Understanding the Creeping Crisis

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Preface

This book hinges on the assumption that the world is facing threats to the survival of the planet. The security and prosperity of humankind is at stake because of climate change, forced migration, terrorism, pandemics, cyber breakdowns, the erosion of privacy and growing inequality. The puzzle is simple: why are governments not prioritizing these threats and treating them as the large-scale crises that so many experts argue they are?

We arrived at this topic through a long and winding road. We came together as a research team with a common research theme that focused on the crisis management capacity of the European Union. We subsequently began focusing on the capacity of the European Union and other regional associations to prepare for, and cope with, so-called transboundary threats and crises. We discovered that quite a few of these transboundary crises had long histories, which made it hard to pinpoint a bifurcation between the 'incubation phase' and the actual manifestation of a crisis. Our interest in creeping crisis was born.

We were lucky to find a great partner in MSB, the Swedish Civil Contingencies Agency, that funds pressing but relatively 'risky' research—a rarity these days. Their experience with the migration crisis had prompted an interest in creeping crises. Our research proposal survived the review process and we started a research team, recruiting promising students to help us collect and analyze cases of creeping crises. The students were so talented that we decided to collect and publish a selection of their case studies. We proudly present these young talents and their work to the world of crisis scholars and practitioners.

This project is but a first step in a long-lasting research project. We intend this collection of essays as a proof of concept, showing that the idea and perspective of the creeping crisis has analytical purchase. We hope you agree and will join us on this adventure.

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Abbreviations

AMR	Antimicrobial resistance
AV	Swedish Work Environment Authority
CERTs	Computer emergency response teams
CIb	Dutch Center for Infectious Disease Control
CQC	Care Quality Commission
CVW	Centre for Safe Living
EARSS	European Antimicrobial Resistance Surveillance System
ECDC	European Centre for Disease Prevention and Control
EU	European Union
FAO	Food and Agricultural Organization
FOHM	Public Health Agency of Sweden
GBB	Groninger Bodem Beweging
GCM	Global Compact on Safe, Orderly and Regular Migration
GDPR	General Data Protection Regulation
IACG	Interagency Coordination Group on Antimicrobial Resistance
IASC	Inter-Agency Standing Committee
IDMC	Internal Displacement Monitoring Centre
IOM	International Organization for Migration
IOs	International organizations
IPCC	UN's Intergovernmental Panel on Climate Change
KNMI	The Royal Netherlands Meteorological Institute
MDR	Multidrug-resistant
MPA	Medical Products Agency
MPs	Members of Parliament
MRSA	Methicillin resistant *Staphylococcus aureus*
MSB	Swedish Civil Contingencies Agency
NAM	Nederlandse Aardolie Maatschappij

NAPs	National Action Plans
NBHW	Swedish National Board for Health and Welfare
NGOs	Non-governmental organizations
NHS	UK's National Health System
NPG	National Pandemic Group
NPIs	Non-pharmaceutical interventions
NRL	Nationellt referenslaboratorium
NSA	US National Security Agency
OIE	World Organization for Animal Health
OMT	Dutch Outbreak Management Team
PDD	Platform for Disaster Displacement
PDR	Pan drug-resistant
RIVM	Dutch National Institute for Public Health and Environment
SKR/SALAR	Swedish Association of Local Authorities and Regions
SodM	Staatstoezicht op de Mijnen
TFD	Task Force on Displacement
TNO	Dutch Organisation for Applied Scientific Research
UN	United Nations
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNHCR	United Nations Refugee Agency
WHO	World Health Organization
WIM	Warsaw International Mechanism for Loss and Damage
XDR	Extensively drug-resistant

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Understanding and Acting Upon a Creeping Crisis

Arjen Boin, Magnus Ekengren, and Mark Rhinard

Abstract The notion of a creeping crisis is a conceptual one, a heuristic device useful for helping to uncover hidden dimensions of today's more pressing—some might say existential—societal problems. In this introductory chapter, we present our definition of creeping crisis and unpack the analytical dimensions of the concept. We review what existing research does and does not tell us about those dimensions. The chapter concludes by highlighting key research questions and outlining how the case studies in the book help to answer those questions.

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1.1   INTRODUCTION

Modern societies are beset by a special species of trouble. We may know
they exist, damage may be accumulating, and they may eventually become
a full-blown crisis. But little is done to intervene or manage them.
Authorities act insufficiently, or fail to act at all, essentially sleepwalking
into greater troubles in the indeterminate future. We refer to these slowly
emerging threats in terms of "creeping crises."

Creeping crises are telling characteristics of our time. The financial crisis
in the U.S. was lurking behind success stories about a steaming-hot
economy. Immigrants were reaching the borders of Europe in ever-
increasing numbers, but it took years before the immigration was
recognized as a continental-wide crisis that could tear the European Union
apart. The Covid-19 pandemic is just the most recent example of a
creeping crisis that turned into a disaster.

Other potential crises simmer on the horizon. Climate change may well
cause increasing number of forest fires and weather-related disasters. The
undermining of public institutions and elections by foreign entities may or
may not constitute a crisis for national governments. A long string of
technical disturbances (cyber breakdowns, energy outages) may or may
not be signals of impending infrastructural crises. The continuing depletion
of eco-diversity may spell disaster.

Our goal in this book is to introduce and explore the utility of the
creeping crisis concept. We aim neither to displace traditional crisis
definitions nor to start a new field of inquiry. The concept of creeping
crisis is an analytical device. With it, we can better characterize the key
features of modern societal problems, some of which are addressed in
existing literature but few of which are brought together in a single
concept. It trains attention on some neglected aspects of crises research:
incubation periods, precursor events, attention-action feedback, crisis
ownership, and legitimacy declines. For societies increasingly faced with
major policy challenges ranging from pandemics to migration, and from
climate change to cyber threats, the creeping crisis notion helps to untangle
key dynamics of growing problems—to help understand our world better,

to drive new research, and to question the organization of crisis management at all levels of governance.

The chapters in this book offer a proof of concept: exploring diverse cases using the creeping crisis approach, extracting key insights, and outlining future research questions. In this introductory chapter, we first define the creeping crisis and consider the novelty of the term. We outline four key features of creeping crises and review what we know from existing literature in contrast to what we need to know with the help of this volume. We then consider the implications for practitioners before outlining the book's contents.

1.2   Defining the Creeping Crisis

Traditional definitions of crises emphasize their fast-burning nature ('t Hart & Boin, 2001). The term "crisis," especially in the way it appears in popular culture, connotes something that surprises us. Crises explode on the scene but usually disappear into the history books after they have been brought under control. They are seen as a discrete event, an exceptional situation with a clear beginning and end. This matches the traditional definition of crisis as a widely recognized threat to shared societal values that requires an urgent response under conditions of deep uncertainty (Rosenthal, Charles, & 't Hart, 1989).

A creeping crisis is akin, but not perfectly aligned, to the notion of a slow-burning crisis ('t Hart & Boin, 2001). Creeping crises have a long incubation time and may keep simmering long after the "hot phase" is over. They do not have a clear beginning or end. What seems like the hot phase may only be a precursor to even hotter phases or a gradual cooling of the threat. The creeping crisis can remain undetected, or be widely acknowledged as an urgent problem that is nevertheless not fully addressed. These dynamics lead to the following working definition (cf. Boin, Ekengren, & Rhinard, 2020):

> A creeping crisis is a threat to widely shared societal values or life-sustaining systems that evolves over time and space, is foreshadowed by precursor events, subject to varying degrees of political and/or societal attention, and impartially or insufficiently addressed by authorities.

This definition emphasizes that threat and urgency are social constructions. Crisis is the label that observers attach to the shared sense among a

group that something they value is under threat. This raises questions of when and how the perceptions of many individuals begin to converge. In traditional crises—an explosion, an invasion, an earthquake—there is initially little room for different interpretations. For creeping crises, the collective perception of a threat is the result of a social process that plays out over time. That process may be instantaneous, or it may take years. It allows for a wide variance of interpretations.

This definition also incorporates the (relatively) objective nature of crises. An objective definition views crisis as an empirical phenomenon—a real threat—that has the potential to cause serious damage to critical values or systems. In this line of thinking, the development of threats attracts much interest. How problems originate and evolve, whether through natural systems, technical systems, or the socio-ecological-technical interface is the focus of study. If causes and development pathways are better understood, then perhaps points of intervention can be recognized and the crisis halted before it is too late.

Our creeping crisis approach brings together the objective and subjective perspectives. As we will see below, the subjective crisis definition emphasizes the importance of attention: if political elites, media, and the public do not collectively share a sense of crisis, it is hard to speak of a crisis in this perspective. The objective definition emphasizes the importance of accumulation of threat potential. In this objective perspective, a crisis is best understood as a developmental process with root causes, an incubation phase, an acute phase, and an aftermath.

What sets the creeping crisis apart from other types of undesirable events is the temporal and spatial dimension. Both the actual threat potential and attention develop over time and space. The "creeping" refers to the incremental, often slow speed of development when compared to other types of events. It can be described in terms of evolving disruptions that may be detectable but are hard to agree on. Such crises may evolve over space, too, owing to distant but interacting conditions not limited by geography or other limits. Their manifestations may pop up anywhere in the world, not least because of the interconnected nature of modern society. The pace and place complexity of creeping crises raise challenging questions for both researchers and practitioners, which we discuss in the next section.

We see a relation with other concepts. The notion of "vulnerability" is useful, usually defined as a weak point in a system or society. Research on that topic, however, is wide, diverse, and primarily focused on prevention

rather than the broader scope of development of vulnerabilities and political attention (McLaughlin & Dietz, 2008). "Risk management" bears some affinities to our agenda, although risk management approaches tend to take a highly technical view on identifying and calculating probabilities of known—rather than unknown—future troubles. "Wicked" or "intractable" problems characterize persistent policy challenges that resist solutions (Rittel & Webber, 1973; Schön & Rein, 1994). While useful, the literature surrounding those terms assume converging social perspectives that the problem exists.

In short, our definition of creeping crisis shines analytical light on four interlinked dynamics:

- the emergence and gradual development of threat potential, owing to interacting conditions over time and space;
- the foreshadowing of the threat through precursor events;
- the shifting nature of threat attention, amongst societal groups and public officials;
- the partial or insufficient response to the threat.

1.3   The Dynamics of Creeping Crises

We now breakdown the four dynamics to understand what the literature does—and does not—already tell us about creeping crisis, and what this book helps to shed additional light on.

1.3.1   Origins and Development of Creeping Crises

A distinguishing feature of creeping crises is their often long and drawn-out development. Many traditional crises, even "slow onset" crises (Seabrooke & Tsingou, 2019), can be tracked back to a specific point of time and a linear escalation trajectory. Creeping crises evolve in time and space and may be the result of non-linear processes. While such features complicate analysis, they also offer hope that understanding these early dynamics will lead to intervention opportunities.

A socio-technical systems approach to understanding crises offers some starting insights (La Porte, 1975). Modern societies build life-giving systems that are complex to the point of inscrutability. Even for those who design and operate these systems, including financial derivative models, power grids, cyber infrastructures, and transportation networks, their

functioning and vulnerabilities cannot always be clearly understood. The consequence of complexity is that small errors or glitches can develop into powerful threats. Yet operators and regulators are rarely aware of these "pathogens" (Turner, 1978), making their detection and abolition exceedingly difficult. In effect, the complexity of the system hides the breakdown from public and expert view, allowing it to grow and morph (Perrow, 1984). This basic description of complex systems leads to a crucial lesson: crises often are the result of an incubation process. The idea of incubation is, of course, temporal at heart.

The dynamics of onset and incubation are not confined to Turner's and Perrow's worlds of high-risk technology. The way we organize society and design essential infrastructures increases the likelihood of problems "simmering" for long periods of time. The design of a single currency in Europe contained the seeds of its possible breakdown (Jones, Kelemen, & Meunier, 2016). Deviations that might have self-corrected under the right conditions (debt accumulation), built up over time and were then accelerated by interdependent developments (cross-border capital flows, poor oversight); some of these, as we examine more closely below, were eventually triggered into a full-blown crisis.

By introducing the concept of tight coupling, Perrow (1984) explained that many complex systems are interwoven with other systems. This means that a small incident or glitch may travel, invisibly and unnoted, from one system to the other. The *incubation* concept is thus enriched with the concept of *escalation*: time and tight coupling may lead to unnoticed accumulation and acceleration of a crisis.

Another helpful insight emerges from a complexity perspective (Buchanan, 2000; Scheffer, 2009; Taylor, 2001). Originating in the study of physical and biological systems, this perspective lays the foundation for understanding the characteristics of a complex system as emergent from micro-interactions within the system. Systems organize their own complexity, building up to a "tipping point" that brings a complex system to the edge of disaster. The idea of temporality is further enriched here by emphasizing the non-linearity of the incubation phase (Ansell & Bartenberger, 2017). Crises incubate, develop, and escalate toward a tipping point—but the temporal dynamics can vary wildly during this process.

Finally, we gain analytical purchase on the spatial dimension by drawing on what can be termed "transboundary complexity." The deep integration of complex systems creates fertile soil for new types of mayhem, their development hidden by a level of complexity that renders small glitches

from detection by unknowing policymakers. The question is then not where in a nation or policy sector a crisis originates, but where in the world. This creeping crisis follows transboundary trajectories that originate in distant lands or seemingly unrelated policy domains, creeping up in national domains where they eventually transform into a large-scale crisis. (We note that spatiality is relative, with some crises emerging and developing close to home.) This transboundary spatiality of crisis creates deep uncertainty with regard to causes, dynamics, potential solutions, and consequences.

Under such conditions, slight disruptions have the time and space to *morph*: to take on new characteristics, owing either to their transfer into new threats or to new vectors. The shift of an infectious disease from one limited to animals toward one transmittable to humans (a zoonosis) creates a new threat spectrum. Migrants moving north become exploited by criminal networks intent on making money to transport desperate individuals, often by life-threatening means. Health threats interact with religious practices and rapid travel to eventually ignite a measles outbreak in Brooklyn, New York.

We asked our authors to explore the essential dynamics behind the emergence and development of "their" particular crisis. We want to know why and how their crisis originated and developed, in time and space, and how it may have morphed into a new threat. We are open to the fact that not all creeping crises escalate. Some may stall or recede during incubation processes. Regardless, one intriguing and puzzling feature of creeping crises, compared to traditional crisis, is we know they exist. We can almost see them coming, not least because of the potential for "precursor events." It is to that question we now turn.

1.3.2   Foreshadowing by Precursor Events

What sets a creeping crisis apart in our perspective from a "full-blown" crisis is the lack of remedial action that allows a creeping crisis to build-up its damage potential. Crises may not only build-up: they may even travel and reveal themselves across time and space. We not only know they exist; we witness regular (and potentially dangerous) manifestations of a bigger problem: small earthquakes, in the case of oil exploration; privacy breaches, in the case of Big Data; forest fires, in the case of climate change; isolated illness, in the case of antimicrobial resistance; or drowning migrants, in the

case of the migrant crisis. Experts sound alarms, activists rally around the problem, and yet a crisis response fails to materialize.

What are precursor events? From an objective perspective, the literature on socio-technological systems suggest precursor events are signals in complex systems—signals that may be difficult to detect in the first instance. Signs given off by the accumulating problem (the release of pent-up energy, using Turner's terminology) are concealed by the complexity of the system, by not knowing what to look for. Research on industrial crises suggests that certain features in the development of an organization or technology offer signs of trouble ahead: an unexpected decline in the normal trajectory of an economy, for instance, or anomalies in organizational processes (Shrivastava, Mitroff, Miller, & Miglani, 1988).

The subjective element here concerns how these precursor events are framed and characterized. Are these events recognized as isolated, discrete events or part of a broader incubation process? This question touches upon the politics of crisis recognition and sense-making. The literature reminds us politicians may not want to intervene. Attention for a creeping crisis may, after all, suggest previous neglect. They might want to intervene but don't know how to solve these creeping crises. Or the costs may be too high. For political purposes, it may simply be beneficial to play a potential crisis up or down. Indeed, a society may be unwilling to address the problem because it relies on its source—the case chapters in this book illustrate the point.

Precursor events in a creeping crisis point us to two intriguing questions. First, what might constitute a tipping point in the process of crisis development and the progression of precursor events? A tipping point marks the transition between gradual development and sudden escalation. In theory, a crisis may have multiple tipping points. Presumably, a crisis may also have a final tipping point (after either a massive crisis emerges, of after which the crisis has spent all of its energy). We are not sure in the case of creeping crises.

A second question concerns the dynamics of feedback loops. Precursor events, as a key dynamic in creeping crises, offer an excellent laboratory for studying feedback loops: how do certain crisis constructions (or lack thereof) and remedial action interact, shaping the accumulation of the problem? We want to know whether these relations may display self-propelling features: this is the case when an escalation in crisis development spurs political attention, which, in turn, may fuel the crisis (through

ill-fated interventions, for instance). We also want to know how such cycles terminate or screech into reverse. Especially after the creeping crisis has burst into view and political attention has peaked, it is intriguing to study how a "crisis in slow motion" wears out political attention spans, picking up speed again as societal and political stamina wane.

1.3.3   Varying Attention

Crises are often described as rare moments of convergence when almost everybody, however briefly, agrees on the importance of a certain event or development. The creeping crisis complicates this widely accepted idea of crisis as a point of convergence. It has the potential to trigger convergence, but it has not attracted sufficient levels of attention so that we can state with reasonable certainty that a society is gripped by this or that particular problem.

The creeping crisis shares certain characteristics with the problem that is neglected by politicians and policymakers. Political scientists have paid ample attention to the question why people—citizens, journalists, politicians—consider certain societal features problematic, even labeling them as threats or crises, when they ignore many other features and developments (which, objectively speaking, may carry much more damage potential than those on which attention is lavished). This question of attention is usually discussed in terms of "agendas." Policy agendas are said to have limited "carrying capacity"—meaning that they only can hold so many problems deserving attention (Baumgartner & Jones, 1993; Kingdon, 1995). The attention of the public, the media, and the political arena is inherently limited and selective. In addition, this attention also tends to be short-lived: citizens, journalists, and politicians can only remain interested in a certain problem for so long (Downs, 1972).

Why do people focus their attention on one problem, ignoring others? Intriguingly, the characteristics of the problem at hand do not seem to matter much. People can worry about problems for which no evidence exists (UFOs come to mind). They can blissfully ignore problems for which mountains of data exist, suggesting that disaster is imminent. Politicians in liberal democracies may choose to ignore certain problems, especially those that stretch into a future that exceeds their term or those that require too steep of a sacrifice, such as climate change or Big Data accumulation.

To understand attention foci and cycles, we must, therefore, return to creeping crises as social constructions. This reminds us of the idea that various actors may work hard to push certain social constructions—we speak of "frames" in this context—because a certain frame serves their interest. How growing problems are framed has a major role in the extent to which societal interests are mobilized to consider something a problem (Schattschneider, 1960) and the "entrepreneurs" behind those framing efforts who attempt to pursue their own interests. Here multiple literatures converge: crisis scholars speak of "crisis exploitation" (Boin, McConnell, & 't Hart, 2008) while security scholars speak of "securitization"—an effort to draw an issue not only up the normal policy but also into the realm of extraordinary treatment (Buzan, Waever, & de Wilde, 1998).

The process of problem framing is a social process that is political at heart. The process is influenced by societal paradigms and fashions—influential ways of viewing problems and their effects on society. It is influenced by public institutions, which typically prefer certain problems (Schattschneider, 1960) as well as the structuring effects of existing paradigms and public debates (Turner, 1978). Some threats may simply escape the imaginary capacity of policymakers and citizens alike (Smet, Lagadec, & Leysen, 2012; cf. Boin, Brown, & Richardson, 2019). As we see in the 2015 migration crisis case, the Swedish public debate did not allow for proper preparation of the crisis: arguments for strong preparation and response were seen by some as a sign of xenophobia.

A key characteristic of the creeping crisis is the absence of attention (whereas a crisis is defined by a high level of attention). The damage potential of a threat may grow, but it matters in this definition whether different segments of society label the growing threat as a crisis. There may be another tipping point, which marks the threshold that must be passed for the crisis to attract sufficient social and political attention so that it is experienced as a crisis. The tipping point is not necessarily a moment of eruption after which the crisis quickly fades—the creeping crisis may keep on creeping. Both the beginning and the ending of these creeping crises are blurry.

A creeping crisis perspective thus raises the question of when and how does the level of attention to the problem escalate? Creeping crises, by our definition, are largely recognized as problems and, even manifest themselves occasionally (see above) but little is done. The colloquial way to put this: when is "enough," enough? What requires societies to

construct an issue as worthy of attention, resources, and sacrifice? This, again, directs attention to tipping points.

When studying creeping crises, we must distinguish between three kinds of attention: expert attention, media attention, and political attention. It is the relationship between these interests, and feedback loops, that deserve analysis. We asked the chapter authors in this volume to consider all three kinds of attention, and the extent to which one drives the other(s). We also asked them to consider—even if the short length of these case studies does not allow full exposition—what might explain lack of attention or certain kinds of attention at different points in the development of a crisis. We asked them to search for tipping points that may explain a rise in political attention and how that related to crisis development.

1.3.4   Insufficient Responses

Creeping crises pose a unique combination of managerial challenges. They confront policymakers with a complex problem that is not easily resolvable without the sustained attention of politicians. By the time political attention reaches a tipping point that enables concerted and urgent action, there is no longer just a complex problem to solve but a crisis to manage. Crisis management is hard enough for public managers (Boin, 't Hart, Stern, & Sundelius, 2016), but these challenges are compounded by the slow onset of the crisis: media and citizens will demand to know why this long-coming crisis was not addressed earlier.

Creeping crises certainly place a premium on governments' ability to detect the onset of a crisis. After all, the origin and evolution of creeping crises are complicated. Traditional crisis detection, as the literature tells us, is already challenging. First, there are psychological factors that explain why people fail to recognize impending danger (Kahneman, 2013). It is hard to wrap your head around "unknown unknowns." If you cannot imagine a particular threat, you are unlikely to recognize it. Second, we know that most organizations find it hard or do not even try to detect crises. The challenge is not easy: it is hard to recognize creeping crises that manifest themselves in far-away locales.

Creeping crises pose yet another challenge (Boin & Lodge, 2019). Due to their ambiguous character, the "ownership" of these crises tends to be ill defined. We know that defined, agreed-upon risks are monitored and addressed (through regulation, for instance) in the risk area. This area is

dominated by professionals who are trained to minimize the chance that a known risk will materialize. When risks do unexpectedly materialize, their management is shifted to the crisis arena. Here trained crisis professionals try to organize an effective and timely response. The problem with creeping crises is that they qualify neither as an agreed-upon risk nor as a full-blown crisis. Without defined ownership, an organized response in the early phase is unlikely (Boin et al., 2020).

Another key challenge is the translation from ambiguous information to a strategic decision-making agenda. If you don't know, exactly, what is going on, what decisions should be made? In the absence of verified knowledge, a rational problem-solving approach cannot work. A crisis is, after all, political at heart ('t Hart, 1993; Boin et al., 2016).

Due to the highly ambiguous nature of creeping crises, we expect political motives to play an important role in the decision-making process. Research tells us that most politicians will seek to avoid the blame that may be assigned to them in the wake of a crisis (Boin et al., 2008; Hood, 2011). Their decision-making calculations are informed by the probability that they will be cast as the villain during the aftermath of a crisis. The outcome of this calculation will inform their willingness to take ownership of the creeping crisis.

We asked our authors to explore the dynamics of official responses to the crisis at hand. What was the response, if any? Who, if anyone, took ownership? What might explain these dynamics?

1.4   Implications for Practitioners

Our research on creeping crisis is not just an academic exercise. Many of society's current ills bear the hallmarks of creeping crises and cast into question governments' readiness to manage them. In some respects, creeping crises magnify the challenges traditionally associated with managing crises (Boin et al., 2016). In other respects, these kinds of crises demand new thinking about how they should be dealt with.

Traditional crisis management challenges for practitioners include the detection challenge. How can societies improve their ability to "see" a crisis emerging, and what tools are fit for that purpose? Early warning and anticipatory governance are popular themes in the academic literature. But for practitioners the challenges are myriad. Few emerging crises resemble their forebearers, making it difficult to know what to look for (crisis emergence is easy to see only in retrospect). Creeping crises add a

new wrinkle to the detection challenge. Long incubation periods offer opportunities to detect their emergence, if we know where to look. But the complicated nature of that incubation—intertwined with human and ecological systems, evolving over time and space—make detection exceedingly difficult. "Horizon scanning" for creeping crises requires a different and perhaps rare sort of expertise, which reaches across a wider segment of government and society than traditional crises demand.

Detection is less a problem for the creeping crises that are already with us. The challenge then becomes one of preventive intervention rather than detection. Long incubation periods offer plenty of opportunities for governments to act, foreboding massive criticism about accountability if creeping crises turn into a major, destructive event. But intervening too early may be counterproductive. Growing problems can dissipate on their own accord. Implementation of draconian measures while the consequences of the crisis are still uncertain leads to public outcries and a loss of governmental legitimacy. Moreover, who should intervene and how? Acting on a crisis establishes ownership, too, which risk-averse governments may wish to avoid.

Creeping crises also introduce specific management challenges for practitioners. First, creeping crises signal their existence through precursor events long before "the big one," leading to questions of who should act and when. A single event can be managed, even successfully, by skilled crisis managers. But those crisis managers are likely to see the deeper problem continuing to evolve at the same time as politicians are ready to move on. Finding a longer-term, sustainable response may be the real challenge here. Second, an adequate response is complicated by the sheer breadth of societal actors required to act. Many of the creeping crises outlined in this book cannot be dealt with by formal crisis managers alone. They require a mix of experts, technicians, private sector actors, NGOs, even diplomats to fully understand how crises evolve (often far away and over time) and how they are best addressed (in the here and now).

Third, and perhaps most critical for practitioners, is the fact that managing creeping crises requires societal sacrifice. As demonstrated in this book, many creeping crises accumulate within the essential arteries that power our societies. From food supply systems to information technology, and from energy grids to social media and travel networks, we depend on the systems that bring efficiency and choice—but also dangers. Addressing those dangers requires sacrificing what we enjoy in the short term for longer term societal sustainability. Perrow (1984), mentioned above, spoke of

the need to "decouple" systems to avoid crisis escalation—an insight with renewed relevance in an age of deeply ingrained creeping crises. Few politicians, or the industries that profit from these systems, are likely to jump at the opportunity to restrict them.

In the case of creeping crises, the legitimacy of public institutions and political leaders is cast into sharp relief. Today, people worry not if but *when* global warming, migration, remaining foreign fighters, disruptive technologies, market disequilibrium, or income inequality will cause a major crisis. As the nature of the creeping crisis is not widely agreed upon, the very act of branding it as a crisis (or not) will affect the reaction to that threat. It is easy to imagine how a botched meaning-making process may undermine the legitimacy of leaders, which will undermine the effectiveness of the response. This, in turn, may further undermine legitimacy, prompting a vicious circle.

