing people to both the organization and emergency preparedness in way that encourages sociality and mutual aid.

DEEP members who have joined in recent years reflect the same dual focus on disaster readiness and neighbourhood connection that Ann expressed when founding the organization. One member, whom I will call 'Joshua,' characterized DEEP's twofold mission as "survival" and "connection."

Survival: If people are coming to us, it's meant that everything else is falling apart. If they're that desperate that they're going to a storage container next to a tennis court, which has some volunteers with clipboards, then they've run out of options. And they're talking about very basic needs that need to be met. […] DEEP is about giving everyone a fighting chance if things go *really* bad.

Connection: If more resources and time were available, DEEP would be a part of a group of others that would be encouraging connection in our community, because when something bad happens, we have to rely on each other. […] You know, we will be demanding a kind of

cooperation, community-wide joining up of skills and resources to help each other out.[4]

As Joshua described it, the act of creating community connections in support of mutual aid is considered as something of a 'stretch goal' – secondary to the goal of survival, to be pursued if time and resources allow. And yet, as I participated in DEEP's gradual revival over the course of the COVID-19 pandemic, I saw these two approaches reflected equally and co-constitutively in DEEP members' plans and actions.

From Container to Community: A Pandemic Pivot

Like many organizations in Vancouver, the Dunbar Earthquake and Emergency Preparedness group had been mostly on standby since March 2020, and leaders of the group saw Fall 2020 as a good time to regroup in the virtual realm. I joined the DEEP executive committee on the evening of October 21, 2020 for their first meeting since the start of the COVID-19 pandemic. At that meeting, members discussed how DEEP's focus on disasters that overwhelm local emergency responders and force everyone into survival mode didn't quite apply in the present crisis. For one, the pandemic was not the kind of disaster where DEEP could deploy its stockpile of supplies from the shipping container. In fact, pandemic safety restrictions meant that DEEP was unable to conduct in-person exercises or visit the supply container for several months in 2020 – let alone host large groups of people looking for aid. Realizing this deficiency in their capacity to respond in their usual way during the pandemic, the group turned to the neighbourhood-connection part of their toolbox. They began discussing how to continue to nurture person-to-person connections through pandemic-safe activities, developing versions

[4] While Joshua did use the terms "survival" and "connection" to characterize DEEP's mission, the headings were added by the author

of MYN that could be held initially online and later as an outdoor block party.

The COVID-19 pandemic revealed the extent to which DEEP had formed habits of planning and preparedness that were geared towards a major seismic disaster to the detriment of other forms of preparedness. At the same time, the unexpected pandemic emergency helped members to recognize the importance of their neighbourhood outreach activities (i.e., MYN) relative to the maintenance of physical response capabilities (i.e., the storage container full of emergency supplies). They discovered that their efforts at nurturing community were more universally applicable to different hazards on varying timeframes.

In pivoting online and towards social connection, DEEP adjusted its approach in response to the new environmental challenges of the pandemic. This shift indicates something about the effects of varying disaster temporalities on community-based efforts to plan for disaster. Initially, DEEP's temporal framing around a specific disaster event left it unprepared for dealing with a disaster on a different time scale. A CSZ earthquake or other major seismic event would trigger a rapid-onset disaster. Though recovery may take a long time, earthquakes last only seconds or minutes; a follow-up tsunami (or tsunamis) would make landfall within minutes to hours. Loss of transportation, water, and power infrastructure may trouble the region for weeks or months, but the initial triggering event would be over fairly quickly. In contrast, COVID-19 trickled into the social consciousness over the course of many weeks in the winter of 2019-2020 before finally being declared a pandemic once it had already become too ubiquitous to contain. Then, while different governments and locales followed different approaches to addressing (or not) the threat of the virus, the COVID-19 pandemic continued – sometimes in the background and sometimes at the foreground – for more than 3 years until the World

Health Organization (WHO) declared an end to the public health emergency in May 2023. Even so, WHO Director-General Tedros Adhanom Ghebreyesus noted at that time that COVID-19 was continuing to claim a life every three minutes worldwide (WHO 2023). The different temporalities of these two disasters – one rapid-onset, the other a slow burn; one still a potentiality; the other a fast-fading reality – made DEEP rethink their disaster planning strategies, shifting from one type and timing of disaster to another. The specific form of preparedness applicable to both scenarios was the one focused on community connection.