1.5   OUTLINE OF THIS BOOK

Our goal in this book is to explore and develop further the creeping crisis concept. The chapters delve into specific cases to evaluate the utility of the framework as well as illuminating the case in greater color and detail. As societies grapple with problems that resemble the creeping crisis, improving our understanding of their key dynamics also increases the changes of acting upon them effectively.

Chapter 2, by Alina Engström, studies the scourge of antimicrobial resistance. She finds that the long incubation of this crisis typifies the time and space dimension of the creeping crisis notion. Attention peaks occasionally, but not always in the immediate aftermath of precursor events. Responses to the problem are hampered by a lack of ownership. Chapter 3 explores the "WannaCry" cyber crisis. Maria Foteini Prevezianou confirms the difficulty of detecting this kind of event, even when the signals are clear. The question arises from this chapter of whether WannaCry was a creeping crisis in itself, or a sign of a wider crisis to come. Chapter 4 takes up the issue of remaining foreign fighters—individuals who left their home countries to travel to war zones, and who are now barred from returning. Yrsa Landström shows how these fighters sit in refugee camps in which a broader humanitarian crisis—or even a radicalization process—can be incubated. By not bringing the foreign fighters home, governments can sustain the threat of increasing radicalization and terrorist attacks.

In Chap. 5, Swapnil Vashishtha and Mark Rhinard study the phenomenon of Big Data. Here, the creeping crisis perspective starkly reveals the accumulating nature of the problem, the occasional precursor events, and the acceptance by some actors that a major crisis is on the horizon. Still, the authors show that societal dependence and vested interests hamper what would be a costly intervention. Chapter 6 contains the case of the European border crisis of 2015. Yrsa Landström and Magnus Ekengren consider the movement of migrants across the continent as hardly a surprise. Many previous indicators suggested an impending humanitarian catastrophe. Focused on the Sweden's response, the authors show the government delayed reacting largely because of ideological blinders that impaired debate about when to prepare.

Chapter 7 is comparative. Alina Engström, Marte Luesink, and Arjen Boin compare Dutch and Swedish responses to the coronavirus outbreak, finding key similarities but also differences that help to explain the delayed response. Chapter 8, by Elin Jakobsson turns to the question of climate change-induced migration. This simmering problem has long held the promise of a full outbreak, but only precursor events attract attention. Those events are treated as disasters, partially addressed, and then abandoned—allowing the problem to continue growing. Chapter 9 offers the last case. Alexander Verdoes and Arjen Boin examine the emergence of earthquakes in parts of the Netherlands, which are clear signs of how gas fields are exploited. Authorities ignored the signals, thus sustaining the problem, and the problem has now led to a major loss in the legitimacy of public institutions.

Our conclusion summarizes the key findings of the book and sets a research agenda for the further study of creeping crisis.

References

't Hart, P. (1993). Symbols, rituals and power: The lost dimensions of crisis management. *Journal of Contingencies and Crisis Management, 1*(1), 36–50.

't Hart, P., & Boin, R. A. (2001). Between crisis and normalcy: The long shadow of post-crisis politics. In U. Rosenthal, R. A. Boin, & L. K. Comfort (Eds.), *Managing crisis: Threats, dilemmas, opportunities* (pp. 28–46). Springfield: Charles C. Thomas.

Ansell, C., & Bartenberger, M. (2017). Unruly problems. In C. Ansell, J. Trondal, & M. Ogard (Eds.), *Governance in turbulent times*. Oxford: Oxford University Press.

Baumgartner, F. R., & Jones, B. D. (1993). *Agendas and instability in American politics*. Chicago, IL: University of Chicago Press.

Boin, A., 't Hart, P., Stern, E., & Sundelius, B. (2016). *The politics of crisis management*. Cambridge University Press.

Boin, A., Brown, C., & Richardson, J. (2019). *Managing Hurricane Katrina: Lessons from a megacrisis*. Baton Rouge: LSU Press.

Boin, A., Ekengren, M., & Rhinard, M. (2020). Hiding in plain sight: Conceptualizing the creeping crisis. *Risk, Hazards & Crisis in Public Policy, 11*(2), 116–138. https://doi.org/10.1002/rhc3.12193

Boin, A., & Lodge, M. (2019). The new twilight zone between crisis and risk management. *Risk and Regulation*, Spring, LSE CARR Newsletter.

Boin, A., McConnell, A., & 't Hart, P. (Eds.) (2008). *Governing after crisis: The politics of investigation, accountability and learning*. Cambridge: Cambridge University Press.

Buchanan, M. (2000). *Ubiquity: Why catastrophes happen*. New York: Three Rivers Press.

Buzan, B., Waever, O., & de Wilde, J. (1998). *Security: A new framework for analysis*. London: Lynne Rienner.

Downs, A. (1972). Up and down with ecology—the "issue attention" cycle. *Public Interest, 28*, 38–50.

Hood, C. (2011). *The blame game: Spin, bureaucracy and self-preservation in government*. Princeton, NJ: Princeton University Press.

Jones, E., Kelemen, R. D., & Meunier, S. (2016). Failing forward? The Euro crisis and the incomplete nature of European integration. *Comparative Political Studies, 49*(7), 1010–1034. https://doi.org/10.1177/0010414015617966

Kahneman, D. (2013). *Thinking, fast and slow*. New York: Farrar, Straus and Giroux.

Kingdon, J. W. (1995). *Agendas, alternatives, and public policies*. Upper Saddle River, NJ: Pearson.

La Porte, T. R. (1975). Complexity and uncertainty: A challenge to action. In T. R. La Porte (Ed.), *Organized social complexity: Challenge to politics and policy* (pp. 332–356). Princeton, NJ: Princeton University Press.

McLaughlin, P., & Dietz, T. (2008). Structure, agency and environment: Toward an integrated perspective on vulnerability. *Global Environmental Change, 18*(1), 99–111.

Perrow, C. (1984). *Normal accidents: Living with high-risk technologies*. New York: Basic Books.

Rittel, H. W. J., & Webber, M. M. (1973). Dilemmas in a general theory of planning. *Policy Sciences, 4*(2), 155–169. https://doi.org/10.1007/BF01405730

Rosenthal, U., Charles, M. T., & 't Hart, P. (Eds.) (1989). *Coping with crises: The management of disasters, riots and terrorism*. Springfield: Charles C. Thomas.

Schattschneider, E. E. (1960). *The semisovereign people: A realist's view of democracy in America*. Hinsdale: Dryden Press.

Scheffer, M. (2009). *Critical transitions in nature and society*. Princeton, NJ: Princeton University Press.

Schön, D. A., & Rein, M. (1994). *Frame reflection: Toward the resolution of intractable policy controversies*. New York: Basic Books.

Seabrooke, L., & Tsingou, E. (2019). Europe's fast- and slow-burning crises. *Journal of European Public Policy, 26*(3), 468–481. https://doi.org/10.1080/13501763.2018.1446456

Shrivastava, P., Mitroff, I. I., Miller, D., & Miglani, A. (1988). Understanding industrial crises. *Journal of Management Studies, 25*(4), 285.

Smet, H., Lagadec, P., & Leysen, J. (2012). Disasters out of the box: A new ballgame? *Journal of Contingencies and Crisis Management, 20*(3), 138–148. https://doi.org/10.1111/j.1468-5973.2012.00666.x

Taylor, M. (2001). *The moment of complexity*. Chicago, IL: University of Chicago Press.

Turner, B. A. (1978). *Man-made disasters*. London: Wykeham.

CHAPTER 2

Antimicrobial Resistance as a Creeping Crisis

Alina Engström

Abstract Antimicrobial resistance (AMR) displays many of the characteristics of a creeping crisis. It lacks clearly definable temporal and spatial boundaries. It develops in the natural world when and where conditions are conducive. It traverses sectors and borders in the natural, human, and built environments. It causes individual and societal harm when it escalates toward outbreaks in a random fashion. Outbreaks can be minor or major, burn fast or slow, be simple or hard to contain. Experts insist we are heading toward a "post-antibiotic age" and even deadlier "superbugs" if we do not act. Yet warnings and crisis framings do not appear sufficient to prompt a response. Public attention and governmental action have lagged. Occasional outbreaks invite attention and concern, only for the issue to fade again from the public view. International organizations shine more sustained light on the problem, but national governments are slow to respond. This chapter argues that our dependency on antimicrobial drugs is a blessing and a curse: curing us in the short term but building the conditions for a massive, incurable outbreak in the future.

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2.1   Introduction

During a trip to India, a Norwegian woman named Karin suffered an accident and required hospitalization. She underwent surgery and received prophylactic antibiotic treatment. Upon arrival in Norway, it was discovered she had contracted the bacteria *Klebsiella pneumoniae*—a bacteria made more deadly by the fact that over the past decade it had become resistant to most antibiotics. After multiple tries, a last-ditch effort was made with one particular, rare antibiotic that killed the bacteria (European Centre for Disease Prevention and Control [ECDC], n.d.).

This is just one story, of one patient, who suffered the effects of antimicrobial resistance (AMR) to antibiotics. In India, 58,000 babies died within their first year from an infection with resistant bacteria normally passed on by their mothers (Laxminarayan et al., 2013). Worldwide, AMR causes 700,000 deaths per year. The number is expected to rise to 10 million by 2050 if left unaddressed (O'Neill, 2016). Economic costs are expected to be as high as the 2008–2009 economic crisis (World Health Organization [WHO], 2019a). On the current trajectory, we are moving toward a future where minor infections can no longer be cured, and common medical procedures will become more dangerous. The coming AMR crisis will make the Covid-19 pandemic look tame by comparison (Chanel & Doherty, 2020).

In the natural world, microbials and their antithesis, antimicrobials, have competed for dominance since the beginning of time, evolving and fighting within the bodies of living organisms. It was the human invention of antibiotics that caused this normal process to tip out of balance (Levy, 1997). Extra powerful antibiotics were introduced, curing minor infections that previously killed us. We quickly became dependent on them. Antibiotics were cheap, therapies were short, and we soon began overusing them.

Bacteria did not give up the fight. Natural selection led to new strains capable of overcoming our anti-bacterial treatment. These new strains of bacteria are called superbugs—resistant to antibiotics and most attempts to wipe them out. These superbugs evolve and incubate in time and space, affecting countries differently at different times. Due to uneven responses

to root causes, resistance levels are higher in low- and middle-income countries than in high-income countries (Klein, Tseng, Pant, & Laxminarayan, 2019). The interconnectedness of systems and several modern practices such as international travel and migration allow for the problem to arrive anywhere at any time.

The threat potential of AMR was built up during a long incubation period. Its accumulation is facilitated through ongoing, interacting processes related to natural selection, globalization, environmental degradation, and scientific advancement. The problem is widely acknowledged as growing and getting worse. Experts have been warning about the slow and steady threat accumulating for years, yet the response has been insufficient. The World Health Organization (WHO) and the Interagency Coordination Group on Antimicrobial Resistance (IACG) have framed the rising resistance levels as a "global crisis" that threatens a century of progress in health (IACG, 2019, p. 1; WHO, 2019b). Some countries have put AMR on top of their national agenda and even addressed it. Most countries have not.

Occasional outbreaks of "superbugs" serve as precursor events, signaling the presence of the deeper problem while attention occasionally shifts to combatting it. Nevertheless, crisis responses are disparate and uneven. National politicians, policymakers, practitioners, and individuals appear unaware of the extent of the problem (WHO, 2015). Media reporting about AMR rarely attributes blame or points to solutions (Capurro, 2020; Collins, Jaspal, & Nerlich, 2018). Questions of responsibility and ownership are complex and difficult to pin down (Brown & Crawford, 2009). The threat keeps accumulating.

In short, AMR displays the characteristics of a creeping crisis outlined in the introduction to this volume. Perhaps more than any other chapter, this case casts a light on both the objective and subjective nature of the crisis: evolving in the natural world, and only occasionally constructed as a threat. It also highlights the non-linear aspects of crisis development, moving seemingly forward and backward in development, and randomly appearing in "flare-ups" or precursor events. Another key insight revealed here is the lack of ownership: the natural origins of this problem, its global character, and its multiple manifestations mean few authorities have the desire or competence to respond with full force. The world has become dependent on antibiotics; strictly regulating their use and managing this creeping crisis requires significant sacrifices that societies appear unwilling, as yet, to undertake.

This chapter is structured as follows. It first explains the origin and incubation of the problem across time and space. It then examines the precursor events that signal a deeper, underlying concern before outlining the periodic attention shown to AMR, especially by the international community. It concludes with a summary of the analysis and thoughts on why meaningful action has failed to materialize in response to this creeping crisis.

2.2   ORIGIN AND INCUBATION OVER TIME

The origin and incubation of the AMR problem highlights the complex interaction between the natural and human worlds. During the "golden age of antibiotic discovery" between 1940 and 1960, the discovery of new antibiotics kept pace with the emergence of resistant bacteria (Davies, 2006, p. 287). The problem of resistance was not a major concern. But pharmaceutical companies soon began developing other drugs with higher profit margins (Bush et al., 2011). In the late 1980s, the world encountered what scientists called a "discovery void." Between 1987 and 2011, no new classes of antibacterials were sucessfully discovered (Silver, 2011, p. 72–73). Meanwhile, existing bacteria continued to develop multidrug-resistant (MDR), pan drug-resistant (PDR), and extensively drug-resistant (XDR) genes resistant to multiple or all available antimicrobials being prescribed and over-prescribed (Magiorakos et al., 2012). Resistance has accumulated, and most bacteria now show resistance toward one or multiple antibiotics. Several bacteria—superbugs—already show concerning resistance levels (Davies & Davies, 2010, p. 419–420; O'Neill, 2016).

Although the root cause of the problem is a natural phenomenon, it is the different, interacting conditions in various natural *and* societal systems, such as health systems, that provoke the incubation and threat accumulation caused by misuse. Misuse contributes to bacterial mutation, a complex process whereby new strains multiply and thrive. A lack of effective regulation propels the problem (Lomazzi, Moore, Johnson, Balasegaram, & Borisch, 2019). A lack of regulatory governance hinders responsible production, distribution, and usage of microbials across different sectors, including the health care system, food production, and pharmaceutical dispensing systems (World Bank, 2019).

Moreover, the threat builds in communities and sectors where there is a lack of knowledge or norms to guide correct use. Individuals as patients, health-care practitioners as prescribers, and farmers as suppliers all contribute to the problem. For example, in the health-care sector, various

conditions facilitate the stepwise build-up of resistance: imperfect information; inadequate diagnostics; weak laboratory capacity; inappropriate prescribing (Ventola, 2015); the use of antimicrobials as "just-in-case" treatment; the prescription of "broad-spectrum" antimicrobials (National Institute of Allergy and Infectious Disease [NIAID], 2011); inadequate programs for infection prevention and control; poor access to health services (Littmann & Simonsen, 2019); and, poor-quality medicines.

In the agricultural and livestock sector, market demands further contribute to misuse. As consumers demand cheap meat, farmers reduce production costs by implementing short-cut practices. Antibiotics are used as growth promoters (Spellberg, Bartlett, & Gilbert, 2013) and to prevent treatment of infections in livestock (Chattopadhyay, 2014). Citizens' lack of knowledge and their unwillingness to change behavior contribute to the misuse of antimicrobials in the agricultural sector. The threat agent, in turn, continues incubating in the agricultural sector. The availability of few new antibiotics and regulatory barriers for new antibiotic approvals (Ventola, 2015) add to this complex and interactive cycle, which allows the crisis to grow and spread across economic sectors and, as we will see below, geographical locations.

After an initial accumulation of the problem, and the creation of resistant bacteria, several conditions can individually or collectively facilitate its onward transmission. Bacteria spread if conditions in society, hospitals, the agricultural sector, or in the environment are beneficial for transmission (Organization for Economic Co-operation and Development [OECD], 2018). Such conditions include poor sanitation, inadequate access to health services, dirty water, poor infection control, and lack of vaccination (World Bank, 2019). The uptake and spread can also develop through the food chain, wildlife, water distribution infrastructure, as well as through food imports, migration, and trade (Harbarth et al., 2015). Bacteria can travel to hospital settings through contact between healthcare staff and patients, and through contaminated surfaces and medical equipment (Anderson et al., 2019).

These conditions represent a fertile environment for the threat agent to first incubate and then unfold over space. External trends beyond the system of antimicrobials such as population growth, migration, travel, and urbanization (World Bank, 2019) offer several possibilities for transboundary movement and transmission to seemingly unrelated contexts and sectors. Resistant bacteria can therefore turn up anywhere, at any time. This speaks to the random flare-ups in time and space in creeping crisis, an issue toward which we now turn.

2.3   Random Outbreaks and Periodic Attention

AMR is characterized by fairly random "precursor events" that, as a creeping crisis perspective suggests, signal the extent of the problem, and which are sometimes—but not always—followed by increased public attention. The prevalence of precursor events highlights the intertwined dynamics of actual events and attention, further demonstrating the combined objective and subjective notions of a creeping crisis. Objectively, the threat morphs in different systems, breaking out occasionally across time and space. Subjectively, a precursor event is identified as a crisis in some situations, sometimes framed as indications of a future crisis, and sometimes not treated as a crisis at all.

2.3.1   *Precursor Events*

A clear feature of the AMR problem is that we live with the threat. In 2017, nine of the world's most dangerous superbugs were found in London's transport network; 12.8 million people ride along with these invisible bacteria everyday (Keegan, 2018). The public hospitals in Hong Kong report one new superbug infection every 18 minutes (Keegan, 2018). These regular, ongoing events demonstrate that creeping crises do not always escalate toward tipping points. AMR occasionally (and increasingly often) causes individual and societal harm in a random fashion.

Many precursor events remain hidden from public view (Belluz, 2019). Outbreaks differ in scope and characteristics. They can be minor or major, burn fast or slow, and be moderately or hard to contain. All have in common that they have the potential to cause harm. The harm caused can occur in two ways: (1) when the infected microbial is resistant from the start; and (2) when resistance develops during treatment (MacIntyre & Bui, 2017, p. 3). This section will outline a few precursor events and illuminate how random outbreaks can be as they tip over in rapid escalation.

One way to define a tipping point in the development of AMR as a creeping crisis is the sudden community- or hospital-based outbreaks of resistant infectious diseases. It is difficult to distinguish between minor and major precursor events in this creeping crisis. Minor events may be outbreaks that are limited in space. Major outbreaks might be more epidemic-like, evolving across space.[1] It is, however, problematic to

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[1] A distinction can be made between an outbreak, an endemic, an epidemic, and a pandemic. Outbreaks can turn into epidemics, if not quickly controlled. AMR is an endemic condition (MacIntyre & Bui, 2017, p. 3).

distinguish the two since it is not always clear if a superbug has evolved over space and tipped over in an outbreak.

In 2007, a gene resistant to the "last-resort" antibiotic *carbapenems* was first detected in a patient in India. It turned up in surface waters in urban India in 2010. Less than three years later, it had migrated to other parts of the world. It even ended up in the High Arctic, an area where humans rarely reside (Graham, 2019). In 2019, the WHO was informed about several cases of infections caused by the antibiotic-resistant *Pseudomonas aeruginosa* in US hospitals. The majority of patients were hospitalized due to complications associated with infections that they had obtained following invasive procedures in Tijuana, Mexico (WHO, 2019c). These cases illuminate how easy resistant bacteria can migrate across sectoral and geographical boundaries, although not necessarily tipping over in a minor or major precursor event.

Major precursor events cause broader harm at societal and individual level. New York City suffered a widespread outbreak in the early 2000s. It was the resistant *Enterobacteriaceae Klebsiella pneumoniae* that initially appeared as sporadic outbreaks throughout the city. It soon spread throughout the US and eventually migrated beyond the US. In 2005, one case turned up in France (in a patient who had previously been hospitalized in NYC) (Bratu et al., 2005).

The first major outbreak of *Klebsiella* outside the US was in Israel 2006 (Bratu et al., 2005; Arnold et al., 2011), where it spread like wildfire through the health care system. Israel's Ministry of Health had no mechanism in place to detect the threat and to intervene. However, a group of infection prevention and control experts launched regular meetings where they shared data and discussed responses. Experts were mobilized and participated in situation assessment and response measures. One of the specialists was Dr. Mitchell Schwaber who later lent his expertise to a WHO-funded committee appointed to suggest global guidelines on how to combat Carbapenem-resistant bacteria, such as *Klebsiella pneumoniae* (WHO, 2017).

In 2016, Pakistan experienced an outbreak of *Typhoid fever*. Between 2016 and 2018, 8188 typhoid fever cases were reported; 5274 of these were extensively drug resistant (XDR). In 2018, the *XDR typhoid fever* had transmitted internationally through persons that had traveled to Pakistan. Six cases turned up in other countries—one in the UK and five

in the US (WHO, 2018). Both the *XDR Typhoid fever* and *Klebsiella* outbreaks demonstrate that precursor events may be connected. It also shows that they do not necessarily result in further escalation. They may well turn up as individual random cases. This randomness allows for the continuing creeping of the crisis.

2.3.2   *Periodic Attention*

Precursor events such as those outlined above can generate periodic attention from politicians, media, and experts, albeit in unpredictable ways. It is attention that determines whether a threat remains creeping or is elevated to a crisis construction.

Politicians, Policymakers and the Public
The most regular attention given to AMR, irrespective of actual precursor events, comes from international organizations and experts (an intertwined relationship, as discussed further below). Regarding policymakers, for instance, the WHO and the United Nations (UN) frame AMR as a major threat to public health (WHO, 2020; UN, 2016b) and the World Bank frames it as a threat to our economic future (Jonas, Irwin, Berthe, Le Gall, & Marquez, 2017). The WHO describes the increasing resistance level as a "global crisis that threatens the future of our most precious drugs: antibiotics" (WHO, 2019b). The UN, international agencies, and experts recently called for an ambitious, urgent, and coordinated action to avert a full-blown crisis (IACG, 2019).

Scientists warn this is the greatest danger humanity has faced in recent times. England's chief medical officer has warned about an "antibiotic apocalypse" (McKie, 2017). The British Society for Antibiotic Chemotherapy argues that AMR is the "other" pandemic lurking behind Covid-19 that needs to be addressed with similar urgency (British Society for Antimicrobial Chemotherapy [BSAC], 2020). Back in 2014, the former UK Prime Minister David Cameron warned, "If we fail to act, we are looking at an almost unthinkable scenario where antibiotics no longer work and we are cast back into the dark ages of medicine" (AMR Review, n.d.). Subsequently, he commissioned a Review on Antimicrobial Resistance. The economist Jim O'Neill was asked to analyze the global problem and to propose actions to tackle the issue internationally. The scholarly literature on AMR has doubled the last decade thanks to increased funding. Funders have specifically called for interdisciplinarity and

recognition of the value of joint perspectives since the problem of AMR spans across sectors and disciplines (Chandler, 2020).

The first response to AMR on the international level was in 1998 when the WHO published its resolution on antimicrobial resistance (WHO, 1998; Wernli et al., 2017). Ever since, attempts have been made to address the AMR problem on a global level. International attention culminated in 2015 when the 68th World Health Assembly agreed on a Global Action Plan on AMR. Since then, the highest political levels of the international community seemed to have accepted the gravity of the problem. It was put on the G7 agenda in 2015 and on the G20 agenda in 2017.[2] In 2016, the UN high-level meeting on AMR resulted in a political declaration on AMR (Resolution A/RES/71/3) (UN, 2016a). In 2017, the UN Secretary General established an Inter-Agency Coordination Group (IACG) on AMR (IACG, 2018). To date, five major documents from key UN organizations have been published, warning of the importance of acting on AMR.[3]

Not long after the WHO's initial attention, the EU began addressing AMR and healthcare-associated infections by recognizing them as public health crisis in need of management (Commission Decision 2000/96/EC, 1999; European Parliament and Council Decision 2119/98/EC, 1998). The European Commission established the European Antimicrobial Resistance Surveillance System (EARSS) in 1998.[4] In 2001, it published the Community Strategy against AMR (European Commission, 2001). Ever since, the European Commission and its agencies have been working closely with member states to address the issue. One main activity has been surveillance. Awareness campaigns have been implemented, Action Plans have been compiled, and a "One Health Network and Action" plan was presented (European Commission, n.d.), to mention a few examples.

[2] In 2015, the G7 published a report where all countries committed to develop National Action Plans (NAPs) (Federal Ministry of Health, 2015). In 2017, AMR was put on the agenda of the G20 meeting. Members agreed to lead by example in developing and implementing NAPs by the end of 2018 (G20, 2017).

[3] The documents were produced by WHO; World Bank; Food and Agricultural Organization (FAO); IACG; World Organization for Animal Health (OIE). These documents are all non-academic papers articulating recommendations for interventions to be implemented.

[4] The network collects and reports data on resistance of several bacterial pathogens across European countries. The first decade after its establishment, this network was run by the Dutch Institute of Public Health and the Environment (*Rijksinstituut voor Volksgezondheid en Milieu* [RIVM]). Today, it is coordinated by the ECDC under the name EARS-Net.

Several member states have used their Presidency of the Council of the EU as a platform to bring attention to the problem. Some countries that focused attention on AMR during their chairmanship include Denmark, Sweden, Belgium, and the Czech Republic (Allerberger, Gareis, Jindrák, & Struelens, 2009).

The EU and WHO have launched various antibiotic awareness campaigns over the last two decades. With little success, however; the wider public is still unaware of the problem in most regions of the world (WHO, 2015). The belief that antibiotics are effective to treat viral infections is still widespread.

Sporadic Media Attention

Despite warnings from scientists and the international community, the media and national governments have given this creeping crisis only periodic attention. In the early 1990s, the media echoed concern from the medical literature when reporting about the methicillin resistant *Staphylococcus aureus* (MRSA). Media attention to AMR shifted notably in 1997, when new, dramatic language emerged in media narratives. Frequent reference was made to AMR and "killer superbugs" (Capurro, 2020, p. 3). Apocalyptic post-antibiotic scenarios were described (Brown & Crawford, 2009) with headlines like "Deadly germs, lost cures" (Richtel & Jacobs, 2019), "Attack of the Superbugs: July 2041" (*The Economist*, 2019), and "What Superbug Hunters Know That We Don't" (McCarthy, 2019a).

This type of rhetoric has ever since been prevalent in the media coverage on AMR. The problem is typically presented as a conflict between nature and medical progress. Articles have increasingly focused on the ability of bacteria to develop human-like characteristics with the ability to outsmart the scientific community (Washer & Joffe, 2006). Superbugs have also been presented as impossible to control as they move across spatial and geographical boundaries (Brown & Crawford, 2009). Indeed, much media coverage treats AMR as a *force majeur*—emerging and evolving in nature, propelled through lifestyle choices, and on a trajectory that is difficult, if not impossible, to change.

A recent study found that North American newspapers do not present an explanation of the biological process leading to AMR (Capurro, 2020, p. 9). The underlying causes of the problem are not explained to the wider public, although individuals are partly responsible (DeSilva, Muskavitch, & Roche, 2004; Capurro, 2020; Collins et al., 2018). Equally absent is

coverage of the actors responsible for managing the threat. Governments and the pharmaceutical industry are identified as the main actors; other actors are mostly ignored in the reporting. AMR is often portrayed as caused by a few industries, despite the wider complexities involved, and blame placed on modern societal practices such as globalized economies, farming, environmental degradation, insufficient water management, and deficient health care systems. In the UK (Collins et al., 2018), media coverage is instilled with attributions of blame and conflict over responsibility (e.g., doctors, patients, or industry). In contrast to Capurro's (2020) findings, however, the responsibilities of the pharmaceutical industry and the agricultural sector were found to be rather marginalized in the UK media coverage of AMR in comparison to the North American newspapers.

Reporting clearly differs between countries. Bie, Tang and Treise (2016) found that reporting about the new superbug NDM-1 (discovered in India in 2008 and eventually emerging in the UK and other countries) differed considerably between the UK, the US and India. The UK and US media associated the issue with fear and dread, and used more emotionally loaded words, when compared to India.

In sum, AMR garners regular warnings of international organizations, experts, and the media, although these warnings only occasionally coincide with actual outbreaks—thus speaking to the lack of synchronicity between outbreaks and attention. Equally intriguing, events and attention lead to only uneven and insufficient responses to the crisis.

2.4   Conclusion

This chapter describes a vivid case of a creeping crisis evolving across built and natural environments. The threat potential is still accumulating over time and space. It sometimes "tips" into outbreaks that garner occasional attention but rarely elicit a full-scale crisis response. The impending crisis is well known to the international community. Repeated efforts have been made to stoke a response, including the adoption of multilateral agreements in the WHO promising action (WHO, 2015). Meaningful responses at national levels, however, are rare—and not only in less developed countries (Bonk, 2015). Richer nations in the world are also resistant to clamping down on the root causes of this deepening problem.

The chapter highlights the objective and subjective perspectives that together help to understand creeping crises. Objectively, AMR reminds us

that creeping crises may emerge across systems due to the complex relations between the human and natural worlds. We recognize that human, animal, food, and environmental features are interconnected and propel the creeping crises. Subjectively, the case confirms that, for a problem to become a crisis, political elites, media, and public need to share a common belief that is indeed a "crisis." This has not been the case with AMR. Precursor events bring momentary attention by local leaders but as soon as an outbreak is contained, the attention fades away. Crisis framings do not seem sufficient to prompt a response.

This particular creeping crisis appears to resist early detection. Outbreaks, or in the language of this volume, precursor events, occur occasionally, seemingly spontaneously, in various forms (e.g. individual incidents or epidemic-like spreads). Due to the complex relations between the human and natural worlds, outbreaks can materialize anywhere at any time, regardless of its origins. The enabling conditions by which AMR thrives are still developing in places where the response has been insufficient. It may therefore snowball because of distant drivers, but we can hardly see when and where this snowball will begin its journey. Effective management of this crisis will require renewed thinking about how to detect tipping points in its development.

Finally, the case of AMR highlights the difficulties of attributing crisis ownership. The problem requires a wide array of actors, at micro- and macro-levels of society, to respond: individuals, industries, professions, and governments. A focus on precursor events, rather than stopping the march toward a massive crisis down the road, leads observers to point to specific "owners" in specific events. Efforts to attribute blame, though, ignore deeper questions about whom—and how—we must address root causes that appear quite far from the immediate problem. Few actors are willing to step up to act. Under such conditions, sweeping crisis responses are unlikely.

AMR thus bears the key characteristics of a creeping crisis, with all the challenges and paradoxes that our theoretical approach helps to uncover. The threat is diffuse and random. Responses are hampered by ownership complexities and societal dependencies, since everyone needs antibiotics even though they have the potential to kill us. As one author warns, "no magic bullets will make the problem vanish. It will be with us forever" (McCarthy, 2019b). This study raises the concerning question, then, of whether we may have to live with creeping crises.

REFERENCES

Allerberger, F., Gareis, R., Jindrák, V., & Struelens, M. J. (2009). Antibiotic stewardship implementation in the EU: The way forward. *Expert Review of Anti-infective Therapy, 7*(10), 1175–1183.

AMR Review. (n.d.). *Review on Antimicrobial Resistance*. Retrieved from https://amr-review.org/

Anderson, M., Clift, C., Schulze, K., Sagan, A., Nahrgang, S., Ait Quakrim, D., & Mossialos, E. (2019). Averting the AMR crisis: What are the avenues for policy action for countries in Europe?. *European Observatory Policy Briefs, 32.*

Arnold, R. S., Thom, K. A., Sharma, S., Phillips, M., Johnson, J. K., & Morgan, D. J. (2011). Emergence of Klebsiella pneumoniae carbapenemase (KPC)-producing bacteria. *Southern Medical Journal, 104*(1), 40.

Belluz, J. (2019, April 8). Drug-resistant "superbugs" are spreading—but your hospital doesn't have to tell you. *VOX Media*. Retrieved November 19, 2020, from https://www.vox.com/2019/4/8/18300388/candida-auris-superbug-drug-resistant

Bie, B., Tang, L., & Treise, D. M. (2016). Be aware of superbugs: Newspaper coverage of NDM-1 in India, UK, and the USA. *Asian Journal of Communication, 26*(1), 58–75.

Bonk, M. B. (2015). *Responses to the antimicrobial resistance threat: A comparative study of selected national strategies and policies*. Mandated by the Swiss Federal Office of Public Health (FOPH).

Bratu, S., Landman, D., Haag, R., Recco, R., Eramo, A., Alam, M., & Quale, J. (2005). Rapid spread of carbapenem-resistant Klebsiella pneumoniae in New York City: A new threat to our antibiotic armamentarium. *Archives of Internal Medicine, 165*(12), 1430–1435.

Brown, B., & Crawford, P. (2009). "Post antibiotic apocalypse": Discourses of mutation in narratives of MRSA. *Sociology of Health & Illness, 31*(4), 508–524.

BSAC [British Society for Antimicrobial Chemotherapy]. (2020, May 12). *Antibiotic resistance: The 'other' pandemic lurking behind COVID-19*. Retrieved November 19, 2020, from http://bsac.org.uk/antibiotic-resistance-the-other-pandemic-lurking-behind-covid-19/

Bush, K., Courvalin, P., Dantas, G., Davies, J., Eisenstein, B., Huovinen, P., … Zgurskaya, H. I. (2011). Tackling antibiotic resistance. *Nature Reviews Microbiology, 9*(12), 894–896.

Capurro, G. (2020). "Superbugs" in the risk society: Assessing the reflexive function of North American newspaper coverage of antimicrobial resistance. *SAGE Open, 10*(1), 1–13.

Chandler, C. (2020). AMR publications have doubled in a decade—but what are our next steps?. *Antimicrobial Resistance Centre, London School of Hygiene & Tropical Medicine*. Retrieved November 19, 2020, from https://www.lshtm.ac.uk/research/centres/amr/news/119386/amr-publications-have-doubled-decade-what-are-our-next-steps

Chanel, R., & Doherty, B. (2020, September 10). 'Superbugs' a far greater risk than Covid in Pacific, scientist warns. *The Guardian*. Retrieved November 19, 2020, from https://www.theguardian.com/world/2020/sep/10/superbugs-a-far-greater-risk-than-covid-in-pacific-scientist-warns

Chattopadhyay, M. K. (2014). Use of antibiotics as feed additives: A burning question. *Frontiers in Microbiology, 5*, 334.

Collins, L. C., Jaspal, R., & Nerlich, B. (2018). Who or what has agency in the discussion of antimicrobial resistance in UK news media (2010–2015)? A transitivity analysis. *Health, 22*(6), 521–540.

Commission Decision 2000/96/EC. (1999). Of 22 December 1999 on the communicable diseases to be progressively covered by the Community network under Decision No 2119/98/EC of the European Parliament and of the Council (notified under document number C(1999) 4015). Retrieved November 19, 2020, from https://eur-lex.europa.eu/eli/dec/2000/96(1)/oj

Davies, J. (2006). Where have all the antibiotics gone? *Canadian Journal of Infectious Diseases and Medical Microbiology, 17*, 287–290.

Davies, J., & Davies, D. (2010). Origins and Evolution of Antibiotic Resistance. *Microbiology and Molecular Biology Reviews, 74*(3), 417–433. https://doi.org/10.1128/MMBR.00016-10

DeSilva, M., Muskavitch, M., & Roche, J. (2004). Print media coverage of antibiotic resistance. *Science Communication, 26*, 31–43.

ECDC [European Centre for Disease Prevention and Control]. (n.d.). ECDC Patient story: Lill-Karin. Retrieved November 19, 2020, from https://antibiotic.ecdc.europa.eu/en/ecdc-patient-story-lill-karin

European Commission. (2001). *Communication from the Commission on a Community Strategy against antimicrobial resistance /* COM/2001/0333 final Volume I */.* Retrieved November 19, 2020, from https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52001DC0333:EN:HTML

European Commission. (n.d.). *EU action on antimicrobial resistance.* Retrieved November 19, 2020, from https://ec.europa.eu/health/antimicrobial-resistance/eu-action-on-antimicrobial-resistance_en

European Parliament and Council Decision 2119/98/EC. (1998). Of the European Parliament and of the Council of 24 September 1998 setting up a network for the epidemiological surveillance and control of communicable diseases in the Community. Retrieved from https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A31998D2119

Federal Ministry of Health. (2015). *G7 Germany 2015. Combating antimicrobial resistance—examples of best-practice of the G7 countries.* http://www.g8.uto-ronto.ca/healthmins/AMR_Best_Practices.pdf

G20. (2017). *Berlin Declaration of the G20 Health Ministers: Together today for a healthy tomorrow.* Retrieved November 19, 2020, from http://www.g20.uto-ronto.ca/2017/170520-health-en.pdf

Graham, D. W. (2019, January 29). Antibiotic resistant 'superbug' genes found in the High Arctic. *The Conversation.* Retrieved November 19, 2020, from https://theconversation.com/antibiotic-resistant-superbug-genes-found-in-the-high-arctic-110636

Harbarth, S., Balkhy, H. H., Goossens, H., Jarlier, V., Kluytmans, J., Laxminarayan, R., … Pittet, D. (2015). Antimicrobial resistance: One world, one fight! *Antimicrobial Resistance and Infection Control, 4,* 49.

IACG [Interagency Coordination Group on Antimicrobial Resistance]. (2018). *Future Global Governance for Antimicrobial Resistance.* IACG Discussion Paper. Retrieved November 19, 2020, from https://www.who.int/antimicrobial-resistance/interagency-coordination-group/IACG_Future_global_governance_for_AMR_120718.pdf

IACG [Interagency Coordination Group on Antimicrobial Resistance]. (2019). *No time to wait: Securing the future from drug-resistant infections.* Report to the Secretary General of the United Nations. Retrieved November 19, 2020, from https://www.who.int/antimicrobial-resistance/interagency-coordination-group/final-report/en/

Jonas, O. B., Irwin, A., Berthe, F. C. J., Le Gall, F. G., & Marquez, P. V. (2017). *Drug-resistant infections: A threat to our economic future (Vol. 2): Final report (English).* HNP/Agriculture Global Antimicrobial Resistance Initiative. Washington, DC: World Bank Group. Retrieved November 19, 2020, from https://documents.worldbank.org/en/publication/documents-reports/doc-umentdetail/323311493396993758/final-report

Keegan, M. (2018, June 26). 'Another outbreak is a certainty': Are we ready for a superbug epidemic? *The Guardian.* Retrieved November 19, 2020, from https://www.theguardian.com/cities/2018/jun/26/another-outbreak-is-certain-are-cities-ready-for-the-next-superbug-epidemic-

Klein, E. Y., Tseng, K. K., Pant, S., & Laxminarayan, R. (2019). Tracking global trends in the effectiveness of antibiotic therapy using the Drug Resistance Index. *BMJ Global Health, 4*(2), e001315.

Laxminarayan, R., Duse, A., Wattal, C., Zaidi, A. K., Wertheim, H. F., Sumpradit, N., … Greko, C. (2013). Antibiotic resistance—the need for global solutions. *The Lancet Infectious Diseases, 13*(12), 1057–1098.

Levy, S. B. (1997). Antibiotic resistance: An ecological imbalance. In D. J. Chadwick & J. Goodie (Eds.), *Antibiotic resistance: Origins, evolution, selection and spread* (pp. 1–14). New York: John Wiley & Sons.

Littmann, J., & Simonsen, G. S. (2019). Antimicrobial resistance is a super wicked problem. *Tidsskrift for den Norske laegeforening, 139*(16), 1-6.

Lomazzi, M., Moore, M., Johnson, A., Balasegaram, M., & Borisch, B. (2019). Antimicrobial resistance–moving forward? *BMC Public Health, 19*(1), 858.

MacIntyre, C. R., & Bui, C. M. (2017). Pandemics, public health emergencies and antimicrobial resistance-putting the threat in an epidemiologic and risk analysis context. *Archives of Public Health, 75*(1), 54.

Magiorakos, A. P., Srinivasan, A., Carey, R. B., Carmeli, Y., Falagas, M. E., Giske, C. G., … Monnet, D. L. (2012). Multidrug-resistant, extensively drug-resistant and pandrug-resistant bacteria: An international expert proposal for interim standard definitions for acquired resistance. *Clinical Microbiology & Infection, 18*(3), 268–281.

McCarthy, M. (2019a, May 20). What superbug hunters know that we don't. *The New York Times.* Retrieved November 19, 2020, from https://www.nytimes.com/2019/05/20/opinion/hospitals-antibiotic-resistant-bacteria-superbugs.html

McCarthy, M. (2019b). Superbugs: The race to stop an epidemic. *Emerging Infectious Diseases, 26*(5), 1055. https://doi.org/10.3201/eid2605.191717

McKie, R. (2017, October 8). 'Antibiotic apocalypse': Doctors sound alarm over drug resistance. *The Guardian.* Retrieved November 19, 2020, from https://www.theguardian.com/society/2017/oct/08/world-faces-antibiotic-apocalypse-says-chief-medical-officer

NIAID [National Institute of Allergy and Infectious Disease]. (2011, December 21). *Causes of antimicrobial (drug) resistance.* Retrieved November 19, 2020, from https://www.niaid.nih.gov/research/antimicrobial-resistance-causes.

O'Neill, J. (2016). *Tackling drug-resistant infections globally: Final report and recommendations. The Review on Antimicrobial Resistance.* Retrieved November 19, 2020, from https://amr-review.org/sites/default/files/160518_Final%20paper_with%20cover.pdf

OECD [Organization for Economic Co-operation and Development]. (2018). *Stemming the superbug tide—just a few dollars more.* OECD Publishing. https://doi.org/10.1787/9789264307599-en

Richtel, M., & Jacobs, A. (2019, April 6). A mysterious infection, spanning the globe in a climate of secrecy. *The New York Times.* Retrieved November 19, 2020, from https://www.nytimes.com/2019/04/06/health/drug-resistant-candida-auris.html

Silver, L. L. (2011). Challenges of antibacterial discovery. *Clinical Microbiology Reviews, 24*(1), 71–109.

Spellberg, B., Bartlett, J. G., & Gilbert, D. N. (2013). The future of antibiotic and resistance. *New England Journal of Medicine, 368*(4), 299–302.

The Economist. (2019, July 6). Attack of the superbugs: July 2041. *The Economist.* Retrieved November 19, 2020, from https://www.economist.com/the-world-if/2019/07/06/what-if-antibiotics-stop-working

UN [United Nations]. (2016a). *Draft political declaration of the high-level meeting of the General Assembly on antimicrobial resistance*. Retrieved November 19, 2020, from http://www.un.org/pga/71/wp-content/uploads/sites/40/2016/09/DGACM_GAEAD_ESCAB-AMR-Draft-Political-Declaration-1616108E.pdf

UN [United Nations]. (2016b). World health leaders agree on action to combat Antimicrobial Resistance, warning of nearly 10 million deaths annually if left unchecked [Meetings coverage]. General Assembly 71st session, high-level meeting on Antimicrobial Resistance. Retrieved November 19, 2020, from https://www.un.org/press/en/2016/ga11825.doc.htm

Ventola, C. L. (2015). The antibiotic resistance crisis: Part 1: Causes and threats. *Pharmacy and Therapeutics: A Peer-Reviewed Journal for Formulary Management, 40*(4), 277–283.

Washer, P., & Joffe, H. (2006). The "hospital superbug": Social representations of MRSA. *Social Science & Medicine, 63*(8), 2141–2152.

Wernli, D., Jørgensen, P. S., Morel, C. M., Carroll, S., Harbarth, S., Levrat, N., & Pittet, D. (2017). Mapping global policy discourse on antimicrobial resistance. *BMJ Global Health, 2*(2), e000378.

WHO. (1998, March 10). *Emerging and other communicable diseases: Antimicrobial resistance*. Report by the Director-General. Provisional agenda item 21.3 A51/9. 51st World Health Assembly. Retrieved November 19, 2020, from http://apps.who.int/gb/archive/pdf_files/WHA51/ea9.pdf.

WHO. (2015). *Worldwide country situation analysis: Response to antimicrobial resistance*. Retrieved November 19, 2020, from https://apps.who.int/iris/bitstream/handle/10665/163468/9789241564946_eng.pdf?sequence=1

WHO. (2017, November 8). Facing the threat of antibiotic-resistance: Israel's success to prevent and control the spread of carbapenem-resistant bacteria. Retrieved November 19, 2020, from https://www.who.int/news-room/feature-stories/detail/facing-the-threat-of-antibiotic-resistance-israel-s-success-to-prevent-and-control-the-spread-of-carbapenem-resistant-bacteria

WHO. (2018, December 27). Typhoid fever—Islamic Republic of Pakistan. Retrieved November 19, 2020, from https://www.who.int/csr/don/27-december-2018-typhoid-pakistan/en/

WHO. (2019a, April 29). New report calls for urgent action to avert antimicrobial resistance crisis. Retrieved November 19, 2020, from https://www.who.int/news-room/detail/29-04-2019-new-report-calls-for-urgent-action-to-avert-antimicrobial-resistance-crisis

WHO. (2019b, November 18). Adopt and implement high-impact interventions to secure the future of antibiotics and rollback the global AMR crisis [Statement, Dr Poonam Khetrapal Singh, WHO Regional Director for South-East Asia]. Retrieved November 19, 2020, from https://www.who.int/southeastasia/news/detail/18-11-2019-adopt-and-implement-high-impact-interventions-to-secure-the-future-of-antibiotics-and-rollback-the-global-amr-crisis

WHO. (2019c, March 5). Carbapenem-resistant Pseudomonas aeruginosa infection—Mexico. Retrieved November 19, 2020, from https://www.who.int/csr/don/5-march-2019-carbapenem-resistant-p-aeruginosa-mex/en/

WHO. (2020, October 13). *Antimicrobial resistance*. Retrieved November 19, 2020, from https://www.who.int/news-room/fact-sheets/detail/antimicrobial-resistance

World Bank. (2019, October 30). *Pulling together to beat superbugs: Knowledge and implementation gaps in addressing Antimicrobial Resistance*. Washington, DC: World Bank.

CHAPTER 3

WannaCry as a Creeping Crisis

Maria F. Prevezianou

Abstract This chapter deepens our understanding of cyber crises with the help of the creeping crisis concept. The chapter shows that although emerging technologies make malicious activities in cyberspace more sophisticated, vulnerabilities enabling such threats have been inherent in cyber assets for a very long time in the form of creeping crises. The question is: was WannaCry the acute crisis or just a precursor event to a bigger explosion? It is argued that the WannaCry ransomware attack in 2017 should be considered a wake-up call. The chapter demonstrates how the cyber threat was lurking in the background, gradually evolving in time and space in a non-linear fashion and receiving varying levels of attention.

Keywords Creeping crisis • Cyber-attacks • Cyber security • WannaCry • IT security

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3.1   INTRODUCTION

"Oops, your files have been encrypted!". In May 2017, a large number of users booted their computers only to find this message on their screens. The message was accompanied by a set deadline of three days: the user had to pay 300 USD ransom in the Bitcoin cryptocurrency to have their files decrypted. If users did not meet the deadline, the ransom would double; if the payment was not made within seven days, the decrypted files would be deleted (Symantec, 2017a).

These users had fallen victim to a ransomware "cryptoworm" now known as WannaCry, which allows hackers to encrypt user data. The worm replicated itself within networks without user interaction (Europol, n.d.). This "distributed denial-of-service" attack affected multiple systems across the world. Hospitals and clinics in Britain were forced to turn away patients due to a lack of access to patient information. Red pop-up windows covered announcement boards at Deutsche Bahn stations. The multinational shipping company FedEx experienced widespread service delays. The Russian interior ministry, railways, banks and phone operators all found themselves battling ransom demands (BBC, 2017). These are just a few of the major implications of the WannaCry attack.

No matter how many security systems we install in our homes, our banks and our businesses, there will always be the risk of criminal activity. Cyberspace is not an exception to the rule. As in the physical world, cyberspace can never be entirely secure. This is a key point in understanding how the situation got out of control during the 2017 WannaCry attack. Software contains bugs and errors that can have serious security implications, since cyber criminals can exploit these bugs to gain unauthorized access to, and control over, a computer. As Middleton (2017) argues, "[…] we need to keep doing the same things we have been doing for many years in the realm of physical security. You don't want to let your guard down there" (p. x). Standing still, we might say, is falling behind in the pursuit of cyber security.

This chapter demonstrates our shallow understanding of cyber crises. With WannaCry as an indicative example, the chapter shows how cyber crises are "hiding in plain sight", to quote the title of this volume. It makes use of the "creeping crisis" concept introduced in the first chapter, a concept that helps to reveal dimensions of cyber crises that are often overlooked or misinterpreted. Most analyses on the matter focus on cyber

crises' unprecedented speed, unpredictability, and delimitation in time.[1] Drawing from the creeping crisis conceptual framework, the chapter argues that, despite their seemingly speedy and temporally delimited nature, cyber crises do not have a clear beginning or ending and may keep simmering long after the "hot phase" of the "crisis" is over (Boin, Ekengren, & Rhinard, 2020, p. 5). In contrast to conventional wisdom, cases like WannaCry are not exceptional events delimited in time and space, but rather permanent global threats that manifest themselves as seemingly acute crises (cf. George, 1991). Due to their highly complex nature, they receive varying levels of attention from different actors. Above all, these events demonstrate the need for a better understanding of the long-term processes that give rise to cyber crises.

3.2   PRECURSOR EVENTS

Major cyber-attacks are often preceded by a chain of events and disturbances which, from a creeping crisis perspective, can be seen as precursor events and indicators of a deeper problem. One reason these precursor events occur is rather straightforward. In order to prevent software bugs and errors from posing a serious threat to our computers and networks, software vendors release security patches to fix emerging problems. Those patches signal problems that, before the patch is installed, can be momentarily exploited by hackers. To add to the problem, when state interests come into play, the situation becomes more complex.

For instance, a few years before the WannaCry attack in 2017, the US government is believed to have discovered a security vulnerability in Microsoft's Windows operating system. The US National Security Agency (NSA) had two choices at the time: it could either keep the vulnerability a secret and use it for offensive purposes of national interest, or encourage Microsoft to issue a patch to fix the vulnerability quickly.[2] According to the so-called NOBUS concept ("nobody but us"), the NSA estimates whether it is the sole actor aware of a certain vulnerability, or if other actors could have already found it (Peterson, 2013). By choosing to keep

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[1] Cyber crises are most commonly examined from a strictly linear perspective with the use of traditional crisis phases such as a pre-crisis, crisis, and post-crisis phase. See for instance Choraś, Kozik, Flizikowski, Holubowicz, and Renk (2016, p. 146).

[2] Parts of the empirical section on WannaCry presented here draw on my earlier work of conceptualizing cyber crises (Prevezianou, 2020).

the vulnerability a secret, the NSA estimated that the benefits of exploiting the error, in order to weaponize it, would outweigh the broader security risk. This estimate would later prove inaccurate.

The hacking tool developed by the NSA (Nakashima & Timberg, 2017) targets the Microsoft Windows operating system and infects vulnerable computers remotely. The Agency had been using the tool for five years before alerting Microsoft of its existence (Burdova, 2020). Although Microsoft swiftly issued security updates for all Windows versions, (Microsoft, 2017), individual users, companies and public institutions failed to install the updates. As a result, the threat potential accumulated unbeknownst to users, politicians, and crisis managers everywhere. A vast number of users all over the world had left—and, as of today, continue to leave—the door opens to a threat with a potential to erupt at any point in time.

Demonstrating the complex temporal aspect of creeping crises, at an unknown point in time a malicious hacker group called the Shadow Brokers started taking advantage of the security vulnerability, too. The group first appeared in the summer of 2016 and began promoting itself through social media, where it claimed to have compromised the "Equation Group," a sophisticated cyber-attack group allegedly linked to the NSA (European Union Agency for Cybersecurity [ENISA], 2016). To prove their claim, they started disclosing some of the group's hacking tools for free and later auctioned the rest to the highest bidder. In the midst of intense speculation regarding the true origin of the leaks, analysis conducted by security researchers suggests that the exposed data and tools were valid and even dated back to as far as 2013 (Suiche, 2016). The disclosed files revealed vulnerabilities in known vendors' devices, including public agencies, which could be used by any malicious actor wishing to exploit them.

The Shadow Brokers continued to engage in a series of leaks during 2016 and 2017. In April 2017, as part of their fifth effort to disclose vulnerabilities, they leaked several hacking tools and exploits, including the NSA's EternalBlue. On May 12, 2017, using the EternalBlue tool, hackers unleashed the WannaCry ransomware cryptoworm, which cracked vulnerable systems remotely through Internet scanning and replicated itself to spread from one vulnerable computer to the next (ENISA, 2017). The ransomware spread at a rate of 10,000 devices per hour, infecting over 230,000 Windows PCs across 150 countries in a single day (Burdova, 2020).

The WannaCry crisis exposed the multi-domain nature that is familiar to scholars of creeping crises. A cyber crisis can—and will—activate crises in multiple domains and affect a variety of actors, from individuals and private companies, to political institutions and critical infrastructure operators (Prevezianou, 2020). WannaCry demonstrates how cyberspace is used as a tool to simultaneously trigger crises across sectors and showcases how the negligence, or even inability, of policy-makers to map these sectoral interconnections and establish adequate crisis management mechanisms can allow a potential threat to lurk in the background.