This is not to over-emphasizing DEEP's pivot towards community. Faced with the dangers and restrictions of the COVID-19 pandemic, the group tried to maintain the kind of socially generative preparedness work that they were already doing. In that sense, DEEP maintained its habits, rather than making radical changes to the core of the organization. At the same time, DEEP members realized that they needed a rebalancing of their efforts from so-called hard infrastructure (the container) to soft infrastructure (the community), particularly in the face of declining support from City institutions amid the environment of the pandemic.

Temporality and the Habits of Crisis Governance

While DEEP appears as a microcosm of the tensions between investments in hard and soft infrastructure, staff members that I spoke with at the City of Vancouver are also wrestling with the durability of this dichotomy and the habits of crisis governance that prioritize materiality. Technocratic investments in features like sea walls can be budgeted, scheduled, implemented, measured, and assessed in far more straightforward ways than attempts to invest in the 'soft infrastructure' of changing habits (Gillard et al. 2016). In this way, the materiality of habit reinforces the habit of materiality. In other words, the traces of our habits in

the material world (e.g. beachfront property development) affect the material-centric ways that we address threats to our world (e.g. focusing primarily on physical infrastructure like seawalls). Investments in hard infrastructure are often easier to justify, more readily assessed, and more rigid – in the sense of being both more physically durable and less flexible – than those in soft infrastructure (Sovacool 2011). Meanwhile, social investment and community building often have tremendous benefits that are not accounted for in risk reduction frameworks simply because they are harder to quantify (Rus, Kilar, and Koren 2018).

Not only does the measurability of hard infrastructure lend itself well to timeline-driven project management; it also lock in long-term spending requirements for the future, including maintenance, renewal, and expansion (Chester et al. 2014; Granoff, Hogarth, and Miller 2016; Sovacool 2011). Meanwhile, investments in soft infrastructure are more often realized through one-off pilot projects that are initially championed, then quietly abandoned, contributing to a dearth of long-term investment in these areas. These distinctions play into the temporality of crisis governance, where considerations include not only the timing of hazards and crises but also the short timeframes of urban governance, which are focused around the four-year municipal election cycle and the ever-increasing urgency of daily crises.

One example of this is the Resilient Vancouver program, a 2016-2019 initiative funded by the Rockefeller Foundation's 100 Resilient Cities initiative, which funded the pilot Resilient Neighbourhoods Program from October 2017 to April 2019. This program invested in staff and community members to produce resilience action plans (RAPs) for several Vancouver neighbourhoods, including the Downtown Eastside, Renfrew-Collingwood, Grandview-Woodland, and Dunbar. The RAP for the Dunbar neighbourhood proposes emergency

preparedness activities such as Map Your Neighbourhood and the creation of a Disaster Support Hub at the community centre. It also advocates for less obviously disaster-focused activities, such as promoting active transportation (walking and rolling), biodiversity programs (community gardens, environmental education), and a plethora of activities meant to encourage neighbourly interaction (community service, block parties, little free libraries, community newsletters, youth activities, and more). However, at the end of the 2-year Resilient Neighbourhoods pilot, ongoing programmatic support dried up. The program's most lasting legacies are a detailed 87-page Resilient Neighbourhoods Toolkit, which among other things advises residents on how to set up a "neighbourhood resilience team" similar to DEEP, and DEEP's shipping container of emergency supplies.

When I spoke with Katia Tynan in mid-2021, she was helping the City of Vancouver prepare strategies for coping with sea level rise, earthquakes, and other hazards in her role as manager of resilience and disaster risk reduction. In 2017, she was tasked with leading the community work as a part of the 100 Resilient Cities initiative. She remembers the Resilient Neighbourhoods Program and the development of the Resilient Vancouver Strategy (Vancouver 2019) as an enriching process, due to the deep engagement between City staff members and community partners over that 2-year period:

> Much of the time when we do engagement in government, it can be a bit superficial, because, you know, we have a workshop where we engage with community, and it's just a couple of hours. Because – over the two years that we were developing that strategy – we had these really direct partnerships and relationships with community organizations, it led to, I would say, some much richer engagement work, because it

was not just a workshop. It was literally two years of working together.