Policy-makers and regulators, largely divided over responsibility and goals, had a difficult time managing the crisis. Considering that the attack could have been prevented, or at least had a less significant impact, if individual users and organizations had installed the security patches released by Microsoft two months prior to the attack, it is now evident that a severe lack of "cyber hygiene", combined with a lack of a "shared responsibility" amongst individuals, the government and the private sector contributed to the accumulation of threat potential (Smith, 2017). Securing our systems needs to be a common effort. Practicing good cyber hygiene is the users' responsibility, especially when the user is a national authority or organization. The interconnectedness of cyberspace, authorities working at cross purposes, and the lack of individuals' cyber hygiene resulted in a dangerous combination that fueled the problem.

3.3   A Tipping Point

The onset of the WannaCry attack proved a tipping point that spilled over into multiple, additional crises.

3.3.1   *Diffuse Effects*

The spill-over was unprecedented. Many individual users and organizations across the globe were hit by the attack, including critical infrastructure operators, manufacturers, and service providers. Their systems were set to stop functioning—unless they paid the ransom. Even then, no one could guarantee that the systems could be recovered after the ransom was paid. A few significant examples of organizations hit by the attack were (BBC, 2017):

- Britain's National Health Service
- The Russian Ministry of Interior, several banks, and MegaFon, Russia's second largest mobile phone operator
- German railways
- The Spanish phone operator Telefonica, power firm Iberdrola, and utility provider Gas Natural
- The French car manufacturer Renault, which was forced to halt production at many sites
- Chinese universities
- 600 Japanese companies
- Indonesian hospitals
- Andhra Pradesh Police in India

This disruption of services caused major economic losses, which were estimated to reach 8 billion USD (Barlyn, 2017). The impact was not just economic. The attack was a wake-up call, since it revealed how a crisis creeping in cyberspace can have a major spill-over effect in the "real world" and affect our daily lives in unexpected ways. A clear example was Britain's National Health Service. Hospitals were unable to access patient data, thousands of operations and appointments were canceled, vital medical equipment had to be taken off-line and ambulances were diverted to other, unaffected hospitals (BBC, 2017).

The private sector led the response effort. Microsoft immediately released emergency security patches after the attack (Microsoft Security Response Center Team, 2017). Apart from users of in-support versions of Windows, who would be automatically protected provided that they had the "automatic updates" function enabled, Microsoft moved one step further by issuing patches for out-of-support systems including Windows 2003 and Windows XP (Misner, 2017). At the same time, international organizations, together with so-called computer emergency response teams (CERTs) and large cybersecurity companies, issued guidelines that users should follow in response to the attack, regardless of whether they had been hit or not. Cybersecurity experts advised users against paying the ransom and urged them to update their systems as soon as possible in order to ensure their protection (Baraniuk, 2017).

The attack's expansion was halted in a surprising way. Marcus Hutchins, a British computer security researcher, also known by the pseudonym "Malware Tech," accidentally discovered a "kill switch" by registering a

domain name that tracked the spread of the ransomwear and, in the end, halted it (Malware Tech, 2017). By slowing down its expansion, it allowed for the implementation of further protection measures. However, it could not reverse the damage that was already done.[3]

3.3.2   *Limited Attention, Limited Response*

The deeper problems signaled by the WannaCry attack were hardly new. Cybersecurity experts have been raising the alarm for a long time—unfortunately without attracting the necessary level of attention from authorities or individual users. Attention is a core factor in understanding the response to a creeping crisis: "if political elites, media and the public do not collectively share a sense of crisis, it is hard to speak of a crisis" (Boin et al., 2020, p. 7). Without attention, remedial action is unlikely. Connecting this argument to WannaCry, it does not come as a surprise that a collectively shared sense of an emergent crisis was mostly absent. It alarmed experts, and some individuals sought to raise the alarm, but somehow this major, emerging threat failed to attract political and public attention.

For instance, about a month before the attack, private researchers announced they had identified computers compromised by the same hacking methods used by the NSA. Experts from several security firms warned their clients who practiced poor security practices. The fact that these methods originated from an intelligence agency was a sign to the researchers that this hacking tool was more likely than others to prove highly effective. Matthew Hickey, co-founder of Hacker House in Britain, said his teams issued ever-heightened warnings of a "Microsoft apocalypse" (Dave, 2017). "It's highly likely what we saw were precursors to WannaCry," said Govshteyn, Alert Logic's co-founder, when referring to the NSA leak warnings (Dave, 2017).

National politicians displayed little awareness of the impending threat. The term crisis was avoided, and public authorities seemed to rely on the private sector to deal with the issue. In the case of the UK, the Department of Health was warned about the risk of cyber-attacks on the NHS a year earlier. The Secretary of State for Health did ask the UK National Data

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[3] The investigations conducted traced the attack to the Lazarus Group, cyber affiliates of the North Korean government (Symantec, 2017b).

Guardian and the Care Quality Commission (CQC) to undertake reviews of data security. These reports were published in July 2016 and warned the department that cyber-attacks could lead to patient information being lost or compromised and could jeopardize access to critical patient record systems. They recommended that all healthcare organizations provide evidence that action was being taken to improve cybersecurity, including moving off older, legacy operating systems. Although the department and its arm's-length bodies were working to improve cybersecurity in the NHS, it did not publish its formal response to the recommendations until July 2017 (National Audit Office, 2018, p. 5).

In March and April 2017, NHS Digital (the IT arm of the National Health Service), issued critical alerts warning organizations to patch their systems to prevent WannaCry. However, before May 12, 2017, the department had no formal mechanism for assessing whether NHS organizations had complied with its advice and guidance. Prior to the attack, NHS Digital had conducted an on-site cybersecurity assessment for 88 out of 236 NHS trusts (local governance regions), and none had passed. But NHS Digital could not mandate a local body to take remedial action even if it had concerns about its vulnerability (National Audit Office, 2018, p. 6).

Many individual users remained unaware of the severity of the problem. There are still many users who have not patched their systems against the EternalBlue vulnerability. Even after the crisis, more than two years following the global outbreak, the WannaCry ransomware was still spreading and sometimes still successful at infecting users. Some people still paid the ransom in a futile effort to retrieve their encrypted data (Mackenzie, 2019). Not only did this put them at risk of falling victim to WannaCry, but they are also at risk of other attacks which have emerged since EternalBlue wreaked havoc. For instance, according to the UK National Audit Office:

> WannaCry was the largest cyber-attack to affect the NHS, although individual trusts had been attacked before 12 May 2017. For example, two of the trusts infected by WannaCry had been infected by previous cyber-attacks. One of England's biggest trusts, Barts Health NHS Trust, had been infected before, and Northern Lincolnshire and Google NHS Foundation Trust had been subject to a ransomware attack in October 2018, leading to the cancellation of 2800 appointments. (National Audit Office, 2018, p. 5)

This statement showcases the severity of the problem. The precursor events were insufficiently addressed, and little political attention turned toward the problem; all which in turn led to further accumulation of threat potential. This is not the only example. In May 2019, two years after WannaCry, thousands of computers in the US city of Baltimore's city government were frozen after their files became digitally scrambled by hackers with the help of the EternalBlue fault (BBC, 2019). This led to local residents being unable to pay utility bills, parking tickets and taxes, while at the same time the staff could not send or receive emails.

Elsewhere in the world, the situation was similar. In Russia, where WannaCry affected the country's banking system, the central bank claimed to have sent recommendations to Russian banks to update their Windows software only a month before the actual attack and few took heed even then (Winning and Stubbs, 2017). Consequently, there seems to be a pattern of authorities not addressing the matter sufficiently and not taking the necessary action, even though experts and Microsoft had stressed the urgent need to keep our systems updated in order to prevent not only that particular attack, but also future attacks that could come from the same systemic weakness (Pope, 2019).

Governments failed to elevate the issue to the crisis level (by not taking measures and addressing it with the same intensity as the private sector), while the private sector was leading the management efforts and security experts were warning—and continue to warn—of a massive cyber crisis if the focus remains on managing manifestations instead of addressing the root of the problem and understanding the long-term threat accumulation. This varying sense of urgency among different actors is further deepened by a lack of ownership. Creeping crises can be addressed successfully only through cross-sectoral and cross-border cooperation, which is hindered by uncertainty, shifting national interests and varying degrees of political will (cf. Blondin & Boin, 2020).

3.4   FROM CREEPING CRISIS TO CRISIS: A DISCUSSION

The fact that a computer worm managed to spread all over the world within a few hours, with limited resources, and cause such a major disruption is highly alarming. This is especially true if we consider the devastating impact the attack could have if the hackers were to target more critical societal functions. This chapter clarifies the need to understand this highly interconnected threat landscape.

The WannaCry ransomware attack was a wake-up call, since it revealed the devastating potential of cyber threats. EternalBlue, the bug that opened the door to WannaCry, still fuels an endless infection cycle and its legacy lives on. Soon after the WannaCry ransomware campaign, a new type of malware, Petya and its variant NotPetya spread through the same vulnerability, although this time the malware was much more sophisticated and deliberately malicious in character, as it entered the network through unpatched Windows-operated machines, stole passwords, gained administrator access and spread itself over the entire network (Hern, 2017). These ransomware attacks, like those before them, spread across the world (Greenberg, 2018).

Cases like WannaCry are great examples of a new type of crisis that develops in a dynamic threat environment and, despite widespread impact at a societal and political level, does not attract the same level of attention among different stakeholders as we might expect using a traditional crisis perspective.

The case also generates a tricky question for the creeping crisis research agenda, which distinguishes between precursor events and future, major crises. Was WannaCry a creeping crisis that developed into an acute full-blown crisis when the cryptoworm spread itself across the globe? Or was it a mere manifestation of a creeping crisis in cyberspace, whose acute phase is yet to be revealed? This chapter argues that, despite the fact that WannaCry constituted a tipping point in the development of a creeping crisis into a major crisis, the ransomware explosion in 2017 remains a symptom of an underlying and much more serious problem that may take us all by surprise in the future.

This is not to say that we should expect a cyber doomsday—although such scenarios are often posed by experts—or even examine other vulnerabilities that could be exploited by cyber criminals. This is a creeping crisis that is still developing in full view. Manifestations are numerous and sometimes resemble "big bangs." Yet decision-makers seem to be taken by surprise every time, while experts constantly raise the alarm and warn of a more devastating impact. Individual users are mere spectators in this vicious circle, but they have much to lose. There is a potential for a full-blown cyber crisis that has not yet been witnessed.

After the WannaCry attack, Brad Smith, the President of Microsoft, demonstrated the severity of the issue from a national security perspective:

[…] this attack provides yet another example of why the stockpiling of vulnerabilities by governments is such a problem. This is an emerging pattern in 2017. We have seen vulnerabilities stored by the CIA show up on WikiLeaks, and now this vulnerability stolen from the NSA has affected customers around the world. Repeatedly, exploits in the hands of governments have leaked into the public domain and caused widespread damage. An equivalent scenario with conventional weapons would be the U.S. military having some of its Tomahawk missiles stolen. And this most recent attack represents a completely unintended but disconcerting link between the two most serious forms of cybersecurity threats in the world today – nation-state action and organized criminal action. (Smith, 2017, p. 1)

There is more to cyber crises than traditional crisis approaches allow us to see. A focus on how "sudden" or "fast" a cyber incident is will result in a rather shallow understanding of the situation, which, in turn, leads to bad decision-making. As demonstrated by WannaCry, the cyber threat lurks in the background and develops across temporal and spatial boundaries, suddenly manifesting itself through tipping points. It receives varying levels of attention, which leads to a lack of a collectively shared sense of an ongoing crisis. This in turn leads to further accumulation of threat potential due to an insufficient response. The vicious circle goes on and on. Effective responses, supported by insightful research, need to acknowledge that in an interconnected world we cannot manage crises without mapping the interconnectedness of critical systems, without understanding how different actors and different conditions interact and without understanding what consequences this interaction generates. The need to go beyond the traditional temporal crisis perspectives and look at the broader, systemic picture is more pressing than ever. The creeping crisis perspective takes some useful steps in this direction.

References

Baraniuk, C. (2017, May 15). Should you pay the WannaCry ransom?. *BBC News*. Retrieved November 19, 2020, from https://www.bbc.com/news/technology-39920269

Barlyn, S. (2017, July 17). Global cyber attack could spur $53 billion in losses: Lloyd's of London. *Reuters*. Retrieved November 19, 2020, from https://www.reuters.com/article/us-cyber-lloyds-report/global-cyber-attack-could-spur-53-billion-in-losses-lloyds-of-london-idUSKBN1A20AB

BBC. (2017, May 15). Ransomware cyber-attack: Who has been hardest hit?. *BBC News*. Retrieved November 19, 2020, from https://www.bbc.com/news/world-39919249

BBC. (2019, May 27). Baltimore ransomware attack: NSA faces questions. *BBC News*. Retrieved November 19, 2020, from https://www.bbc.com/news/technology-48423954

Blondin, D., & Boin, A. (2020). Cooperation in the face of transboundary crisis: A framework for analysis. *Perspectives on Public Management and Governance, 3*(3), 197–209. https://doi.org/10.1093/ppmgov/gvz031

Boin, A., Ekengren, M., & Rhinard, M. (2020). Hiding in plain sight: Conceptualizing the creeping crisis. *Risk, Hazards & Crisis in Public Policy, 11*(2), 116–138. https://doi.org/10.1002/rhc3.12193

Burdova, C. (2020, June 18). What is EternalBlue and why is the MS17-010 exploit still relevant?. *Avast Academy*. Retrieved November 19, 2020, from https://www.avast.com/c-eternalblue

Choraś, M., Kozik, R., Flizikowski, A., Holubowicz, W., & Renk, R. (2016). Cyber threats impacting critical infrastructures. In R. Setola, V. Rosato, E. Kyriakides, & E. Rome (Eds.), *Managing the complexity of critical infrastructures: A modelling and simulation approach* (Studies in Systems, Decision and Control, No. 90) (pp. 139–161). Springer Open. https://doi.org/10.1007/978-3-319-51043-9

Dave, P. (2017, May 17). They predicted the 'WannaCry' ransomware cyberattack, so how come few listened? *Los Angeles Times*. Retrieved November 19, 2020, from https://www.latimes.com/business/technology/la-fi-tn-ransomware-warnings-20170516-story.html

ENISA [European Union Agency for Cybersecurity]. (2016, October 5). The "Shadow Brokers" story. Retrieved November 19, 2020, from https://www.enisa.europa.eu/publications/info-notes/the-201cshadow-brokers201d-story

ENISA [European Union Agency for Cybersecurity]. (2017, May 15). WannaCry ransomware outburst. Retrieved November 19, 2020, from https://www.enisa.europa.eu/publications/info-notes/wannacry-ransomware-outburst

Europol. (n.d.). Wannacry ransomware. Retrieved November 19, 2020, from https://www.europol.europa.eu/wannacry-ransomware

George, A. (Ed.). (1991). *Avoiding war: Problems of crisis management*. Boulder: Westview Press.

Greenberg, A. (2018, August 22). The untold story of NotPetya, the most devastating cyberattack in history. *Wired*. Retrieved November 19, 2020, from https://www.wired.com/story/notpetya-cyberattack-ukraine-russia-code-crashed-the-world/

Hern, A. (2017, June 28). Ransomware attack 'not designed to make money', researchers claim. *The Guardian*. Retrieved November 19, 2020, from https://www.theguardian.com/technology/2017/jun/28/notpetya-ransomware-attack-ukraine-russia

Mackenzie, P. (2019, September 18). The WannaCry hangover. *Sophos*. Retrieved November 19, 2020, from https://news.sophos.com/en-us/2019/09/18/the-wannacry-hangover/

Malware Tech. (2017, May 13). How to accidentally stop a global cyber attacks. Retrieved November 19, 2020, from https://www.malwaretech.com/2017/05/how-to-accidentally-stop-a-global-cyber-attacks.html

Microsoft. (2017, March 14). Microsoft security bulletin MS17-010—critical. Retrieved November 19, 2020, from https://docs.microsoft.com/en-us/security-updates/SecurityBulletins/2017/ms17-010

Microsoft Security Response Center Team. (2017, May 12). Customer guidance for WannaCrypt attacks. *Microsoft TechNet*. Retrieved November 19, 2020, from https://blogs.technet.microsoft.com/msrc/2017/05/12/customer-guidance-for-wannacrypt-attacks/

Middleton, B. (2017). *A history of cyber attacks: 1980 to present*. Oxfordshire: Taylor & Francis Group.

Misner, P. (2017, May 12). Customer guidance for WannaCrypt attacks. *Microsoft Security Response Center*. Retrieved November 19, 2020, from https://msrc-blog.microsoft.com/2017/05/12/customer-guidance-for-wannacrypt-attacks/

Nakashima, E. & Timberg, C. (2017, May 16). NSA officials worried about the day its potent hacking tool would get loose. Then it did. *Washington Post*. Retrieved November 19, 2020, from https://www.washingtonpost.com/business/technology/nsa-officials-worried-about-the-day-its-potent-hacking-tool-would-get-loose-then-it-did/2017/05/16/50670b16-3978-11e7-a058-ddbb23c75d82_story.html?utm_term=.f3dca304670a

National Audit Office. (2018). *Investigation: WannaCry cyber attack and the NHS*. Report by the Comptroller and Auditor General for the Department of Health. London: National Audit Office.

Peterson, A. (2013, October 4). Why everyone is left less secure when the NSA doesn't help fix security flaws. *The Washington Post*. Retrieved November 19, 2020, from https://www.washingtonpost.com/news/the-switch/wp/2013/10/04/why-everyone-is-left-less-secure-when-the-nsa-doesnt-help-fix-security-flaws/

Pope, S. (2019, May 30). A reminder to update your systems to prevent a worm. *Microsoft Security Response Center*. Retrieved November 19, 2020, from https://msrc-blog.microsoft.com/2019/05/30/a-reminder-to-update-your-systems-to-prevent-a-worm/

Prevezianou, M. F. (2020). Beyond ones and zeros: Conceptualizing cyber crises. *Risks Hazards and Crisis in Public Policy, 12*(1), 51–72. https://doi.org/10.1002/rhc3.12204.

Smith, B. (2017, May 14). The need for urgent collective action to keep people safe online: Lessons from last week's cyberattack. *Microsoft*. Retrieved November 19, 2020, from https://blogs.microsoft.com/on-the-issues/2017/05/14/need-urgent-collective-action-keep-people-safe-online-lessons-last-weeks-cyberattack/

Suiche, M. (2016, August 15). Shadow brokers: NSA exploits of the week. Retrieved November 19, 2020, from https://blog.comae.io/shadow-brokers-nsa-exploits-of-the-week-3f7e17bdc216#.48e51dl00

Symantec. (2017a, October 23). What you need to know about the WannaCry Ransomware. Retrieved November 19, 2020, from https://www.symantec.com/blogs/threat-intelligence/wannacry-ransomware-attack

Symantec. (2017b, May 22). WannaCry: Ransomware attacks show strong links to Lazarus group. Retrieved November 19, 2020, from https://www.symantec.com/connect/blogs/wannacry-ransomware-attacks-show-strong-links-lazarus-group

Winning, A., & Stubbs, J. (2017, May 19). WannaCry cyber attack compromised some Russian banks: Central bank. *Reuters*. Retrieved November 19, 2020, from https://www.reuters.com/article/us-cyber-attack-russia-cenbank-idUSKCN18F16V

Remaining Foreign Fighters: Fear, Misconceptions and Counterproductive Responses

Yrsa Landström

Abstract The Syrian conflict gave rise to a large mobilization of Islamist foreign fighters. In recent years, many of these foreign fighters have asked to be repatriated from overcrowded refugee camps in northern Syria, camps known as hotbeds for radicalization. While researchers and humanitarian organizations largely agree that repatriation can prevent further radicalization and transnational threats, political leaders refuse to act. As the dire humanitarian situation in the camps and a denial of responsibility at home intensify, the situation is becoming more acute. This chapter explores the issue of remaining foreign fighters in Syria and the evolving threat situation as an example of a creeping crisis. The chapter focuses specifically on the Swedish handling of these foreign fighters. At least three hundred Swedish citizens traveled to Syria in 2012. In recent years, many of these have asked to be repatriated. Similar to its European counterparts, the Swedish government has refused to meet

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these foreign fighters' requests, potentially generating a broader global threat. The Swedish response is the focus of this chapter and illuminates one of the key aspects of a creeping crisis.

Keywords Creeping crisis • Terrorism • Foreign fighters • Swedish government • Radicalization

4.1   INTRODUCTION

> Osama bin Laden, stripped of his Saudi passport, is Exhibit A of the potential risk of assuming that problematic citizens barred from return will remain someone else's problem. (Malet & Hayes, 2020, p. 1624)

Foreign fighters, also known as transnational insurgents or noncitizens who join insurgencies in civil conflicts, are not a new phenomenon (Malet, 2013, p. 9). Indeed, foreign fighters have participated in "nearly 100 civil wars over the past 250 years" (UN Office on Drugs and Crime, 2019, p. 3). However, it was not until the Syrian conflict began in 2011 that political leaders and policymakers paid serious attention to them. The Syrian conflict has attracted one of the largest mobilizations of Islamist foreign fighters to date, with a substantial number arriving from Europe. Many European foreign fighters have requested to be repatriated from overcrowded custodial and refugee camps in northern Syria, camps known as hotbeds for radicalization (European Parliamentary Research Service, 2018; Pokalova, 2020).

Their participation in terrorist groups has caused widespread fear in their respective home countries, ostensibly because of the risk of terrorist attacks once they return. Politicians in many countries, therefore, have barred them from returning home. Such measures are put in place as a perceived response to a security threat, but experts warn the issue is more complicated than that. Malet and Hayes (2020, p. 1628) argue that while barring remaining foreign fighters "from re-entry may remove immediate potential domestic threats, the approach carries the risk of creating trans-national threats when stateless individuals turn to extremist networks and failed states for refuge" (see also Alimi, Demetriou, & Bosi, 2015; Bjørgo, 2016; Brandon, 2009; Crenshaw, 1981; Della Porta, 2018; Horgan & Bjorgo, 2009; Horgan, 2014; Toros, 2008; Malet, 2013; Neumann, 2010; Weisburd et al., 2017). Such warnings, however, have not deterred

European political leaders and policymakers from refusing to repatriate remaining foreign fighters in Syria, for instance.

This chapter explores the perceived threat of remaining foreign fighters in Syria as an example of a "creeping crisis," defined in the introductory chapter of this volume. The chapter focuses specifically on the Swedish handling of these foreign fighters. At least three hundred Swedish citizens traveled to Syria in 2012. In recent years, many of these have asked to come home. Similar to other European countries, the Swedish government has refused to meet these requests. Although precursor events, in the form of terrorist activity at home and in the camps, have caught the attention of governmental actors, effective action to counter the risks and threats associated with leaving these foreign fighters in Syria is largely absent.

To fully understand the dynamics of this case, in which foreign fighters are stuck in dire humanitarian camps in Syria and governments deny responsibility for these individuals, the creeping crisis concept is useful. The concept captures the "slow-burning" dimension of this situation, and highlights one aspect in particular: governing elites have generated not only an insufficient response but a *counterproductive* one. By responding to one perceived crisis in a particular way, they generate the contours of another. These response dynamics are thus the focus of this chapter and illuminate a key aspect of a creeping crisis: how a sufficient response depends on a consensus on how precursor events and effective measures are to be interpreted. The creeping crisis of remaining foreign fighters is in plain sight, but policymakers do little to resolve it and thereby plant the seed for an arguably more serious crisis later.

The chapter is divided into four sections. It starts by introducing the evolution of the problem over time and space as well as precursor events, recapitulating the situation, and outlining previous research. It then discusses the varying degrees of attention and action, analyzing Swedish political and societal responses before critically discussing it in light of other countries' actions. The final section reflects on the findings, explores possible reasons for the counterproductive response, and sets out future research questions.

4.2   The Evolution of the Problem

In the Spring of 2011, uprisings against authoritarian regimes were spreading in the Middle East. These uprisings, collectively known as the Arab Spring, involved anti-government and pro-democracy protests and

armed clashes. This was also the case in Syria, where protesters challenged the regime of Bashar al-Assad. When security forces opened fire in Syria, more people joined the protests and violence escalated quickly (Pokalova, 2020, p. 39). Soon after, individuals sympathetic to the various causes began traveling to Syria to join all sides of the conflict: pro-Assad forces, opposition forces, as well as groups with sectarian Islamist overtones. Since 2012, at least three hundred of these "foreign fighters" have left Sweden for Syria (Swedish Security Service, 2017).

Over time, Islamist groups, especially Daesh,[1] attracted the majority of foreign fighters. Over a few years, the numbers reached up to forty thousand, one of the biggest mobilizations of Islamist foreign fighters to date (Pokalova, 2020, p. 40). In 2013, and again in the beginning of 2015, the numbers skyrocketed following Daesh's declaration of a "Caliphate" (UN Secretary-General, 2015). Although it appears that foreign fighters travel with the sole purpose of fighting in battle, this was not the case in Syria. A large number came with families and friends to stay and live in the conflict zones (Pokalova, 2020, p. 52).

European officials forecasted the return of many foreign fighters from Syria after 2012. These statements were later revised when this influx did not seem to occur (European Parliamentary Research Service, 2018, p. 31). One notable reason for this was the capture of Daesh fighters in northern Syria by Kurdish-led militias, which was made possible with US military support. That support ended in December 2018 when US President Trump declared that two thousand US troops would be extricated from Syria (Chulov, Borger, & Roth, 2018). With the US withdrawal, Turkey began to intervene militarily across the border and, more specifically, into Kurdish-held areas. Kurdish militias experienced difficulties holding foreign fighters with the little resources they had, complicated by the Turkish military forcing them to leave (Savage, 2019; UN Security Council Committee, 2020, p. 25).

As the Syrian conflict evolved, many foreign fighters started calling for help from European authorities to be brought back home. Due to the terrible conditions in refugee and custodial camps held by Kurdish militias, Swedish foreign fighters called on Swedish authorities to be repatriated. These included Swedes held in the overcrowded camp in al-Hawl, a camp known for holding many Daesh women and children. It has been estimated that over two-thirds of the seventy thousand in the al-Hawl camp are

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[1] Also known as ISIL, IS or the Islamic State.

children (International Committee of the Red Cross, 2019). Female combatants and child indoctrination are characteristic of Daesh. There have been reports about women imposing Daesh rules inside prisons and conducting executions of prisoners inside camps. Other reports warned about the rise of new generations inculcated with Daesh ideologies, describing how children participated in military training. These processes point to an evolving threat situation where al-Hawl and other camps in northern Syria have become a hotbed for (further) radicalization (European Parliamentary Research Service, 2018; Cafarella, 2018; Benotman & Malik, 2016).

Meanwhile, in Syria and Iraq, Daesh affiliates continued to mount "increasingly bold insurgent attacks, calling and planning for the breakout of ISIL fighters in detention facilities and exploiting weaknesses in the security environment of both countries" (UN Security Council Committee, 2020, p. 3). Reports describe money transfers to Daesh, too (UN Security Council Committee, 2020, pp. 17–18; Baas, 2020). Many of these transfers not only go to Daesh in Syria and Iraq, but to widows and orphans of deceased fighters. This money strengthens the organization, helps to ensure loyalty, and builds support for generations to come (UN Security Council Committee, 2020, pp. 17–18).

4.2.1 Precursor Events

The threat at the heart of this creeping crisis is complex and well known. Child indoctrination, further radicalization in custodial and refugee camps, money transfers and recruits of new affiliates: remaining foreign fighters are a serious security problem facing the world.

Political leaders have taken a particular stance on the problem. Measures were introduced based on the assumption that foreign fighters "would be skilled terrorists and that roughly ten percent of them would commit domestic attacks" (Malet & Hayes, 2020, p. 1621). In 2014, a French foreign fighter killed four people at the Jewish Museum in Brussels. The attacker, Mehdi Nemmouche, had recently returned from Syria where he spent one year fighting for Daesh (Lister, 2015, p. 2). In November 2015, several attacks took place in Paris, leaving one hundred thirty people dead and hundreds wounded. The individuals arrested were connected to networks including Daesh foreign fighters (*BBC*, 2016; Entenmann, Van der Heide, Weggemans, & Dorsey, 2015, p. 4). Only a few months later, in March 2016, Brussels experienced three suicide bombings. Casualties

included thirty-two dead and more than seven hundred wounded. The attackers were foreign fighters or engaged in networks with foreign fighters (Lasoen, 2017, pp. 940–941). These attacks were used as the basis for harsh penalties against potential terrorists (Malet & Hayes, 2020, p. 1621). Such penalties included, not least, a refusal to repatriate foreign fighters in Kurdish-held camps in Syria.

Historically, responses to foreign fighters have varied from repressive to more humane. Researchers across disciplines studied different approaches and their outcomes. There appears to be a scholarly consensus on the counterproductive effects of repressive measures (e.g., Alimi et al., 2015; Bjørgo, 2016; Brandon, 2009; Crenshaw, 1981; Della Porta, 2018; Horgan & Bjorgo, 2009; Horgan, 2014; Toros, 2008; Malet, 2013; Neumann, 2010; Weisburd et al., 2017). Preventing foreign fighters from returning home displaces the problem to another (less equipped) country and turns foreign fighters into stateless people and/or generates a transnational threat (Dechesne, 2011; Malet & Hayes, 2020; Lister, 2015). In addition, scholars have noted that social settings where extremist thought and behavior are present tend to increase the potential for radicalization (Alimi & Demetriou, 2018, pp. 559–560). Indeed, radicalization by its very nature is a "process whereby individuals or groups come to embrace violence as a legitimate means to achieve political, ideological or religious goals" (Bjørgo, 2016, p. 27).

For this reason, countering and preventing this threat is "to a great degree a normative battle on whether the use of violence is legitimate or not" (Bjørgo, 2016, p. 27). Much of the research points not only to the counterproductive effects of repressive measures but to the longer-term benefits of humane "soft" responses. Toros demonstrates how a humane approach "may offer a path of empowerment for the norm of nonviolent political contestation" (Toros, 2008, p. 423), Marsden concludes in her work on reintegration of extremists that for countermeasures to work "society must allow, and ideally actively support, the individual's reintegration" (Marsden, 2017, p. 11).

In short, repressive measures, including a refusal to repatriate remaining foreign fighters, may appear politically attractive in the short term but tend to push these individuals to engage in (additional) violence (Malet & Hayes, 2020, p. 1624). Nevertheless, political leaders, including the Swedish government, continue to prevent foreign fighters from returning to their home countries.

4.3   A Varying Degree of Attention and Action

The problem of remaining foreign fighters has not gone unnoticed. The Swedish government, its agencies, media, civil society, and international institutions have raised the issue in various ways but with no overarching consensus as to what is at stake.

4.3.1   *The Swedish Government*

Since 2016, the Swedish government has introduced new laws to counter the issue of remaining foreign fighters, including laws against traveling with the intention to fight in a conflict zone, against the financing of terrorism activities, and to prevent individuals from associating with a terrorist organization (Swedish Parliament, 2017; Swedish Parliament, 2020). In early 2019, Swedish ministers argued that an international tribunal in Syria, to dole out "harsher punishments," should be established (Damberg & Johansson, 2019; *SVT*, 2019a). They refused to repatriate Swedish foreign fighters from Syrian camps, including their children, stating that "the family has the responsibility for their children [not us]" (Damberg & Johansson, 2019).

In April 2019, the Swedish government announced that rather than bringing these individuals back to Sweden, it had earmarked two million Swedish crowns to support refugee camps in Syria (*SVT*, 2019b). This shift of responsibility was noted by Save the Children (2019), when it published a letter to the Swedish Prime Minister criticizing the Swedish handling of remaining foreign fighters' children. That same day, the Minister for Foreign Affairs announced that "there should be no doubt that the government is doing what we can for these children and, if possible, they should be brought back home" (Wallström, 2019). Yet in October 2019, the Swedish Prime Minister demonstrated the government's continued resentment toward repatriation, stating that "I can only feel disgusted [of the remaining foreign fighters]" and "those who went there, they should pay the price [*stå sitt kast*]" (Orrenius, 2019a). As of October 2020, the Swedish stance on adult foreign fighters had not changed.

4.3.2   Swedish Media

Media has an important role in legitimizing state action via its reporting on terrorism, signaling approval of some actions and "othering" individuals associated with terrorism (Mueller, 2005). In this case, Swedish media, especially publicly funded media, have taken on a *de*legitimizing role, producing critical pieces toward the government's measures and giving a voice to remaining foreign fighters. Interestingly, Swedish media tend to describe remaining foreign fighters, especially women and children, as victims, in contrast to government statements. For instance, several Swedish media outlets have closely followed the grandfather of a foreign fighter and his journey to retrieve his grandchildren from Syria, with headlines such as "Grandfather to Skråmo's children: I started to cry" (*Sveriges Radio*, 2019b) and "Patricio Galvez's seven grandchildren found in Syria—this is the picture of the reunion" (*SVT*, 2019c).

4.3.3   Civil Society

Representatives of civil society, in Sweden as well as abroad, have pushed the Swedish government to repatriate remaining foreign fighters, especially women and children. In 2019, a Kurdish delegation visited the Swedish government to urge the return of Swedish citizens from northern Syria (Save the Children, 2019). Humanitarian organizations, such as Save the Children, Doctors without Borders and The Red Cross, have provided alarming accounts of the dire humanitarian situation in northern Syria. They criticized the lack of responsibility displayed by European countries, highlighting the Swedish approach. Save the Children and The Red Cross have, for instance, described the Swedish approach as "completely unsustainable" (*Göteborgs-Posten*, 2020) and castigated the Swedish government for acting against the UN Convention on the Rights of the Child (*Sveriges Radio*, 2019a). The Director-General of the International Committee of The Red Cross chastised the Swedish government, stating: "you cannot continue to refrain from making decisions about your citizens" (Orrenius, 2020). Doctors without Borders emphasized that "everyone has the right to medical and humanitarian support, regardless of background, nationality, status or where they come from" (Doctors without Borders, 2019).

Some governmental agencies joined the chorus. For instance, the Swedish National Coordinator Against Violent Extremism argued that the

Swedish government needs to take more responsibility on the matter (*Sveriges Radio*, 2015; Carlstedt, 2017). In 2019, the Swedish Security Service reported on Syrian camps nurturing "new generations of terrorists" and the Head of Analysis, Ahn-Za Hagström, suggested her disapproval of the Swedish approach, pointing out that "it is important to think carefully about how the measures that we as a society choose to address the threat in the long-term, for the next generation" and "we do things now that may seem good for the moment, but which may be threatening in the long-term" (Ahn-Za Hagström cited in Orrenius, 2019b).

4.3.4   International Institutions and Other Countries' Responses

Since 2014, international institutions have expressed their concern over remaining foreign fighters and emphasized their supportive role by providing resolutions and guidelines to member states. Some, like the International Centre for Counter Terrorism, in The Hague, have called for humane, soft approaches (Entenmann et al., 2015; Eurojust, 2015). Although the transnational nature of the problem is repeatedly discussed among these actors, multilateral institutions and agencies have simultaneously stated that the primary responsibility lies with member states (UN Security Council, Resolution 2178, 2014, p. 4; Entenmann et al., 2015, p. 5; Eurojust, 2015). There are some voices, such as the EU Counter-Terrorism Coordinator, who have urged European institutions to take on a bigger role (Washington Institute, 2015).

Similar to its Swedish neighbors, Danish government officials deny they are responsible for remaining foreign fighters with Danish citizenship in Syria. The Danish Minister for Immigration argued against repatriation on the basis that these individuals have gone to fight against democracy, freedom and "everything else that Denmark stands for" (*The Local*, 2019). Moreover, the Minister stated that these foreign fighters and their children "do not belong in Denmark" and "have turned their back on Denmark, so there is no reason for their children to be citizens" (*The Local*, 2019). In 2019, Denmark introduced two new laws making it possible for the government to revoke passports without court procedures and revoke citizenship from children born "in areas where it is illegal to travel" (*The Local*, 2019).

Similarly, in 2015, Australia introduced a new law giving the Australian government the right to revoke Australian citizenship from "people who

hold a second nationality if they are found to have been members of a terrorist group or engaged in terrorism-related activity" (Williams, 2017). In 2017, this law was put into practice for the first time when a foreign fighter still in Syria was stripped off his Australian citizenship. That same year, the UK government took away citizenship from 104 UK foreign fighters (with dual nationality), on the grounds that it would be "conducive to the public good" (Williams, 2017). In 2019, the US President told the State Department to ban the return of a US citizen who had left for Syria. Ironically, the President made this statement only a few days after he called on European leaders to bring back foreign fighters from Syria (Hincks, 2019).

The creeping crisis of remaining foreign fighters affects more than a few countries. Some governments have been forced to change their stance on repatriation, often due to legal constraints. For instance, in July 2019, a court ruling ordered German authorities to repatriate a German woman and her three children from northern Syria. A spokesperson for the German foreign ministry explained soon after the ruling that the government was "studying the ruling and may appeal at a higher court" (*Al Jazeera*, 2019).

Similarly, French authorities faced a lawsuit at the European Court of Human Rights over its refusal to repatriate children from Syria. The lawyer of this lawsuit, representing the French grandparents of a daughter and her two children detained in Syria, argued in a television interview in 2019 that, "this approach aims to push the state to assume its responsibilities because we are confronting inaction; more precisely, an irresponsible and particularly inhumane inertia" (*France 24*, 2019a). A month after the lawsuit was announced, French authorities repatriated twelve French orphans from Syria (*France 24*, 2019b).

Some governments have successfully appealed lawsuits. In the Netherlands, the lawyers of twenty-three women with Dutch citizenship detained in Syria had argued in front of the court in The Hague to "force [obligation of result] the state to repatriate them and their 56 children" (*France 24*, 2019b). The Dutch government immediately appealed the verdict, arguing that the court had failed to account for "national security interests and diplomatic considerations" (*France 24*, 2019b). Soon after, the Court of Appeal overturned the ruling and concluded that Dutch authorities were, in fact, "not legally required to assist in the repatriation" (*France 24*, 2019b).

At the time of writing, in November 2020, only a few European countries had repatriated their citizens without lawsuits or severe criticism involved. The Norwegian government is one example where the government, despite facing a political crisis (with the right-wing populist party threatening to leave the Norwegian government coalition, which they later did), decided to repatriate a foreign fighter and her two sick children (Holmgren, 2020a, 2020b).

4.4   Conclusion

How does the creeping crisis of remaining fighters continue, unabated? A key factor is the unwillingness of political decision-makers to deal with the problem. This chapter has documented a deep divide between civil society and political decision-makers with regard to their approach toward remaining foreign fighters. In short, representatives of civil society tend to argue for repatriation while political leaders tend to deny responsibility and push for harsher measures.

What explains the divide between the official approach and the expert-led insight that this approach is likely counterproductive? One factor is the perceived relation with terrorism, a famously sensitive topic which tends to elicit fear and repressive measures (McConaghy, 2017). Political leaders tend to use firm measures as these are thought to demonstrate their ability to act in a rapid, resolute, and executive manner. Some parts of the Swedish media (along with some governments, such as Norway) argue for a more humane response. They propose a reaction that is informed by consideration of the foreign fighter as victims, what some call the victimization of foreign fighters (Sjoberg & Gentry, 2011). By framing foreign fighters as victims, individual agency is downplayed and, as a result, the threat they pose. Yet most governments continue to resist that framing, refusing to act. As long as governments respond to the crisis of remaining foreign fighters as a threat at "home," they are likely to exacerbate the future, cross-border dimensions of the problem.

Indeed, this chapter illuminates one of the key aspects of a creeping crisis: how insufficient responses by authorities results in a continued and, in the case of counterproductive measures, acceleration of the threat and a greater risk of an acute crisis. The creeping crisis concept offers a heuristic to help deconstruct, analytically, the dynamics of this problem and some of this more troublesome (from a normative perspective) components. This chapter represents just a first set of answers and hypotheses that need

to be tested in more systematic empirical ways. Future work should provide an in-depth analysis of feedback loops between threat evolution, attention, and response, and should examine what role short-term thinking might have for the evolving and increasing threat of radicalization. There is also a need for more thorough study of the transnational dimension of the phenomenon and associated questions of crisis ownership and responsibility. Future analysis of the issue of remaining foreign fighters can contribute much not only to our understanding of this particular global problem, but also to the utility and development of the creeping crisis concept itself.

References

Al Jazeera. (2019, July 11). German court rules on repatriation of Syria ISIL fighter's family. *Al Jazeera*. Retrieved November 20, 2020, from https://www.aljazeera.com/news/2019/07/german-court-rules-repatriation-syria-isil-fighter-family-190711164005146.html

Alimi, E. Y., & Demetriou, C. (2018). Relational radicalization. In F. Dépelteau (Ed.), *The Palgrave handbook of relational sociology* (pp. 559–578). Cham: Palgrave Macmillan.

Alimi, E. Y., Demetriou, C., & Bosi, L. (2015). *Dynamics of radicalization: A relational and comparative perspective*. Oxford: Oxford University Press.

Baas, D. (2020, February 3). IS-rekryteraren Ulrika Pape avslöjad. *Expressen*. Retrieved November 20, 2020, from https://www.expressen.se/nyheter/har-avslojas-is-rekryteraren-ulrika-pape-av-expressens-dolda-kamera/

BBC. (2016, April 27). Paris attacks: Who were the attackers?. *BBC News*. Retrieved November 20, 2020, from https://www.bbc.com/news/world-europe-34832512

Benotman, N., & Malik, N. (2016). *Children of the Islamic State*. Quilliam. Retrieved November 20, 2020, from https://www.quilliaminternational.com/shop/e-publications/the-children-of-islamic-state/

Bjørgo, T. (2016). Counter-terrorism as crime prevention: A holistic approach. *Behavioural sciences of terrorism and political aggression, 8*(1), 25–44.

Brandon, J. (2009). The danger of prison radicalization in the West. *CTC Sentinel, 2*(12), 1–4.

Cafarella, J. (2018, December 20). The Islamic State is not defeated. Trump must reverse his decision to withdraw from Syria. *The Washington Post*. Retrieved November 20, 2020, from https://www.washingtonpost.com/opinions/2018/12/20/islamic-state-is-not-defeated-trump-must-reverse-his-decision-withdraw-syria/

Carlstedt, A. (2017, March 27). Brister i arbetet med återvändare från terrorresor. *Dagens Nyheter*. Retrieved November 20, 2020, from https://www.dn.se/debatt/brister-i-arbetet-med-atervandare-fran-terrorresor/

Chulov, M., Borger, J., & Roth, A. (2018, December 20). US Syria pullout draws Kurdish condemnation and Putin's praise. *The Guardian*. Retrieved November 20, 2020, from https://www.theguardian.com/world/2018/dec/20/syria-kurds-trump-troop-withdrawal-isis-turkey

Crenshaw, M. (1981). The causes of terrorism. *Comparative Politics, 13*(4), 389–399.

Damberg, M., & Johansson M. (2019, March 11). Komplicerad situation for IS-återvändares barn. *Dagens Nyheter*. Retrieved November 20, 2020, from https://www.dn.se/debatt/komplicerad-situation-for-is-atervandares-barn/

Dechesne, M. (2011). Deradicalization: Not soft, but strategic. *Crime Law and Social Change, 55*(4), 287–292.

Della Porta, D. (2018). Radicalization: A relational perspective. *Annual Review of Political Science, 21*, 461–474.

Doctors without Borders. (2019). *Syrien: stora oumbäranden bland kvinnor och barn i al-Hol-lägret*. Retrieved November 20, 2020, from https://lakareutan-granser.se/nyheter/syrien-stora-umbaranden-bland-kvinnor-och-barn-i-al-hol-lagret

Entenmann, E., Van der Heide, L., Weggemans, D., & Dorsey, J. (2015). Rehabilitation for foreign fighters? Relevance, challenges and opportunities for the criminal justice sector. *The International Centre for Counter-Terrorism—The Hague, 6*(5), 27. https://doi.org/10.19165/2015.2.05

Eurojust. (2015). *Foreign fighters: Eurojust's views on the phenomenon and the criminal justice response*. Retrieved November 20, 2020, from http://www.statewatch.org/news/2015/feb/eu-eurojust-foreign-fighters.pdf

European Parliamentary Research Service. (2018). *The return of foreign fighters to EU soil: Ex-post evaluation*. Retrieved November 20, 2020, from https://www.europarl.europa.eu/RegData/etudes/STUD/2018/621811/EPRS_STU(2018)621811_EN.pdf

France 24. (2019a, May 7). France taken to court for refusing to repatriate the children of jihadists. *France 24*. Retrieved November 20, 2020, from https://www.france24.com/en/20190507-france-taken-court-over-repatriating-children-jihadists

France 24. (2019b, June 10). Syrian Kurds transfer 12 orphans form jihadist families to France for repatriation. *France 24*. Retrieved November 20, 2020, from https://www.france24.com/en/20190610-france-orphans-jihadist-families-syria-kurds-transfer

Göteborgs-Posten. (2020, February 7). Socialtjänsten: kan inte omhänderta barn i Syrien. *Göteborgs-Posten*. Retrieved November 20, 2020, from https://www.gp.se/nyheter/v%C3%A4rlden/socialtj%C3%A4nsten-kan-inte-omh%C3%A4nderta-barn-i-syrien-1.23657281

Hincks, J. (2019, February 21). How ISIS returnees are stirring a debate over citizenship, security and rule of law. *Time*. Retrieved November 20, 2020, from https://time.com/5534674/shamima-begum-hoda-muthana-isis/

Holmgren, M. (2020a, January 16). Återvändande IS-kvinna bakom regeringskris i Norge. *Dagens Nyheter*. Retrieved November 20, 2020, from https://www.dn.se/nyheter/varlden/atervandande-is-kvinna-bakom-regeringskris-i-norge/

Holmgren, M. (2020b, January 18). IS-återvändarna känslig fråga i nordiska länderna. *Dagens Nyheter*. Retrieved November 20, 2020, from https://www.dn.se/nyheter/varlden/is-atervandarna-kanslig-fraga-i-nordiska-landerna/

Horgan, J. (2014). *The psychology of terrorism*. London and New York: Routledge.

Horgan, J., & Bjorgo, T. (2009). *Leaving terrorism behind: Individual and collective disengagement*. London and New York: Routledge.

International Committee of the Red Cross. (2019). *Syria: A camp is filled with children*. Retrieved November 20, 2020, from https://www.icrc.org/en/document/Syria-A-camp-is-filled-with-children

Lasoen, K. L. (2017). Indications and warning in Belgium: Brussels is not Delphi. *Journal of Strategic Studies, 40*(7), 927–962.

Lister, C. (2015). Returning foreign fighters: Criminalization or reintegration?. *Brookings Doha Center*. Retrieved November 20, 2020, from https://www.brookings.edu/wp-content/uploads/2016/06/En-Fighters-Web.pdf

Malet, D. (2013). *Foreign fighters: Transnational identity in civil conflicts*. New York: Oxford University Press.

Malet, D., & Hayes, R. (2020). Foreign fighter returnees: An indefinite threat? *Terrorism and Political Violence, 32*(8), 1617–1635. https://doi.org/10.1080/09546553.2018.1497987

Marsden, S. (2017). *Reintegrating extremists: Deradicalisation and resistance*. London: Palgrave Macmillan.

McConaghy, K. (2017). *Terrorism and the state: Intra-state dynamics and the response to non-state political violence*. London: Palgrave Macmillan.

Mueller, J. E. (2005). *Overblown: How politicians and the terrorism industry inflate national security threats, and why we believe them*. New York: Free Press.

Neumann, P. R. (2010). Prisons and terrorism. Radicalisation and de-radicalisation in 15 countries. Policy Report. *International Centre for the Study of Radicalisation and Political Violence (ICSR)*. https://www.clingendael.org/sites/default/files/pdfs/Prisons-and-terrorism-15-countries.pdf.

Orrenius, N. (2019a, October 30). Statsministern blåser till strid mot antisemitismen—"Det är osvenskt". *Dagens Nyheter*. Retrieved November 20, 2020, from https://www.dn.se/nyheter/sverige/statsministern-blaser-till-strid-mot-antisemitismen-det-ar-osvenskt/

Orrenius, N. (2019b, October 31). Säpo varnar för IS-lägren där svenska barn växer upp. *Dagens Nyheter*. Retrieved November 20, 2020, from https://www.dn.se/nyheter/sverige/sapo-varnar-for-is-lagren-dar-svenska-barn-vaxer-upp/

Orrenius, N. (2020, January 28). Röda korset-chefen: Sverige bör ta hem båda IS-kvinnor och deras barn. *Dagens Nyheter*. Retrieved November 20, 2020, from https://www.dn.se/nyheter/varlden/roda-korset-chefen-sverige-bor-ta-hem-bade-is-kvinnor-och-deras-barn/

Pokalova, E. (2020). *Returning Islamist foreign fighters: Threats and challenges to the West*. London: Palgrave Macmillan.

Savage, C. (2019, October 13). The Kurds' prisons and detention camps for ISIS members, explained. *The New York Times*. Retrieved November 20, 2020, from https://www.nytimes.com/2019/10/13/us/politics/isis-prisoners-kurds.html

Save the Children. (2019). *Öppet brev till statsminister Stefan Löfven om barn i Syrien*. Retrieved November 20, 2020, from https://press.raddabarnen.se/pressreleases/oeppet-brev-till-statsminister-stefan-loefven-om-barn-i-syrien-2859904

Sjoberg, L., & Gentry, C. E. (2011). *Women, gender and terrorism*. Athens and London: University of Georgia Press.

Sveriges Radio. (2015, February 8). IS och kommunernas brist på kunskap. *Sveriges Radio*. Retrieved November 20, 2020, from https://sverigesradio.se/sida/avsnitt/496931

Sveriges Radio. (2019a, March 12). Sverige för samtal om IS-barnen. *Sveriges Radio*. Retrieved November 20, 2020, from https://sverigesradio.se/sida/artikel.aspx?programid=83&artikel=7198414

Sveriges Radio. (2019b, April 19). Morfar till Skråmos barn: jag började gråta. *Sveriges Radio*. Retrieved November 20, 2020, from https://sverigesradio.se/sida/artikel.aspx?programid=83&artikel=7202692

SVT. (2019a, February 24). Ministern: Familjerna ansvarar för sina barn. *Sveriges Television SVT*. Retrieved November 20, 2020, from https://www.svt.se/nyheter/inrikes/ministerns-svar-de-har-ansvar-for-sina-barn

SVT. (2019b, April 9). Biståndsmiljoner öronmärks för barn till svenska IS-anhängare i Syrien. *Sveriges Television SVT*. Retrieved November 20, 2020, from https://www.svt.se/nyheter/utrikes/bistandsmiljoner-oronmarks-till-flyktinglager-i-syrien

SVT. (2019c, May 15). Patricio Galvez seven grandchildren found in Syria—this is the picture of the reunion. *Sveriges Television SVT*. https://www.svt.se/nyheter/inrikes/nu-har-dode-is-terroristernas-barn-traffat-sin-svenska-morfar.

Swedish Parliament. (2017). Regeringens åtgärder kring återvändare som stridit för IS—Interprellation 2016/17:591 av Roger Haddad (L). Retrieved November 20, 2020, from https://www.riksdagen.se/sv/dokument-lagar/dokument/interpellation/regeringens-atgarder-kring-atervandare-som_H410591

Swedish Parliament. (2020). Ett särskilt straffansvar för samröre med en terroristorganisation. Retrieved November 20, 2020, from https://www.riksdagen.se/sv/dokument-lagar/arende/betankande/ett-sarskilt-straffansvar-for-samrore-med-en_H701JuU13

Swedish Security Service. (2017). Färre reser från Sverige till terroristorganisationer. Retrieved November 20, 2020, from https://www.sakerhetspolisen.se/ovrigt/pressrum/aktuellt/aktuellt/2017-06-27-farre-reser-fran-sverige-till-terroristorganisationer.html

The Local. (2019, March 28). Danish government reaches agreement to revoke passports of Isis fighters. *The Local.* Retrieved November 20, 2020, from https://www.thelocal.dk/20190328/danish-government-reaches-agreement-to-revoke-passports-of-isis-fighters

Toros, H. (2008). 'We don't negotiate with terrorists!': Legitimacy and complexity in terrorist conflicts. *Security Dialogue, 39*(4), 407–426.