For Katia, this experience was eye-opening, demonstrating the kind of relationship-building that can occur with sustained investment in community-focused programs. The leadership of community members resulted in strategies, like Dunbar's RAP, with actions geared to the specific strengths and needs of each neighbourhood. This was a marked contrast to the usual emergency management approach of "one-size-fits-all solutions that absolutely do not work in a disaster under any circumstances," paired with the inertia of a professional "command and control" system that Katia noted is also "not an effective way to manage these situations." Rather, community members can and do take the lead in emergencies and disasters, often because government responders are overwhelmed. Katia saw the process of the Resilient Neighbourhoods Program as a way to acknowledge community capacity to lead by "creat[ing] some of that muscle memory with community in advance of a disaster, so that, when the time comes, they are feeling more prepared to lead." Echoing Joshua's distinction between DEEP's dual focus on survival and connection, Katia emphasized that more important than what's in your emergency kit is actually "*who's* in your kit? […] Who are your neighbours? Who's your support system? How are you going to look after each other?"

Conversely, efforts to harden the built environment against material loss are very much expert-driven and place the material in opposition to the social. As I discovered, multiple City staff members working on sustainability, resilience, or heritage expressed frustration about the lack of time and resources devoted to building long-lasting and healthy social relations amongst residents and between residents and the City, in comparison to the major resources dedicated to physical infrastructure. But, rather than placing the material and the social into a hierarchy,

is there a way to see them as integrated and co-constitutive? Katia was particularly well-spoken in her desire to shift these priorities, partially as a way of reframing temporal relationships to disaster governance:

> The hill I will die on is that we need a rebalancing of those efforts. We need major investments in our buildings and infrastructure for seismic and for climate […] *And,* even if we had all the money in the world, it would take decades if not generations for us to fix all of the physical structural issues that we have for those hazards. In the interim time, what we have to rely on is people and networks and organizations and social relationships and social connection and these other more amorphous parts of our culture, our community, our society. And those relationships do take time, but they are a lot faster than retrofitting all of the hundred thousand buildings in our city over the next 50, 60, 70 years.

Along with this very multi-layered approach to time, Katia and other City staff discussed with me the need for methodologies adapted to community needs, founded on relationship- building, and "moving at the speed of trust." As Katia pointed out, the necessary physical investments in disaster resiliency will be generations in the making. Without abandoning these efforts, why not operate across multiple temporalities and invest in culture, community, and society, as well?

Conclusions

> [T]he crisis in crisis today marks a new political modality that can experience repeated failure as well as totalizing external danger without generating the need for structural change. (Joe Masco, 2017, pp S67)

Although crisis is still considered a break from the norm, many of the habits of crisis governance normalize crisis response as a part of everyday governance. Ironically, this normalization often reinforces the very societal habits that contribute to crises and disasters, while sacrificing long- term efforts in order to free up resources to deal with crises now. This mode of thinking is focused on the present, taking current crises as a model for future mitigation and preparedness. Such a system cannot prepare every person for every eventuality because it can neither predict every crisis nor address each person's needs. The unexpectedness of the COVID- 19 pandemic, even amongst community members who spent more time thinking about and preparing for disasters than most, highlights the importance of disaster preparedness measures that are broadly applicable and locally specific in the face of converging crises along diverging temporalities. Disasters do not just occur; they are created over time. Even if their timing cannot be anticipated, their effects on the most vulnerable can be. For this reason, we cannot rely solely on hard infrastructure investments that attempt to anticipate and counter specific crises; we must reduce risk and vulnerability through deep structural changes that alleviate inequities and foster strong social connections.

Thinking back to my visit to Memorial Park West in Vancouver's Dunbar neighbourhood, I now see the DEEP shipping container as a mundane artifact of the material habits of crisis governance – a 'hard' investment that is both materially present and nearly invisible on the urban landscape. How many people playing basketball or tennis in the presence of this container know what it is or even realize that it is there? As a tool for emergency preparedness and response, the container cannot by itself make the Dunbar neighbourhood more resilient or

safe. It requires a community of people who are willing to make continual 'soft' investments – a community that is currently struggling in the wake of a discontinued pilot project and the COVID-19 pandemic but still determined to continue connecting with its neighbours. This is precisely where the efforts of DEEP and other neighbourhood-based organizations fill in the gaps created by the material habits of crisis governance. Knowing your neighbours is about building community in preparation for disasters both outside and alongside formal governance structures. Based on the ethnographic learnings of the present, what will residents of Vancouver need to do to not only survive but flourish through the crises ahead?

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