UN Office on Drugs and Crime. (2019). *Foreign terrorist fighters. Manual for judicial training institutes South-Eastern Europe.* Retrieved November 20, 2020, from https://www.unodc.org/pdf/terrorism/Foreign_Terrorist_Fighters_Handbook/EN_Foreign_Terrorist_Fighters_Ebook.pdf

UN Secretary-General. (2015). Secretary-General's remarks to Security Council meeting on threats to international peace and security caused by terrorist acts (foreign terrorist fighters). Retrieved November 20, 2020, from https://www.un.org/sg/en/content/sg/statement/2015-05-29/secretary-generals-remarks-security-council-meeting-threats

UN Security Council Committee. (2020). Letter dates 20 January 2020 from the Chair of the UN Security Council Committee pursuant to resolutions 1267 (1999), 1989 (2011) and 2253 (2015) concerning Islamic State in Iraq and the Levant (Da'esh), Al-Qaida and associated individuals, groups, undertakings and entities addressed to the President of the Security Council. S/2020/53. Retrieved November 20, 2020, from https://digitallibrary.un.org/record/3848705

UN Security Council. Resolution 2178. (2014). S/RES/2178. Retrieved November 20, 2020, from https://www.un.org/sc/ctc/wp-content/uploads/2015/06/SCR-2178_2014_EN.pdf

Wallström, M. (2019). Regeringen arbetar nu intensivt för att barn med koppling till Sverige som befinner sig i Syrien får den hjälp de behöver. Det ska inte råda något tvivel om att regeringen gör vad vi kan för dessa barn och om möjligt ska de föras till Sverige (…) [Post]. *Facebook.* https://www.facebook.com/margot.wallstrom/posts/2123875990994786

Washington Institute. (2015). *Rehabilitation and Reintegration of Returning Foreign Terrorist Fighters.* Retrieved November 20, 2020, from https://www.washingtoninstitute.org/policy-analysis/view/rehabilitation-and-reintegration-of-returning-foreign-terrorist-fighters

Weisburd, D., Farrington, D. P., Gill, C., Ajzenstadt, M., Bennet, T., Bowers, K., … Wooditch, A. (2017). What works in crime prevention and rehabilitation: An assessment of systematic reviews. *Criminology & Public Policy, 16*(2), 415–449.

Williams, J. (2017, February 13). ISIS Fighter's Australian citizenship is revoked under antiterror laws. *The New York Times.* Retrieved November 20, 2020, from https://www.nytimes.com/2017/02/13/world/australia/citizenship-isis-khaled-sharrouf.html

CHAPTER 5

Big Data as a Creeping Crisis

Swapnil Vashishtha and Mark Rhinard

Abstract This chapter examines the mass accumulation of private data in terms of a creeping crisis. The threat at hand—commonly referred to as "Big Data"—pertains to the direct compromising of personal integrity and safety. The chapter explores the driving forces behind this threat, identifies the precursor events or "flare-ups" of the deeper problem, and documents the varying levels of scientific, political, and public attention given to the problem. Our analysis reveals the breadth of the problem and the main challenge to managing it: societies' deep dependence on the underlying technologies and systems. Addressing this creeping crisis will require substantial government intervention to regulate privacy and effective horizon scanning to track its many possible costs.

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5.1   Introduction

With increasing frequency, experts warn about the accumulation of "Big Data." Some scholars call the exponential growth, storage, and manipulation of individuals' most intimate details in the hands of private actors a wicked policy problem (Gruetzemacher, 2018; O'Neill, 2016). Others refer to an impending crisis (Krebs, 2016) or to the intractable vulnerability of modern society (Zuboff, 2020).

The phenomenon of Big Data took root decades ago. Technological advances combined with widespread use of the Internet to create a new threat. Early warnings by lone experts and individual politicians, in the 1990s, were cast aside as scaremongering. As the problem grew, attention grew—but only sporadically. The scale of the problem expanded from one of moral concern (losing control over one's own identity) to financial vulnerability (undermining one's economic stability) to a geopolitical issue (opening new vectors for attack). Actual events outlined below drew periodic outrage, following revelations about the size of the problem (e.g. the Snowden incident), the ease at which data can be stolen (e.g. regular data breaches), and how data can be used as a weapon (e.g. accusations made against Russia and China). Few politicians today dispute the underlying problem and the potential for a much larger crisis ahead. Some regulatory action has been taken. But sustained attention, and any comprehensive management of the issue, is hard to come by. According to some, we are "standing on the edge of a precipice" (Buck, 2011).

Big Data thus reflects the archetypal creeping crisis defined in the introduction to this book. It emerged incrementally over time, accelerated because of interacting developments, reveals itself through precursor events, and fails to sustain political attention or proper crisis management. What this chapter showcases about Big Data, as a creeping crisis, is twofold: (a) the evolution of the problem over time, in such a way as to "creep" into societies' basic functioning without widespread notice; and, (b) how our dependence on the conditions that enable Big Data prevents a concerted response. The chapter highlights the question of how much recognized damage capacity is "enough" to prompt a response, and suggests we may be doomed to live with some creeping crises.

To illustrate these points, the chapter begins by outlining what is at stake: by what measure can Big Data be described, objectively or subjectively, as a threat? We then show its origin and serendipitous emergence over time, before tracking public attention to the problem. Attention is

linked to a number of precursor events that revealed the depth of the creeping crisis. We conclude by discussing what has been done, what needs to be done, and why a comprehensive response is likely to be difficult.

5.2 DEFINING THE THREAT: WHAT IS AT STAKE?

With every click of a mouse, every field entered in a website, every query on a search engine, and every application for a loan or job, companies and governments collect enormous amounts of our personal information. We hand over this information both voluntarily and involuntarily. Even where voluntary, banks and governments take our personal details as a condition of service. It is not optional. From those mountains of personal information, it is now simple to deduce where we walk, the way we vote, how we travel, what we buy, our illnesses and maladies, and even to predict our next moves; whether we plan on divorcing, getting pregnant, or switching political parties—even before our closest loved ones know it (Duhigg, 2012). We no longer hold sovereignty over our most intimate and personal information.

The collection of citizens' information is a long tradition, dating back almost a century. Similarly, the digital storage of information is nothing new (Hacking, 2015). The difference today is three-fold. First, the amount of data that can be collected has skyrocketed. Census taking in the 1700s collected information through personal interviews and was hand-written into obscure logbooks. Today, thousands of "data bits" about our personal circumstances are transferred every hour, owing to technological developments, efficiency goals, and profit motives. Second, the processing of that data has grown more sophisticated. Data that once stood in dusty folders, or rarely examined databases, is now recombined with thousands of other data points, and run through algorithms, to produce our profiles and to deduce our behavior. Third, these results are now commoditized. Governments—such as police departments—have quickly come to understand how data-driven analysis can promote policy change. Companies sell this data, without individuals' consent, to other companies for vast amounts of money. Companies like Google, Microsoft, and Facebook now derive most of their profits not from services, but from selling our data to secondary markets. This has been called the third industrial revolution (Zuboff, 2019).

The vast accumulation of personal data plays into the hands of those who wish us harm. Such harms range from irritating to deadly. Private

firms' use of mass data to shape our behavior and form opinions of us can lead to failed job applications and rejected insurance claims. Rogue agents in our own governments can exploit private data—illegally—to track suspected criminals or profile future suspects. And foreign governments can hack the data on an entire population to attack societal weak spots, blackmail leaders, or shut down health systems. More broadly, the surreptitious collection and use of data undermines individuals' sense of control and personal privacy (O'Neill, 2016). Trust in government—already at risk in an era of creeping crises—could decline as citizens question why their leaders failed to act.

Citizens and experts express concern. A long list of precursor events signals the deeper problem of Big Data and has led to protests and outrage: The shock following Edward Snowden's revelations of how the US government used private data to spy on households; The public anger after the illegal manipulation of Facebook by Russian agencies to target key constituencies during the 2016 US Presidential election; Outrage—and lawsuits—following high-profile hacks on Equifax, Target, and Sony (after which private data was sold to criminal networks); And the forced resignation of ministers in Sweden following the improper handling of private data in the field of transportation. Experts warn that the next step could be catastrophic: a hostile attack on Western society based on the illegal mining of insights from Big Data. How did we end up here?

5.3   Origin and Development

The *origins* of Big Data span back to the 1970s, when micro-processing advances and an obsession with technological efficiency combined with the widespread adoption of the personal computer. Early data-processing machines were built to speed numerical tabulations (Ceruzzi, 2010) and by the 1970s and 1980s, the race was on to shrink their core components. Simultaneously, engineers envisioned shrinking the core part of the internal calculation machinery: the microprocessor. The advent of microprocessors was nothing less than a revolution (Abbate, 1999). By the 1980s, tiny—yet increasingly powerful—microprocessors were making their way into consumer products such as cameras and automobiles.

The rise of micro processing intersected with the advent of personal computing. The first micro-computer using advances in micro processing was introduced in 1975—the Altair 8800 (Mims, 1985). Computer advances remained within the realm of hobbyists and industrialists until

IBM introduced its new, user-friendly, and affordable PC in the 1980s with the help of Microsoft and its software. Shifting from highly technical, confusing systems with limited functions to a system in which software allowed the average individual to operate it, IBM created the PC for the consumer market (Bride, 2011). The rise of the personal computer symbolized a new era in the digitalization of the human experience. But that was just the start.

The accelerating *development* of this creeping crisis—the transition between gradual development and sudden escalation—occurred because of several interacting, enabling conditions (for a summary of these, see Fig. 5.1).

One condition was the development of the Web 2.0 during the 1990s, characterized by a shift from static web pages to interactive, user-generated content. This shift offered a more user-friendly and interactive platform for use of the web, which could be used by a wider range of the population (O'Reilly, 2007). In turn, this enabled a move away from desktop-based software toward "cloud computing," which further spread the reach of software and applications. Cloud computing multiplied the computing power available to individuals and propelled the movement of everyday tasks—from banking to communicating to shopping—to the Internet. At the same time, it represented a dramatically more efficient way to generate, collect, and store data (Wolcott, 2008).

Another condition was the ubiquitous use of smart phones. The rise of smart phones combined with the advent of Web 2.0, since the latter was compatible on every kind of device. It also served to shift most telephony functions (e.g. text messaging) onto the web. While IBM's "Simon" personal device was officially the first smart phone, Apple's initial Iphone in 2007 marked a key point in history, after which smart phones became virtually ubiquitous (Andrew, 2018). The proliferation of smart phones

Initial conditions	Interacting conditions	Result
• Advances in micro processing	• Web 2.0	• Data accumulation
• Rise of personal computing	• Smart phones	• Data manipulation opportunities
	• Social media	
	• Web commerce	

Fig. 5.1 Initial and interacting conditions that propelled a creeping crisis

put the Web 2.0 in everyone's pockets, which allowed the average individual to use new kinds of applications (maps, videos, social media), thereby generating more data and allowing this data to be collected and stored. The transfer from data from private citizens to third parties moved from a trickle to a rush.

Social media further intensified developments. The apparent convenience of interacting with friends and staying in touch with family and colleagues was based on the principle of data sharing. MySpace, Reddit, Twitter, Facebook, WhatsApp all provided a platform for individuals to interact and share information, essentially turning private information public. Many of these, but not all, rose with the rise in smart phones, the convenience they offered and became more popular as more individuals joined (Ortiz-Ospina, 2019). These programs accumulated large amounts of unstructured data. In other words, the data generated can be put together to learn about one's likes, dislikes, preferences, opinions and movements; which in turn can be used to create a personality profile.

Another facilitating condition emerged from the economic value found in personality profiles: the rise of e-commerce. E-commerce was introduced in the 1990s, with platforms such as Amazon and eBay emerging long before smart phones and social media were introduced and became widely popular (DePillis & Sherman, 2018). However, with the introduction of social media and smart phones, e-commerce firms realized a massive change in how they could use the data being generated from social media and smart phones to target consumers with relevant advertising (Erevelles, Fukawa, & Swayne, 2016). Marketing strategies changed as more and more data became more easily available to third parties such as Amazon, who could not only use data generated and collected from their own platform but also from other platforms such as Facebook.

These various conditions interacted with one another to further the facilitation of data generation, collection, storage and interpretation—the foundation of Big Data.

The development of Big Data into a threat represents a kind of tipping point, arrived at after a long trajectory in seemingly distinct systems and shaped by multiple trends. While linear in most respects, this development jumped tracks as new technologies became available. Big Data, as other crises in this book, remained unnoticed by large swathes of the population. Lack of attention amongst some "experts" might have an origin in self-interest. To blow the whistle on Big Data is to call into question the

current tenets of the modern, globalized economy and those who profit from it. Certainly, there is a problem of ownership (Boin & Lodge, 2019): no single actor in any government was responsible for responding—and powerful interests would no doubt resist such action. Consistent with the classic crisis incubation thesis (Perrow, 1984), Big Data "crept" onto the crisis scene rather quietly.

5.4   Emergence of the Threat

The interacting conditions discussed above gave rise to the threat agent behind this creeping crisis: the accumulation of data at a pace the world has never before seen. According to Hackenberger (2019, p. 291) "the world is currently creating as much data in two days as humankind has created in the previous 2000 years." That data is largely (but not completely) private in nature and is attached to individuals' personal characteristics. Whereas data was once collected and stored in highly "structured" formats—meaning, for a limited purpose and with few ulterior uses—data today is highly unstructured. It is sucked into enormous databases alongside huge amounts of other data, recombined into new forms of data, and used to find "hidden meaning" (Grable & Lyons, 2018).

This process of gathering data and analyzing the hidden meanings behind the presented data is called data mining and has spawned an entire profession of "data scientists" (Erevelles et al., 2016). Mining is done by insurance companies, banks, casinos, governments, and retail sellers of every kind to help analyze and find patterns out of vast amounts of data—as well as to predict future behavioral patterns. Much of this has ostensibly positive uses—to improve customer services, to customize search results, to reengineer products, to predict customer needs, and to generally make life more efficient. Ford's driver-command systems can be improved and customized centrally, through data aggregation that allows profiling of the customer's most intimate behaviors (Erevelles et al., 2016). Ford uses special software, such as sensors and remote app-management tools, to analyze the data being gathered. Similarly, Google can use Google Maps to assess whether or not a consumer actually visits a physical retail store after visiting the website online (Erevelles et al., 2016).

The threat agent behind this creeping crisis threatens core societal values concerning personal integrity, control, and privacy, along with the effective functioning of life-giving systems. The foreshadowing events, which we turn to below, reveal what is at threat, concretely demonstrating

physical harm (e.g. private data theft leading to stalking), financial harm (e.g. identity theft to access bank accounts), and emotional harm (e.g. loss of privacy and individual liberties). Many experts argue that these events are just the tip of the iceberg: that more dangerous situations loom beneath these examples, waiting to be exploited. Such situations will not only harm individuals, but also destabilize society more generally.

5.5   Foreshadowing Events and Attention

Like a campfire casting sparks, creeping crises throw out foreshadowing events. Attention focuses on extinguishing those sparks while the central fire burns on. The analogy of "flare-ups" works in the case of Big Data, too.

For Big Data, precursor events occur with increasing frequency (see Fig. 5.2). By studying a subset of these events—Snowden revelations (2013), the Target Data Breach (2013), the Sony Studios Data Hack (2014), The Yahoo Data Breach (2016), the Cambridge Analytica Scandal (2016), the WannaCry Ransomware Attack (2017), the Equifax Data Breach (2017), and the Marriott Data Breach (2018)—we see common patterns in how these individual manifestations of the broader creeping crisis arose, were acted upon (or not), and then retreated from public attention.

Most of these events were made possible because of the massive accumulation of personal data today. Each was preceded by expert warnings of impending danger, specific either to the event or in abstract. And each involved leaders ignoring warning signs. For instance, each was preceded by security alerts, either by whistleblowers or by tenacious journalists. There were investigations revealing that executives of these firms were aware of deficient security systems and even chose to hide dangerous breaches that compromised individuals' privacy and safety.

Considerable foot dragging surrounds these events. In 2015, the chairman of Marriott corporation was notified of malicious malware embedded in the IT systems of Starwood, which Marriott was on the eve of acquiring. Yet the problem was ignored, and the sale went through
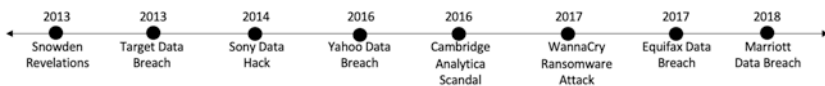
Fig. 5.2   Foreshadowing events

(Shepardson, 2019). Equifax in 2017 was made aware, two months before it became public, of foreign hackers in their systems. Little was done to prevent the massive data theft that took place soon thereafter (Newman, 2017).

Many companies and governments failed to conduct simply upgrades—"security patches"—to close loopholes and prevent easy breaches (Microsoft, 2017). A massive breach of the UK's National Health System (NHS) was made possible by a delayed upgrade (National Audit Office, 2018). In 2015, Mark Zuckerberg failed to formally file complaints against Cambridge Analytica, who had data on Facebook users it was not supposed to have (Kozlowska, 2018). Hoping to avoid a scandal, Facebook merely asked Cambridge Analytica to delete the data—which never happened. In 2013 and again in 2014, Sony received warnings about a likely hack, which executives ignored until the break-in took place (Szoldra, 2016). Target faced a similar situation in 2013 when an intrusion had already occurred in their system, but it went unnoticed (Zetter, 2014).

Sporadic, expert attention gave way to major public attention after each incident. Governments came to realize that the magnitude and nature of these hacks were not confined to companies (even if these companies held immense amounts of public data) but also included threats to national security. Governments in various parts of the world (North America, Europe, and Asia included) became particularly engaged with the national security implications became clear—such as when China was implicated in the Equifax case. There was a huge public uproar surrounding the Cambridge Analytica incident, leading to boycotts of Facebook and calls for greater regulation (Lang, 2018). A typical refusal of responsibility can be found in Target's data breach in 2013, when Target executives failed to acknowledge their role in protecting consumer credit card data. Meanwhile, the blame was also put on credit card companies for not having up-to-date cards with EMV technology, widespread in Europe but not in the USA, which prevents the re-sale of stolen card information from Target's systems (Zetter, 2014). Lawmakers were also blamed for poor regulations—including weak security standards for corporations and their security systems (Sasso, 2014). The public outrage in the Target case also spiked, with numerous lawsuits and social media campaigns to boycott Target. Yet confusion and contestation over who "owned" this precursor event led to delayed response.

Media coverage typically spikes when hacks are made public (sometimes made by journalists themselves). Consumers of Equifax turned to social media (Lieber, 2017), the public called for boycott of Facebook after the

Cambridge Analytica scandal (Lang, 2018), public anger spilled over into the streets and even to social media in the US and Europe after Snowden's revelations, and lawsuits were filed in several cases including Target's data breach (Zetter, 2014). The media, including *The New York Times* (US) and *The Guardian* (UK), repeatedly covered the progress of cases and documented the frustration amongst consumers on the receiving end.

These reactions by the public and media were followed by broader expert attention—a type of "we told you so" reaction. After the 2014 Sony hack, security expert Brian Krebs urged the US to see this incident as "a wake-up call" (Krebs, 2014). Similarly, after Yahoo publicly announced their system breach in 2016, Krebs argued that he had noted these problems previously and "saw this coming" (Krebs, 2016). Chris Hughes, co-founder of Facebook, walked away from his former company to urge society to fight against the "asymmetrical power of firms" and demanded more accountability in regard to data usage (Bursztynsky, 2019). A similar message comes from Chris Wylie, who exposed the Cambridge Analytica scandal. Wylie argues for stricter measures to be taken to prevent undetected or unnoticed data compromises (Wong, 2019).

A paradox exists when considering the crisis attention paid to Big Data. Consumers enjoy the daily conveniences associated with Big Data—tracking software, swift banking, purchasing suggestions. They tend to downplay the risks at an everyday level (Griffore, 2018). But when those risks actually manifest themselves, in the form of abuse and breaches, outrage quickly follows. At those moments, which we delve into below, the promise and pitfalls of today's reliance on Big Data becomes dramatically apparent. Anger and shock are directed toward companies and citizens demand governmental action to stop this "unprecedented threat to human freedom" (Zuboff, 2020). Media attention follows, and action is promised. Yet these "precursor events" are just the symptoms of a much deeper underlying crisis creeping through time and space.

5.6   RESPONSE

This is not to suggest a complete lack of action. In fact, there appears to be a pattern here. In the immediate aftermath of a precursor event, governments demand action by placing blame on private firms. Penalties are handed out and courts deliver verdicts (sometimes years after an incident). Task forces are formed at national and international levels to investigate the "problem". Indeed, our analysis of this creeping crisis reveals another

pattern: after initial outrage and anger at firms, the blame game shifts toward governments. Tough questions are asked why politicians had not been doing more, from the start.

The Cambridge Analytica scandal led to government hearings and investigations across the world. In 2018, the US began congressional hearings (Wichter, 2018) with a key group for US senators led by Senator Richard Blumenthal, calling for punishment and the need to restore trust (Confessore, 2018). In the UK, British lawmakers investigated what role Cambridge Analytica and Facebook might have played in the Brexit referendum (Confessore, 2018), which was followed by Britain's Information Commissioner's Office (ICO) imposing a fine of 500,000 GBP for the Facebook data breach of millions of British users' personal data (Reuters, 2019). And in the EU, the European Parliament conducted hearings and a new momentum drove negotiations to complete the General Data Protection Regulation (Kozlowska, 2018). Facebook attempted to make amends by imposing new standards on data harvesting. But these promises were viewed with skepticism because of previous resistance to change and the fact that Facebook's main revenue stream comes from selling the private data they accrue (Zuboff, 2019). Lawmakers in the US state of California adopted sweeping new data privacy laws, to allow some degree of consumer control over data—even if this does not stop what companies are allowed to do with our private data.

When a scandal surrounding Big Data is deemed to have national security or criminal implications, law enforcement gets involved. Target corporation was taken to task by government authorities, for instance. After nearly four years of hearings (Sasso, 2014), official resignations (Bronner, 2014; Harris, 2014) and constant consumer lawsuits (Zetter, 2014), Target was fined 18.5 million USD in March 2017 (Hong, 2017) (despite the fact that the data was never retrieved). Following the Sony hack in 2014, the US FBI was one of the first to be informed of the breach and started an investigation (Laughland & Rushe, 2014). The same occurred after the Marriott data breach in 2018, where the FBI was informed about the breach before the public (Shepardson, 2019). Following Snowden's revelations in 2013, the US National Security Administration began investigating its own security systems in 2014 (Tucker, 2016) while a host of international conferences considered regulatory implications (Travis, 2015).

As different national actors respond to and investigate precursor events, we witness international organizations increasing their involvement as

well. The EU worked together and implemented the General Data Protection Regulation (GDPR) in 2018 following the Cambridge Analytica scandal (Kozlowska, 2018). Similarly, international cybersecurity organizations worked to issue guidelines for users after the WannaCry ransomware attack, arguing that the threat had worldwide implications (Baraniuk, 2017). The UN and OECD publish regular warnings based on task forces and investigations.

To be sure, governments appear to act. But these are less regulatory (outside of California and the EU's GDPR rules) and more punitive. In a very limited number of cases, we witness intervention *despite* declining public attention (an anomaly according to the creeping crisis framework). Although international lawmakers attempt to design collective solutions, national lawmakers appear to have a longer engagement. In investigating the Equifax breach, the US Justice Department in 2020 found Chinese hackers to be responsible, three years after the breach (Warzel, 2020). In investigating the Sony hack, the US filed complaints against North-Korean hacker Park Jin Hyok in 2018, four years after the breach (Bing & Lynch, 2018). At the same time, he was also charged with involvement in the WannaCry ransomware attack.

Target agreed to pay 18.5 million USD in 2017 (Hong, 2017), Yahoo in 2019 had to agree to pay-out to US and Israeli citizens who were affected by their data breach (Martinez, 2019), Marriott in 2019 was fined over 100 million GBP over GDPR breach (Sweney, 2019) and Facebook had to pay multiple fines to Brazil, UK and the US. Thus, when public attention fades and government oversight dissolves, the courts are the only ones left to close these cases. Longer-term solutions are difficult to find, and governmental regulators remain behind the regulatory curve.

5.7   Conclusion

Big Data represents the quintessential creeping crisis: a long evolution of a potential threat propelled by intersecting conditions, a constant presence in society, periodic attention from experts and officials, and yet no sustained action.

Three poignant aspects of this case help to enrich our understanding of creeping crises. First, the rise of Big Data as a threat took place because of a virtuous cycle of interacting developments. These developments relate to the rise of technology in the global economy. The accumulation of Big Data and the opportunities to manipulate it for good or ill were initially

considered as mere side-effects. Few noticed or cared about the early warnings of experts. Damage capacity seemed small; the risk was complex rather than clear. Big Data was thus allowed to arrive, unheralded, on the crisis scene. Unlike other cases in this book, the development was purely technological, rather than stemming from the human-ecology interface, such as climate-change related crisis.

Second, Big Data typifies the crisis-attention cycle seen in other chapters in this volume, including Covid-19 (see Chap. 7) and climate-induced migration (see Chap. 8). Precursor events start with a failure to act, despite warnings (which were only clear "warnings" in hindsight). Failure to act is followed by unauthorized access to large-scale databases, which, often after significant delays, are then publicly disclosed. This disclosure leads to a spike in media attention and public outrage, which, in turn, generates political attention. This outrage draws attention to privacy violations and major breaches in personal integrity (civil liberties). But as time passes, the sense of urgency fades and political attention shifts to other issues. Rather than large-scale, regulatory responses, the court system usually ends up holding the bag, imposing moderately sized fines. More recently, expert groups and media outlets have become more proactive, highlighting the major risks at stake (data privacy reporting is now a priority issue for *The New York Times*, for instance). The international community (UN, EU, etc.) focuses on the crisis for a more sustained period but, with the exception of the EU, has little authority to act.

Third, a concerted crisis response fails to materialize. Why the lack of sustained action? What might be the tipping point at which "enough is enough," or the number of precursor events becomes too hard to ignore? Several explanatory factors deserve further attention. One is dependence. Officials do not act upon this creeping crisis because essential societal functions are at stake. These functions—criminal analysis, energy distribution, and food supply networks, for instance—are data driven. The ostensible benefits of data-driven public policies (by governments) and marketable consumer profiles (by firms) are sold in rosy terms and optimistic language. The technologies driven by, and driving, data accumulation are used daily by individual citizens: from mapping apps to information searches. To abolish these technologies is difficult, and even to regulate them comes with serious trade-offs.

Another reason for a lack of interest, related to dependence, is vested interests. The companies that have shifted their business model toward the

mining of Big Data for commercial and security use as the primary purpose (Facebook, Alphabet, TikTok, etc.) carry huge economic weight in their respective countries. Their representatives sway politicians' opinions away from acting to avoid a future crisis—the 2018 testimony of Mark Zuckerberg in the US Congress carried exactly that message.

More concretely, there is no shared definition of the problem (cf. Wildavsky, 1992). Not only do vested interests and societal dependencies lead to a continuous reframing of the risks of Big Data, but the multifaceted nature of the problem also makes a simple threat assessment difficult. Is this an economic problem, a security problem, a moral problem, or a personal problem? The various precursor events elicit a wide range of perspectives and opinions, despite the fact that the problem overall is growing. Perhaps only a "big one"—the eventual societal-wide crisis toward which we are creeping—will be enough to focus attention and command a sufficient response.

References

Abbate, J. (1999). The electrical century. *Proceedings of the IEEE, 87*(9), 1695–1698.

Andrew, O. (2018). The history and evaluation of the smartphone: 1992–2018. Retrieved November 30, 2019, from https://www.textrequest.com/blog/history-evolution-smartphone/

Baraniuk, C. (2017, May 15). Should you pay the WannaCry ransom?. *BBC News*. Retrieved November 20, 2020, from https://www.bbc.com/news/technology-39920269

Bing, C., & Lynch, S. N. (2018, September 6). U.S. charges North Korean hacker in Sony, WannaCry cyberattacks. *Reuters*. Retrieved November 20, 2020, from https://www.reuters.com/article/us-cyber-northkorea-sony/u-s-charges-north-korean-hacker-in-sony-wannacry-cyberattacks-idUSKCN1LM20W

Boin, A., & Lodge, M. (2019). The new Twilight Zone between crisis and risk management. *Risk and Regulation*, Spring, LSE CARR Newsletter. Retrieved September 15, 2020, from www.transcrisis.eu.

Bride, E. (2011). The IBM personal computer: A software-driven market. *IEEE Computer Society, 44*(8), 34–39.

Bronner, D. W. (2014, May 5). Target CEO steps down after 35 years. *The Atlantic*. Retrieved November 20, 2020, from https://www.theatlantic.com/business/archive/2014/05/target-ceo-steps-down-over-massive-data-breach/361696/

Buck, R. (2011, April 27). Standing at the edge of the precipice of consumer trust. *ClickZ Newsletter*, p. 2.

Bursztynsky, J. (2019, June 17). Facebook co-founder Chris Hughes: I still consider Mark Zuckerberg a friend, but his 'power has grown too big'. *CNBC*. Retrieved November 20, 2020, from https://www.cnbc.com/2019/06/17/facebook-co-founder-chris-hughes-zuckerberg-a-friend-but-too-powerful.html

Ceruzzi, P. E. (2010). 'Ready or not, computers are coming to the people': Inventing the PC. *OAH Magazine of History, 24*(3), 25–28.

Confessore, N. (2018, April 4). Cambridge Analytica and Facebook: The scandal and the fallout so far. *The New York Times*. Retrieved November 20, 2020, from https://www.nytimes.com/2018/04/04/us/politics/cambridge-analytica-scandal-fallout.html

DePillis, L., & Sherman, I. (2018, October 4). Amazon's extraordinary 25-year evaluation. *CNN Business*. Retrieved November 20, 2020, from https://edition.cnn.com/interactive/2018/10/business/amazon-history-timeline/index.html

Duhigg, C. (2012, February 16). How companies learn your secrets. *The New York Times Magazine*. Retrieved November 20, 2020, from https://www.nytimes.com/2012/02/19/magazine/shopping-habits.html

Erevelles, S., Fukawa, N., & Swayne, L. (2016). Big Data consumer analytics and the transformation of marketing. *Journal of Business Research, 69*, 897–904.

Grable, J. E., & Lyons, A. C. (2018). An introduction to Big Data. *Journal of Financial Service Professionals, 72*(5), 17–20.

Griffore, R. J. (2018). The significance of Big Data literacy in higher education. *Journal of Behavioral and Social Sciences, 5*, 231–236.

Gruetzemacher, R. (2018). Rethinking AI strategy and policy as entangled super wicked problems. In *Proceedings of the 2018 AAAI/ACM Conference on AI, Ethics, and Society (AIES '18)* (p. 122). New York, NY: Association for Computing Machinery.

Hackenberger, B. K. (2019). Data by data, Big Data. *Croatian Medical Journal, 60*, 290–292.

Hacking, I. (2015). Biopower and the avalanche of printed numbers. In V. W. Cisney & N. Morar (Eds.), *Biopower: Foucault and beyond* (pp. 65–80). Chicago: University of Chicago Press.

Harris, E. A. (2014, April 29). After data breach, Target plans to issue more secure chip-and-PIN cards. *The New York Times*. Retrieved November 20, 2020, from https://www.nytimes.com/2014/04/30/business/after-data-breach-target-replaces-its-head-of-technology.html

Hong, N. (2017, May 23). Target to pay $18.5 Million to settle massive 2013 data breach. *The Wall Street Journal*. Retrieved November 20, 2020, from https://www.wsj.com/articles/target-to-pay-18-5-million-to-settle-massive-2013-data-breach-1495561952

Kozlowska, I. (2018). *Facebook and data privacy in the age of Cambridge Analytica*. Retrieved November 20, 2019, from https://jsis.washington.edu/news/facebook-data-privacy-age-cambridge-analytica/

Krebs, B. (2014). *FBI: North Korea to blame for Sony hack*. Retrieved March 4, 2020, from https://krebsonsecurity.com/2014/12/fbi-north-korea-to-blame-for-sony-hack/

Krebs, B. (2016). *Yahoo: One billion more accounts hacked*. Retrieved March 3, 2020, from https://krebsonsecurity.com/2016/12/yahoo-one-billion-more-accounts-hacked/

Lang, C. (2018, March 22). 'It's not good.' Mark Zuckerberg discusses the #DeleteFacebook Campaign. *Time*. Retrieved November 20, 2020, from https://time.com/5210799/mark-zuckerberg-addresses-delete-facebook-campaign-after-cambridge-analytica/

Laughland, O., & Rushe, D. (2014, December 19). Sony cyber attack linked to North Korean government hackers, FBI says. *The Guardian*. Retrieved November 20, 2020, from https://www.theguardian.com/us-news/2014/dec/19/north-korea-responsible-sony-hack-us-official

Lieber, R. (2017, September 12). Equifax, bowing to public pressure, drops credit-freeze fees. *The New York Times*. Retrieved November 20, 2020, from https://www.nytimes.com/2017/09/12/your-money/equifax-fee-waiver.html

Martinez, G. (2019, October 15). Yahoo could owe you up to $358 for data breaches. Here's how to file your claim. *Time*. Retrieved November 20, 2020, from https://time.com/5700738/yahoo-settlement-how-to-file-claim/

Microsoft. (2017). Microsoft Security Bulletin MS17-010-Critical. Retrieved November 20, 2020, from https://docs.microsoft.com/en-us/security-updates/SecurityBulletins/2017/ms17-010

Mims, F. M. (1985). The tenth anniversary of the Altair 8800. *Computer and Electronics*.

National Audit Office. (2018). *Investigation: WannaCry cyber attack and the NHS*. Report by the Comptroller and Auditor General for the Department of Health. London: National Audit Office.

Newman, L. H. (2017, September 14). Equifax officially has no excuse. *Wired*. Retrieved November 20, 2020, from https://www.wired.com/story/equifax-breach-no-excuse/

O'Neill, C. (2016). *Weapons of math destruction: How Big Data increases inequality and threatens democracy*. New York: Penguin.

O'Reilly, T. (2007). What is Web 2.0: Design patterns and business models for the next generation of software. *Communications & Strategies*, no. 65, 1st quarter, pp. 17–37.

Ortiz-Ospina, E. (2019). The rise of social media. Retrieved September 18, 2019, from https://ourworldindata.org/rise-of-social-media

Perrow, C. (1984). *Normal accidents.* New York: Basic Books.

Reuters. (2019, October 30). Facebook agrees to pay UK fine over Cambridge Analytica scandal. *Reuters.* Retrieved November 20, 2020, from https://www.reuters.com/article/us-facebook-privacy-britain/facebook-agrees-to-pay-uk-fine-over-cambridge-analytica-scandal-idUSKBN1X913O

Sasso, B. (2014, March 25). Senate report: Target could have prevented massive hack. *The Atlantic.* Retrieved November 20, 2020, from https://www.the-atlantic.com/politics/archive/2014/03/senate-report-target-could-have-prevented-massive-hack/457125/

Shepardson, D. (2019, March 4). Marriott CEO to testify before U.S. Senate panel on data breach. *Reuters.* Retrieved November 20, 2020, from https://www.reuters.com/article/us-senate-marriott-intnl/marriott-ceo-to-testify-before-u-s-senate-panel-on-data-breach-idUSKCN1QL25U

Sweney, M. (2019, July 9). Marriott to be fined nearly £100m over GDPR breach. *The Guardian.* Retrieved November 20, 2020, from https://www.theguard-ian.com/business/2019/jul/09/marriott-fined-over-gdpr-breach-ico

Szoldra, P. (2016, June 10). A hacker explains why you shouldn't believe North Korea was behind the massive Sony hack. *Business Insider.* Retrieved November 20, 2020, from https://www.businessinsider.com/north-korea-sony-hack-2016-6?r=US&IR=T

Travis, A. (2015, June 15). Snowden leak: Governments' hostile reaction fueled public's distrust of spies. *The Guardian.* Retrieved November 20, 2020, from https://www.theguardian.com/world/2015/jun/15/snowden-files-us-uk-government-hostile-reaction-distrust-spies

Tucker, P. (2016, September 18). Can the NSA stop the next Snowden? *The Atlantic.* Retrieved November 20, 2020, from https://www.theatlantic.com/international/archive/2016/09/nsa-snowden/500345/

Warzel, C. (2020, February 10). Chinese hacking is alarming. So are data brokers. *The New York Times.* Retrieved November 20, 2020, from https://www.nytimes.com/2020/02/10/opinion/equifax-breach-china-hacking.html

Wichter, Z. (2018, April 12). 2 days, 10 hours, 600 questions: What happened when Mark Zuckerberg went to Washington. *The New York Times.* Retrieved November 20, 2020, from https://www.nytimes.com/2018/04/12/technology/mark-zuckerberg-testimony.html

Wildavsky, A. (1992). *Speaking truth to power.* New Brunswick: Transaction Publishers.

Wolcott, M. (2008, May 1). What is Web 2.0? *CBS NEWS.* Retrieved November 20, 2020, from https://www.cbsnews.com/news/what-is-web-20/

Wong, J. C. (2019, March 18). The Cambridge Analytica scandal changed the world—But it didn't change Facebook. *The Guardian*. Retrieved November 20, 2020, from https://www.theguardian.com/technology/2019/mar/17/the-cambridge-analytica-scandal-changed-the-world-but-it-didnt-change-facebook

Zetter, K. (2014, January 17). Target got hacked hard in 2005. Here's why they let it happen again. *Wired*. Retrieved November 20, 2020, from https://www.wired.com/2014/01/target-hack/

Zuboff, S. (2019). *The age of surveillance capitalism*. New York: Profile Books.

Zuboff, S. (2020, January 24). You are now remotely controlled. *The New York Times*. Retrieved November 20, 2020, from https://www.nytimes.com/2020/01/24/opinion/sunday/surveillance-capitalism.html

Migration, Borders, and Society

Yrsa Landström and Magnus Ekengren

Abstract In recent years, we have learned that forced global migration pose a serious threat to international peace and societal values. Despite the many warnings and refugee crises across the world, most national governments have insufficiently addressed this threat. In this chapter, we try to explain this lack of action. The chapter explores possible explanations such as the denial mindset of "it probably won't happen here (and if it does, it won't affect my family and community)". The chapter focuses on the border management crisis in Sweden in 2015. The Swedish government did not address the situation as a crisis until the refugees, who had been on the Mediterranean Sea and traversing north over the continent for months, ended up in Malmö in the south of Sweden in September 2015. This predictable set of events caused chaos for the unprepared Swedish police and the border and migration authorities who had to handle the situation under conditions of urgency and apparent uncertainty.

Keywords Creeping crisis • Migration • Migration crisis • Swedish migration crisis

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6.1   Introduction: A Crisis Waiting to Happen

In 2020, in the wake of the Turkish military attacks in Northern Syria and the Turkish government's announcement to open its borders with Bulgaria and Greece, warnings of a new migration crisis were alarming European governments. Waves of asylum seekers were forecasted to reach the borders of the European Union (EU). The international media predicted that this creeping crisis was about to materialize, again (Genç, 2020; The Guardian, 2019). The question was whether European countries would be better prepared this time. In 2015, the lack of a joint response had put thousands of refugees and more than half-a-century of achievements of a border-free EU at risk.

In 2012, Italy and Greece had tried to make the EU member states aware of the need to address the emerging problem, but failed. A shipwreck on October 3, 2013, when nearly 400 refugees died on the seas near the Italian island of Lampedusa, did not spur actions of mutual support by European countries not directly affected by the tragedy. It was followed by a second deadly shipwreck on October 11 close to the island. The photo of the Syrian boy Alan Kurdi, who drowned on September 2, 2015 in the Mediterranean Sea, drew the world's attention to the horrible consequences of the crisis but still did not trigger joint European rescue operations or a coordinated refugee reception.

Why did so many governments, despite the massive attention given to the refugee situation and the many precursor events, react so late during the migration crisis of 2015? Why did national authorities not address the transnational crisis when they could have realized that it would manifest itself at their own country's borders in what may be called a *translocal* crisis (Ekengren, 2018)? For instance, the Swedish government did not take action until the refugees ended up in Malmö in the south of Sweden in early September 2015, causing chaos for the unprepared Swedish police and the border and migration authorities.

This leaves us with a puzzle. Why did Sweden not recognize an impending crisis, which clearly manifested itself? After all, the Swedes could see along with everybody else how a large group of refugees was *walking* the continent, making its way up north for a period of months. The failure to spot this creeping crisis would have great repercussions for the functioning of Swedish state and society.

This chapter highlights a paradox associated with this particular creeping crisis (the definition of which is contained in the introduction to this book). It shows a lack of national governmental action despite the often very high

degree of international and societal attention given to the emerging crisis. The chapter analyzes the border management crisis in Sweden in 2015 by recapitulating first how the crisis evolved over time and space, second how it was given attention by international organizations and domestic actors, and third how it for long was insufficiently addressed by Swedish authorities and suddenly turned into an acute crisis. The conclusion of the chapter presents three hypotheses for future research that can help deepen our understanding of why the authorities did not act at an earlier stage.

6.2   A Brief History of a Human Drama

It is hard to establish when exactly the refugee crisis began in Europe. The number of asylum applicants has been on the rise in the EU ever since 2010. The Syrian civil war started in 2011. It has held Europe in its grip since 2012 (Gallagher, 2015). A substantial surge of migrants attempted to enter the EU in 2015. The situation had at this point been mounting for many years. Southern and Southeastern member states, especially Greece and Italy had at times been swamped by refugees arriving by the thousands every day.

The dangerous voyage migrants undertook to cross the Mediterranean and enter the EU drew public awareness in 2013 when migrants died as their ship sank off the coast of the Italian island Lampedusa. Between 2013 and 2014, the numbers of asylum applicants rose from approximately 431,000 to 627,000 (Eurostat, 2017). By the end of 2015, about 1 million migrants had arrived by sea in southern and southeastern Europe, while 34,000 were estimated to have entered into the EU by land. In Greece alone, 821,000 migrants arrived in 2015, followed by Italy that received 150,000 migrants (United Nations Refugee Agency [UNHCR], 2015c, 2017).

In 2013, the southern EU member states asked for Union solidarity, assistance, common policies, and regulations. The result was a split among the EU countries: many recognized a need for stronger EU coordination while others claimed the crisis fell under national responsibility and saw no role for common policies. The main EU policies, such as the scheme for relocation of refugees, soon met resistance and became a failure.[1]

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[1] The relocation policy stipulated that member states should transfer asylum seekers from Italy and Greece to reduce the pressure on these countries (European Commission, 2015, pp. 3–4). When implementing the policy, the Commission noted in its reports that the pace of relocating applicants was suffering due to low political will among member states (European Commission, 2016, p. 2).

It was well known that many of the refugees traveled on directly to richer member states, particularly Germany, the UK, and Sweden. One reason for this was the abandonment of the Dublin regulation. Asylum practices in the EU were before the crisis governed by this regulation, which stipulated that an asylum seeker had to apply for asylum in the member state they first entered. Greece and Italy were therefore legally responsible for the vast majority of the asylum applicants that arrived during the refugee crisis. Since both countries instead began to employ a wave-through policy, the result was a largely uncontrolled flow of migrants across the Union.

In response, member states adopted various national solutions. Several countries (and non-EU states on the migration routes) closed down their borders. Others attempted to host the newly arrived migrants, creating an uneven distribution of people in need. Germany, for example, welcomed approximately 1 million asylum applications in 2015, whereas Sweden received the highest number of applicants per capita (OECD, 2017, p. 2). But it was hardly enough.

The border management crisis became a humanitarian crisis. By the end of 2015, 3771 migrants were either confirmed to have died or gone missing at sea, and the number rose to 5096 in 2016 (UNHCR, 2017). As borders closed down, migrants who had reached the EU became stuck along the migration routes in less than adequate camps. When Macedonia closed its border to Greece, for example, a rising number of migrants became isolated within Greece. With a weak economy and an unemployment rate at 24% (European Parliament, 2016), Greece was badly equipped for dealing with the migrants, giving rise to a dire humanitarian situation.

6.3   A Visible Crisis: Increasing Attention and Mobilization on the Ground

On July 1, 2015, the United Nations Refugee Agency (UNHCR) warned of an 83% increase in refugees and migrants crossing the Mediterranean from January to June 2015. That meant 137,000 persons compared to 75,000 in the same period 2014. The agency prognosticated that the numbers would continue to soar over the summer months (UNHCR, 2015a, 2015e). UNHCR also drew attention to the limitations in the Greek capacity to receive these refugees and that an increasing number of migrants continued across the Former Yugoslav Republic of Macedonia and Serbia to and through Hungary (UNHCR, 2015a, 2015e). UNHCR concluded that:

The majority of refugees and migrants coming to southern Europe do so with the intention of travelling onwards. The countries of northern and western Europe, particularly Sweden and Germany, are perceived as offering more effective protection, better support for asylum-seekers, a more welcoming environment, and easier prospects for integration … The situation remains critical and will require further support, including through joint efforts with the European Union, national governments and NGOs. (UNHCR, 2015b, p. 16)

Two internal imbalances have arisen. The first is an imbalance in arrivals, with Italy and Greece facing the large majority of all seaborne landings. The second is an imbalance in destination. In 2014, Germany and Sweden received 43 per cent of all asylum applications in the EU. This is not sustainable. (UNHCR, 2015b, p. 17)

On September 4, 2015, UN High Commissioner for Refugees, António Guterres, warned the Europeans of a piecemeal approach and national "solutions":

It is no surprise that, when a system is unbalanced and dysfunctional, everything gets blocked when the pressure mounts. This is a defining moment for the European Union, and it now has no other choice but to mobilize full force around this crisis. The only way to solve this problem is for the Union and all member states to implement a common strategy, based on responsibility, solidarity and trust. (UNHCR, 2015d)

In June 2015, Amnesty International complained about the failures of the international community to support the refugees and the host countries. The organization estimated that the total number of places offered to refugees from Syria was less than 90,000, only 2.2% of the refugees in the main host countries (Amnesty International, 2015, p. 5). It also drew attention to the closing of borders of the European states, leaving the refugees with only one option: the sea voyage across the Mediterranean (Amnesty International, 2015, p. 16).

In early September 2015, the Swedish Red Cross warned of a "refugee catastrophe" and underlined the need for more volunteers to help receive the large number of people who would soon arrive in Sweden (Swedish Red Cross, 2015).

The attention given to the deteriorating refugee situation by international institutions and NGOs stood in sharp contrast to the assessments of

the Swedish authorities. On July 23, 2015, the Swedish Migration Agency predicted a *decrease* in asylum seekers arriving to Sweden based on the analysis that "a growing number of border controls in the EU have made it more difficult to come here" (Magnusson, 2015; *Riksrevisionen*, 2017, p. 2). The agency pointed out that the number of asylum seekers in the spring of 2015 had gone down compared to the same period the year before (*Riksrevisionen*, 2017, p. 2). It concluded that the changed distribution of asylum seekers between the different European countries had made Sweden less attractive as a destination (*Statens Offentliga Utredningar* [SOU], 2017, p. 323).

At the time of the Agency's July prognosis, the Swedish government was in its final phase of forming the state budget for 2016. In line with the prognosis, this budget proposal did not cover the costs of a potential mass migration of refugees (Magnusson, 2015; SOU, 2017, p. 324).

In the same time period, international and Swedish media reported about alarming numbers of refugees arriving by boat on the Greek islands and predicted that Sweden together with Germany and Italy would probably carry a big load (BBC Trending, 2015; BBC News, 2015; Loewe, 2015; UNHCR, 2015b, p. 16; Horvatovic, 2015; SOU, 2017, p. 2). Representatives of the Migration Agency later recognized July 2015 as the month when it "turned and the number of Syrian asylum seekers began to increase significantly" (Magnusson, 2015). In the beginning of August, the German Agency for migration and refugees estimated the arrival of 450,000 asylum seekers in Germany in the coming months, more than double from the year before. A few days later, the Agency warned German authorities that the prognosticated number was probably an underestimation.

The optimistic July prognosis of the Swedish Migration Agency resulted in the assumption within the Government Offices, Swedish agencies and the vast majority of municipalities that there was no need to prepare for the reception of more migrants than normally is the case. Some municipalities such as Mölndal, Göteborg, and Malmö, however, noticed an increase in the number of unaccompanied children during the summer of 2015 and decided to be more attentive to this challenge (SOU, 2017, p. 324). Representatives of the Malmö municipality later revealed that: "We alerted the Migration Agency already before the holidays. Normally we receive around 40 unaccompanied children per week, but now (summer 2015) 40 per day arrived! And we had no idea of what would come" (Sjögren, 2016).

Soon after the publication of the July prognosis, the Migration Agency received indications that the estimations made in the report were probably inaccurate. In mid-August, the Agency's chief executive appealed to the Swedish public through various media channels to take responsibility for the increasing number of unaccompanied children. The indications of an increasing number of asylum seekers were forwarded to lower levels within the Government Offices but not passed on to the political level. The Swedish Migration Agency did not make a new analysis. The departments receiving the information did not actively assess or act on the information that was brought to their attention (SOU, 2017, p. 324).

On September 2, 2015, the Swedish Red Cross called upon the municipalities, the government, and the EU to take on an increased responsibility and not leave the NGOs and voluntary organizations alone with the humanitarian burden for the refugees (Carlstedt, 2015).

The voluntary help organization within the Malmö "Culture House" (*Kulturhuset Kontrapunkt*) saw the crisis coming. On September 7, some of its members watched on television how refugees walked on the highways of Denmark toward the Swedish border. "We discussed the refugee crisis in the South of Europe the weekend before and knew that it would come also to us" (Sjögren, 2016). They immediately began to transform the Culture House into emergency housing for fleeing people. As one of the volunteers described it: "If we hadn't done that, I am sure Malmö Central station would have been in big chaos already the first evening of their arrival… the citizens made it possible to manage the situation when the authorities were so unprepared" (Sjögren, 2016).

Throughout September, a growing number of Swedish citizens started to mobilize NGOs and civil rights organizations. These included the *Refugees Welcome Movement*, which started as a loose network of activists but quickly became central to welcoming refugees in Sweden, and especially in Malmö to which most refugees came when arriving to Sweden (Weinryb, 2015; Frigyes, 2018, p. 40). *Refugees Welcome Housing Sweden* also began operating in September 2015, as a reaction to the "inhumane way of welcoming individuals that seek asylum" (Refugees Welcome Housing Sweden, 2019), with the purpose of helping refugees to find housing among private Swedish citizens. The slogan among volunteers in the Refugees Welcome movement on one of its many Facebook pages was "This is not a migrant crisis. It is a crisis of resource exploitation. It is a crisis of war. It is a crisis of climate change. It's a crisis of inequality" (Refugees Welcome, 2016).

September was also the month when some Swedish newspapers started to shift focus on the refugees from describing them as victims to pointing out the costs of immigration for Swedish society (Frigyes, 2018, pp. 44–45).

6.4   THE SWEDISH GOVERNMENT RESPONDS

Ever since 2012, Sweden had experienced a significant growth in the number of asylum claims and been among the top five states receiving asylum seekers.[2] However, it was not until the end of September 2015, that the Swedish government used the term crisis to describe the growing inflow of refugees (Swedish Government, 2015a). Before this, the political discourse of all main political parties, with the exception of the right-wing political party the Sweden Democrats, *Sverigedemokraterna*, emphasized the need to show openness, picturing the situation as an opportunity rather than as a risk or crisis.

In August 2014, the Swedish Prime Minister, Fredrik Reinfeldt, delivered his annual "summer speech." Reinfeldt described Sweden in terms of a "humanitarian superpower," emphasizing that:

> It is by standing up for our openness and for our ideas that we are doing our very best and generating a long-term [solution] to fight the kind of tendencies of terrorism and sectarianism we now see in our world. What we see now will affect Europe as well as Sweden. Here I would like to address the entire Swedish people. I want to remind you that we are a nation that has stood up and showed openness before when people have endured difficult times. We now have people fleeing in numbers that are similar to the Balkan crisis in the beginning of the 1990s. Now I appeal to the Swedish people for patience, to *open your hearts* to people in stress who fear death threats and are fleeing, fleeing to Europe, fleeing to freedom, fleeing to better conditions. Show that openness. Show that tolerance when it is said that "they are too many", "it will be complicated", "it will be difficult". Show that tolerance and show that we have done it before. We have seen people come from stress, fleeing from oppression, who have arrived to our society, learned the Swedish language, found a job and are now helping to build a better and freer Sweden. (Moderaterna, 2014, authors' translation, emphasis added)

[2] Already in 2012, Sweden and Germany received, by far, the greatest number of asylum applications, among them many Syrian applicants. In 2014, Germany received Syrian asylum applications of a number of 41,100, which was over five times the number of 2012 and three-fold the number of 2013. Swedish authorities received 30,750 Syrian asylum claims in 2014, a significant rise from the 16,540 claims made the year before (UNHCR, 2014, p. 13; Ostrand, 2015, pp. 257, 269).

The prime minister's speech has been remembered as the "open your hearts" speech. It shows that Swedish authorities were aware of the growing number of refugees arriving in Sweden but did not speak of the situation in terms of crisis. Instead, the center-right government parties, including the (left-green) parties that were later elected to govern Sweden, expressed a concern over the growing number of barriers created by other European governments and the risk of xenophobia and racism (Moderaterna, 2014; Swedish Government, 2014, 2015a). On August 16, 2015, the new Social Democratic Prime Minister, Stefan Löfven, delivered his annual summer speech and described the mass migration of refugees in similar terms to Reinfeldt:

> In the short term it is a great effort for Sweden. We should not pretend something else. But it is an effort we make because we want to help people get away from war and oppression. (Löfven, 2015)

Instead of using the term crisis, Löfven pictured the situation as a manageable struggle if everyone, including the European Union and Swedish municipalities, took responsibility. The prime minister emphasized Sweden's humanitarian support to Syria (Löfven, 2015). It was this attitude of openness that characterized the Swedish migration policy in the eyes of international observers, especially after the Swedish center-right political parties reached an agreement with the Green party on a more liberal migration policy (Bolin, Lidén, & Nyhlén, 2014, p. 329; Bolin, Hinnfors, & Strömbäck, 2016, pp. 200–201).

Shortly after the prime minister's speech, on the morning of September 2, a three-year-old Syrian boy called Alan Kurdi was found dead on a beach in Bodrum, a Turkish seaside resort. Under the hashtag #HumanityWashedAshore, a photography of the Syrian boy's dead body was spread on social and mass media all over the world. The photo had an enormous impact on the public consciousness. The Swedish population seemed to be largely unaware of the situation until it saw the photo of the three-year-old Syrian boy.

On September 6, 2015, the prime minister Stefan Löfven declared that "my Europe does not build walls." The prime minister urged the European Union to implement a refugee quota and expressed a special gratitude and pride for volunteers and individuals helping refugees (Swedish Government, 2015a). On the same day, September 6, the Swedish Migration Agency upgraded its level of preparedness to a "state of readiness" (*stabsläge*), a

measure that in line with normal procedures is taken when it is concluded that Sweden faces a "threat of major incidents or disasters" (*Riksrevisionen*, 2017, pp. 2–3). In short, the Agency declared that the refugee situation was a crisis that required crisis management action.

6.5   FROM CREEPING CRISIS TO CRISIS

The first time the government used the term crisis was when Prime Minister Löfven in a press release emphasized that: "The most important thing now is that all countries take their responsibility, that we establish orderly procedures [*ordning och reda*] for refugee welcoming, and that we fight the root causes of the international refugee crisis" (Swedish Government, 2015b). Before that day, the government had criticized opposition parties for their calls for "order" that, in its view, would only lead to the wrong priority of measures. The Social Democrats had for long argued that the focus instead should be put on "shelter and school for the children," considering it "the most important issue" (Magnusson, 2015).

On September 9, the Swedish Civil Contingencies Agency (MSB) on directives from the government released its first national situational report, stating that the situation was strained but the agencies were able to manage it (*Riksrevisionen*, 2017, p. 3). The Government Offices discussed possibilities to create public refugee housing. On September 15, 2015, the Swedish prime minister again associated the situation with the term crisis: "In times of crisis [the right to asylum] is the most essential principle to protect. A person fleeing war and oppression should receive protection in Sweden" (Swedish Government, 2015c).

At the end of September, the number of asylum seekers in Sweden exceeded the number of asylum seekers that had arrived during the Balkan wars. State agencies were able to manage the situation but needed to take preparatory measures in view of a potentially worsening situation. During this time, the Red Cross expressed deep concern for refugees who existed "outside the system" (*Riksrevisionen*, , 2017, p. 4). The Swedish Migration Agency reported that the number of unregistered individuals and unaccompanied children was enormous. On October 2, the municipality of Hässleholm announced that it could no longer guarantee meeting legal requirements in its handling of the children (Health and Social Care Inspectorate [IVA], 2015). In the following months, more than 70 Swedish municipalities would announce similar messages (*Riksrevisionen*, 2017, pp. 4–5).

According to a survey by the opinion institute Ipsos in September 2015, 44% of the Swedish population held the view that Sweden should welcome more refugees. In October, the number had dropped to 26% (Frigyes, 2018, p. 40). Soon after, the prime minister declared that the Swedish Migration Agency was instructed to set up temporary accommodation in the form of tents: "It is an extraordinary situation [which requires] extraordinary efforts and measures" (Canoilas, 2015; Sveriges Radio, 2015). In mid-October, several municipalities reported being overwhelmed. They described huge challenges in securing the life and health of refugees and safeguarding the basic functions of society (*Riksrevisionen*, 2017, pp. 7–8).

During that same period, Swedish media reported that accommodations for refugees and unaccompanied children were set on fire. In the beginning of October, the political opposition parties started to call for the resurrection of border controls, but the Swedish prime minister refused, referring to the Swedish police's assessment that it was not necessary (Magnusson, 2015). However, this standpoint changed when the Swedish Migration Agency, on November 11, advocated border controls in a letter to the Ministry of Justice. According to the Swedish newspaper *Sydsvenskan*, the Agency later denied having made this request (Magnusson, 2015).

On November 12, the government introduced border controls at the internal border and added 11 billion SEK to the 2015 state budget for handling the refugee crisis (Magnusson, 2015; *Riksrevisionen*, 2017, p. 10). In the beginning of December, *Save the Children International* criticized the government by claiming: "[t]he coordination between different actors is better organized in Yemen than in Sweden. A UN Coordinator is needed in the South of Sweden to strengthen the work for child protection" (Magnusson, 2015).

The number of asylum seekers began to decrease in mid-December. While MSB was still reporting about the challenges facing state agencies and municipalities, the government voted on a new legislative act on the right to adopt special measures in situations of serious threat to the public order and internal security in the country, including identity controls within Swedish borders. On December 15, the Prime Minister declared that "Sweden is beginning to leave the acute refugee crisis behind" (*Riksrevisionen*, 2017, pp. 12–13). A few days later, prime minister Löfven delivered his annual Christmas speech in which he claimed that "I am convinced that we could have managed the refugee crisis in a completely

different way if we had shared the responsibility among EU members": "the solution exists on the EU level" (Swedish Government, 2015d). He concluded the speech with, "next year, if you are able, do participate a little bit extra in volunteer work. That will be my own new year's promise. Make it yours" (Swedish Government, 2015d).

6.6   Conclusion: Toward Explaining Blind Spots

This chapter has shown how the Swedish authorities did not see the refugee crisis coming, despite the high degree of international and societal attention. The knowledge of the crisis was widespread and the precursor events were many and strong, but the government did not act in time. Moreover, our analysis has indicated why the crisis remained a creeping crisis for the Swedish government for such a long time. These factors, or blinders, can now help us to formulate hypotheses for future studies that on a more solid empirical basis can explain how this crisis was initially "missed."

6.6.1   Ideological Blinders

For the Swedish political elite, the migration question was above all a political-ideological issue before September 2015. Sweden had long nurtured its international identity as a "moral superpower" that stands up for the small states, international law, humanitarian aid and the UN system, including the UNHCR and the universal right to seek asylum. Through focusing the debate on how to keep a "welcoming attitude", the Swedish governments attempted to uphold this identity and create an interpretative prerogative that anticipated a possible alternative threat or crisis narrative by the right-wing political party the Sweden Democrats (*Sverigedemokraterna*) (gathering around 20% of the Swedish voters in the opinion polls at the time).

We hypothesize that the Social Democratic government did not address the situation with concrete measures because any step of preparing for the arrival of the refugees ran the risk of being branded as a shift toward a more restrictive refugee policy by the left-wing factions of the party, left-wing political opponents, and the press. On the other ideological end, operative steps toward a crisis mode could be framed as hypocritical by right-wing parties.

To avoid the xenophobic label, the government did not want to recognize the refugee crisis in other parts of Europe as a crisis for Sweden until

September 2015 when refugees were emerging in Malmö. Until that time, it depicted the situation as a concern for other states. This is despite the fact that other European states, and international and non-governmental organizations, warned about the risk of a major crisis hitting Sweden. It seems as if the Swedish Social Democratic government for long treated the crisis as a "crisis of ideas" rather than a "real" acute crisis.

6.6.2 *A Division Between Internal and External Threats*

The sociologist Anthony Giddens distinguishes between "external risk", experienced as coming from the outside (from nature: draughts, floods, famines) and "manufactured risk" – created by "the very impact of our developing knowledge upon the world"; he refers to risks that we have very little historical experience of confronting, such as environmental risks connected with global warming (Giddens, 2002, p. 26).

Traditional cultures knew mostly external risks and held the almost fatalistic view that there was not much to do to avoid them. In contrast, the manufactured risk is accompanied by a growing awareness that many of the threats we live with today are the result of our own impact on the planet and consequently make us realize that we can do something about it. This epoch-making transformation of humans into a new geological force has been described as a shift from the Holycen to the Anthropocene (Lewis & Maslin, 2018).

We could hypothesize that the Swedish authorities did not address the threat because they assessed the refugee crisis as an external threat to Sweden that they—in a fatalistic spirit—deemed they could do very little to stop. The government portrayed the situation as "external" by criticizing other European states for closing borders. Through its vague declaratory appeals, the government in practice admitted that it could not do much about this other than criticizing these states and spotlighting their duty to follow international laws and conventions. From an external risk perspective, this fatalism would explain why the government did not address the situation.

The problem with this hypothesis is, however, that there are indications that the government was not fatalistic in the sense that it felt that the crisis would eventually hit Sweden and it could do nothing to stop it. Rather the striking feature was the outright absence of a crisis consciousness and neglect of predictions of the consequences of the refugee streams toward Sweden. In non-committing terms, the government expected the EU

institutions and directly targeted member states to handle the problem. The government's picturing of the crisis as external did not conjure up a fatalistic mood, but created the image that it was improbable that it would reach Sweden. In fact, the government would probably have addressed the crisis through precautionary measures if it had seriously thought that it would reach Swedish borders.

We can reformulate the hypothesis. Perhaps it was the mental map of Swedish officials in "domestic" agencies that made them perceive the refugee crisis as "external" and not of immediate national concern nor within their mandate to solve. The European identity and transnational "we-ness" were not strong enough to turn the warnings and activities of fellow-EU members into a trigger for Swedish actions.

We may hypothesize that the Swedish government simply misjudged what it could do to minimize the manufactured refugee risk. Again, the problem is that there are no indications in our empirical material that the government assessed possible measures that could prepare Sweden for the crisis. Compared to other threats, such as climate change and cyber interconnectedness, where policies of prevention and preparedness are taken to address manufactured risks, the lack of preparation for the 2015 crisis is striking. The problem was not that the government failed to put in place accurate precautionary measures because of its limited experience with this kind of manufactured risk, *but that it did nothing*. To be fair, there was an element of failed risk prognosis. The Swedish authorities relied on the estimates of the Migration Agency of July 2015 of decreasing number of refugees. However, this prognosis was so contradictory to all other predictions across Europe and in Sweden that it is not far-fetched to suspect that the government chose to ground its non-action on this prognosis for ideological and budget reasons.

Our case study has shown the added value of the concept of creeping crisis in relation to, for instance, the risk literature. It helps us to focus on explanations of why governments only partially, or not at all, address evolving threats despite the fact that international and domestic actors draw attention to them. It helps us explain why the Swedish government did not assess the situation as a threat even when it became clear that there was a risk of significant repercussions to the Swedish state and society. Clearly, this lack of action cannot fully be explained by prediction difficulties, or the feeling that nothing can be done to deal with a threat from the external world. The insufficient action had other, more complex causes that need to be further examined more in-depth with the help of the creeping crisis concept.

References

Amnesty International. (2015). The global refugee crisis: A conspiracy of neglect. Retrieved October 2, 2019, from https://www.amnesty.org/download/Documents/POL4017962015ENGLISH.PDF

BBC News. (2015, August 18). Europe migrant crisis: Surge in numbers at EU borders. *BBC News.* Retrieved October 18, 2019, from https://www.bbc.com/news/world-europe-33972632

BBC Trending. (2015, August 17). *The Syrian refugee who says: 'Don't come to Sweden… or think carefully about it'* [Video]. YouTube. Retrieved October 18, 2019, from https://www.youtube.com/watch?v=jAJcy5k4rb4

Bolin, N., Lidén, G., & Nyhlén, J. (2014). Do anti-immigration parties matter? The case of the Sweden Democrats and local refugee policy. *Scandinavian Political Studies, 37*(3), 323–343.

Bolin, N., Hinnfors, J., & Strömbäck, J. (2016). Invandring på ledarsidorna i svensk nationell dagspress 2010–2015. In J. Andersson Schwarz, U. Bjereld, N. Bolin, R. Chukri, A. Dahlberg, R. Djalaie, L. Granestrand, J. Hammarlund, J. Hinnfors, K. Holt, B. Häger, A. Johansson Heinö, A. Lindberg, J. Strömbäck, & L. Truedson (Eds.), *Migrationen i medierna—Men det får en väl inte prata om?* (pp. 192–211). Stockholm: Institutet for mediestudier.

Canoilas, E. (2015, October 9). Löfven: Det är en speciell situation. *Expressen.* Retrieved October 18, 2019, from https://www.expressen.se/nyheter/lofven-det-ar-en-speciell-situation/

Carlstedt, A. (2015, September 2). Vi kan inte längre se på när människoliv går till spillo. *SVT.* Retrieved October 3, 2019, from https://www.svt.se/opinion/article3398421.svt

Ekengren, M. (2018). *Explaining the European Union's foreign policy: A practice theory of translocal action.* Cambridge: Cambridge University Press.

European Commission. (2015). A European agenda on migration. Retrieved October 3, 2019, from https://ec.europa.eu/home-affairs/sites/homeaffairs/files/what-we-do/policies/european-agenda-migration/background-information/docs/communication_on_the_european_agenda_on_migration_en.pdf

European Commission. (2016). First report on relocation and resettlement. Retrieved October 3, 2019, from https://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX:52016DC0165

European Parliament. (2016). Unemployment and poverty: Greece and other (post-) programme countries. Retrieved September 2, 2020, from https://www.europarl.europa.eu/RegData/etudes/BRIE/2016/578991/IPOL_BRI(2016)578991_EN.pdf

Eurostat. (2017). Number of asylum applications (non-EU-27 citizens), EU-27, 2008–2019. Retrieved September 2, 2020, from https://ec.europa.eu/eurostat/statistics-explained/index.php/Asylum_statistics

Frigyes, P. (2018). Ensamkommande i medierna—före och efter flyktingkrisen 2015. In *Sverigebilden—om journalistik och verklighet*. Retrieved October 10, 2019, from http://mediestudier.se/wp-content/uploads/2018/09/Ensamkommande-i-medierna-fore-och-efter-flyktingkrisen-2017.pdf

Gallagher, A. (2015). Exploitation in migration: Unacceptable but inevitable. *Journal of International Affairs, 68*(2).

Genç, K. (2020, March 5). As the Syrian refugee crisis returns, the EU appears heartless. *NewStatesman*. Retrieved September 1, 2020, from https://www.newstatesman.com/world/middle-east/2020/03/syrian-refugee-crisis-returns-eu-appears-heartless

Giddens, A. (2002). *Runaway world: How globalization is reshaping our lives.* New York: Routledge.

Horvatovic, I. (2015, August 25). Rekordmånga flyktingar korsade ungersk-serbiska gränsen. *Sveriges Television*. Retrieved October 18, 2019, from https://www.svt.se/nyheter/utrikes/rekordmanga-flyktingar-korsade-ungersk-serbiska-gransen

IVA [Health and Social Care Inspectorate]. (2015). *IVO Bilaga skrivelse lex Sarah.* Retrieved October 18, 2019, from https://www.ivo.se/globalassets/dokument/om-ivo/skrivelser/ivo-bilaga-skrivelse-lex-sarah2.pdf

Lewis, S., & Maslin, M. (2018). *The human planet—How we created the Anthropocene*. London: Yale University Press.

Loewe, P. (2015, June 26). Milano första stoppet på den långa resan mot ett bättre liv. *Dagens Nyheter*. Retrieved October 18, 2019, from https://www.dn.se/arkiv/varlden/milano-forsta-stoppet-pa-den-langa-resan-mot-ett-battre-liv/

Löfven, S. (2015). *Sommartal.* Retrieved September 23, 2019, from https://www.socialdemokraterna.se/vart-parti/politiker/stefan-lofven/tal3/tal-2015/sommartal/

Magnusson, E. (2015, December 26). Så blev flyktingkrisen en svensk beredskapskatastrof. *Sydsvenskan*. Retrieved September 15, 2019, from https://www.sydsvenskan.se/2015-12-26/sa-blev-flyktingkrisen-en-svensk-beredskapskatastrof

Moderaterna. (2014). *Fredrik Reinfeldts sommartal* [Video]. YouTube. Retrieved September 15, 2019, from https://www.youtube.com/watch?v=8lH2GEvYt7Y

OECD. (2017). *Migration policy debates.* Retrieved September 1, 2020, from https://www.oecd.org/els/mig/migration-policy-debates-13.pdf

Ostrand, N. (2015). The Syrian refugee crisis: A comparison of responses by Germany, Sweden, the United Kingdom, and the United States. *Journal on Migration and Human Security, 3*(3), 255–279.

Refugees Welcome. (2016). *Deportation is human rights abuse.* Facebook. Retrieved September 24, 2019, from https://www.facebook.com/RefugeesWellcome

Refugees Welcome Housing Sweden. (2019). Idea. Retrieved September 15, 2019, from https://refugees-welcome.se/

Riksrevisionen [Swedish National Audit Office]. (2017). *Bilaga 2: Tidslinje över flyktinsituationen hösten 2015*. Retrieved September 15, 2019, from https://riksrevisionen.se/download/18.78ae827d1605526e94b2dad9/1518435494444/RIR_2017_4_BILAGA2.pdf

Sjögren, H. (2016, September 26). Flyktingkrisen efter ett år: 'Ingen var beredd'. *Expressen*. Retrieved October 2, 2019, from https://www.expressen.se/kvallsposten/flyktingkrisen-efter-ett-ar-ingen-var-beredd/

SOU [Statens Offentliga Utredningar]. (2017). *Utredningen om migrationsmottagandet 2015*, SOU2017:12. https://www.regeringen.se/contentassets/e8c195d35dea4c05a1c952f9b0b45f38/hela-sou-2017_12_webb_2.pdf. Stockholm: SOU.

Sveriges Radio. (2015, October 9). Löfven höll presskonferens om flyktingsituationen. *Sveriges Radio*. Retrieved September 15, 2019, from https://sveriges-radio.se/sida/artikel.aspx?artikel=6274820

Swedish Government. (2014). *Regeringsförklaringen*. Retrieved September 15, 2019, from https://www.regeringen.se/tal/2014/10/regeringsforklaringen-den-3-oktober-2014/

Swedish Government. (2015a). *Tal av Stefan Löfven vid manifestation för flyktingar*. Retrieved September 15, 2019, from https://www.regeringen.se/tal/2015/09/tal-av-stefan-lofven-vid-manifestationen-for-flyktingar-den-5-september/

Swedish Government. (2015b). *Regeringens tio ståndpunkter för att reformera EU:s flyktingpolitik*. Retrieved September 15, 2019, from https://www.regeringen.se/artiklar/2015/09/sveriges-tio-standpunkter-for-att-reformera-eus-2015/

Swedish Government. (2015c). *Regeringsförklaringen den 15 September 2015*. Retrieved October 18, 2019, from https://www.regeringen.se/tal/2015/09/regeringsforklaringen-den-15-september-2015/

Swedish Government. (2015d). *Statsministerns jultal*. Retrieved September 15, 2019, from https://www.regeringen.se/tal/2015/12/statsministerns-jultal/

Swedish Red Cross. (2015, September 2). Vi kan inte längre se på när människoliv går till spillo. *SVT Opinion*. Retrieved October 2, 2020, from https://www.svt.se/opinion/vi-kan-inte-langre-se-pa-nar-manniskoliv-gar-till-spillo

The Guardian. (2019, September 18). Greece sets out emergency plans to tackle surge of migrant arrivals. *The Guardian*. Retrieved October 18, 2019, from https://www.theguardian.com/world/2019/sep/02/greece-sets-out-emergency-plans-to-tackle-surge-of-migrant-arrivals

UNHCR. (2014). *Asylum trends* 2014. Retrieved October 2, 2020, from https://www.unhcr.org/551128679.pdf

UNHCR. (2015a). *Mediterranean Crisis* 2015 *at six months: refugee and migrant numbers highest on record*. Retrieved October 2, 2019, from https://www.unhcr.org/news/press/2015/7/5592b9b36/mediterranean-crisis-2015-six-months-refugee-migrant-numbers-highest-record.html

UNHCR. (2015b). *The sea route to Europe: The Mediterranean passage in the age of refugees*. Retrieved October 2, 2019, from https://www.unhcr.org/5592bd059.html

UNHCR. (2015c). *Numbers of refugee arrivals to Greece increase dramatically*. Retrieved October 2, 2019, from https://www.unhcr.org/news/briefing/2015/8/55d3098d6/numbers-refugee-arrivals-greece-increase-dramatically.html

UNHCR. (2015d). *Statement by UN High Commissioner for Refugees, António Guterres, on refugee crisis in Europe*. Retrieved October 2, 2019, from https://www.unhcr.org/news/press/2015/9/55e9459f6/statement-un-high-commissioner-refugees-antonio-guterres-refugee-crisis.html

UNHCR. (2015e). *UNHCR warns that time is running out for Europe to resolve refugee emergency*. Retrieved October 2, 2019, from https://www.unhcr.org/news/briefing/2015/9/55fbefcf6/unhcr-warns-time-running-europe-resolve-refugee-emergency.html

UNHCR. (2017). *Mediterranean situation*. Retrieved October 28, 2017, from https://data2.unhcr.org/en/situations/mediterranean

Weinryb, N. (2015). Flyktingkrisen omdefinerar civilsamhällets roll [The refugee crisis redefines the role of civil society], Kurage, 18.

From Creeping to Full-Blown Crisis: Lessons from the Dutch and Swedish Response to Covid-19

Alina Engström, Marte Luesink, and Arjen Boin

Abstract On the last day of 2019, China alerted the World Health Organization to a cluster of mysterious pneumonia cases. A new coronavirus (Covid-19) was discovered. Within three months after the alert, Europe had become the epicenter of a global pandemic. Even though the virus spread easily and quickly within communities, it took its time to travel from China to northern Europe. Nevertheless, many governments were slow to respond to the emerging threat. This chapter analyzes the initial phase of the Covid-19 crisis in Sweden and the Netherlands, focusing on the relationship between experts and decision-makers. The chapter discusses four factors that may help explain why the Swedish and Dutch governments were slow in their response. The governments assumed an

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epidemic like the one in China would not happen in their country, the experts followed international scientific guidelines, citizens were expected to defy limitations on their freedoms, and both experts and decision-makers were confident with regard to the level of preparedness. Lessons are formulated for further analysis and future preparations.

Keywords Creeping crisis • Pandemic • Covid-19 • Coronavirus • Infectious diseases

7.1   Introduction: A Slow Surprise

On December 31, 2019, China alerted the World Health Organization (WHO) that a cluster of pneumonia cases of unknown origin had emerged in a region of the country. In the months following, what was eventually diagnosed as a coronavirus spread from a seafood market in Wuhan—the first identified source of contagion—to virtually every corner in the world. The virus was deadly and highly contagious; that much was known. But many uncertainties persisted (Buckley & Myers, 2020).

Covid-19, the disease caused by the corona virus, slowly developed into the biggest crisis since World War II. By mid-January 2020, cases had been reported in several countries surrounding China, including Japan and South Korea. In China, the cases grew exponentially and tough measures were taken by the government. On January 23, Wuhan City, as well as neighboring municipalities, was locked down to contain the spread of the virus (WHO, 2020a). Global media closely watched and reported on the unfolding story. The next day, the first COVID-19 case was reported in France (Spiteri et al., 2020). The virus had reached Europe.

Within days of that first case, coronavirus was reported in multiple European countries. Sweden detected its first case in the city of Jönköping (TT, 2020a). The patient had returned from a trip to China, albeit without symptoms, on January 24, 2020. The case did not come as a surprise for *Folkhälsomyndigheten*—the Swedish Public Health Agency (FOHM)—as it had been monitoring about 20 people who had traveled to the infected areas in China during the previous two weeks (TT, 2020b).

In February 2020, the number of corona cases increased, but there still seemed little reason for alarm. On February 13, the European Centre for Disease Prevention and Control (ECDC) stated that "the risk associated with SARS-CoV-2 infection for the EU/EEA and UK population is

currently low" (ECDC, 2020, p. 1). On February 20, a corona case was reported in northern Italy. It marked the beginning of a coronavirus "explosion" in Europe. Within three days, the number of corona cases went up to 150 (Lawler, 2020). Northern Italy being a popular holiday destination, many European tourists unknowingly contracted the coronavirus and brought it home with them.

The Netherlands reported its first case on February 27 (NU.nl, 2020). At the end of February, health experts and government officials in both the Netherlands and Sweden reassured their citizens that their respective health systems were well-prepared, and management protocols were in place (NOS, 2020a; Von Hall, 2020). That claim would come undone within a matter of weeks, however. During the first half of March, both countries experienced a sharp and rapid increase in Covid-19 patients requiring hospital care. It was during that period that both countries shifted into crisis mode.

Sweden activated its Crisis Management Council (*Krishanteringsrådet*), and as the national Public Health Agency (FOHM) raised the risk of domestic spread from "low" to "moderate", a National Pandemic Group was activated (*Folkhälsomyndigheten* [FOHM], 2020a). Gatherings of more than 500 people were forbidden. Events then unfolded in rapid succession. On March 11, Sweden reported its first death caused by the coronavirus (TT, 2020a). On March 16, the FOHM recommended senior citizens to stay at home and everyone living in the Stockholm region to work from home. On March 17, upper-secondary schools and universities were advised to conduct distance education (primary schools and kindergartens stayed open). On March 19, the FOHM advised against non-essential travel within the country in relation to the upcoming Easter holidays. On March 29, gatherings of more than 50 people were forbidden. On March 31, the government issued a national ban on visits to nursing homes.

The Netherlands also entered a crisis mode during the first week of March 2020. A Ministerial Crisis Team launched and held its first meeting on March 3. The first death related to Covid-19 was reported on March 6 and, on the same day, people living in the province of Noord-Brabant were asked to stay home (Boin, Overdijk, Van der Ham, Hendriks, & Sloof, 2020). On March 9, the first Covid-19 press conference was held by prime minister Mark Rutte and Jaap van Dissel, head of the Outbreak Management Team (Rijksoverheid, 2020a). A succession of press conferences followed, announcing additional measures including the cancelation

of large events, the closure of schools, bars and restaurants, and social distancing measures (Rijksoverheid, 2020b, 2020c).

The two countries instituted crisis regimes that would last for months and were, in many respects, quite effective. The curve was flattened, and public support for governments remained high.[1] The top experts in both countries, Anders Tegnell in Sweden and Jaap van Dissel in the Netherlands, became public figures almost overnight. But while the *effectiveness* of the crisis regimes has been largely acknowledged in both countries, the *timing* of the response has become the subject of scrutiny.

The first public criticism in Sweden emerged from an opposition party in Parliament, the center-right Moderate Party, at the end of February. It accused the government of acting too late and doing too little (Lönegård, 2020). By late-March, other opposition parties added to the critique.[2] The Swedish response was also criticized by some parts of the scientific community (DN-TT, 2020). In the Netherlands, the criticism was initially rather muted, but during the first "corona debate" in Parliament, several opposition parties stated that the government had shown a weak response (Rutten, 2020). The criticism continued to grow and resulted in a widely supported request for a national inquiry (carried out by the Dutch Safety Board).

The case of the coronavirus pandemic in Northern Europe is instructive because it developed over a relatively long period. While shorter than most creeping crises profiled in this book, these developments unfolded over weeks. National officials could "see it coming." Both the Netherlands and Sweden had time to act early, watching Southern Europe absorb the initial impact. Yet the governments of both countries took over six weeks to trigger their respective crisis regimes at a political level. In the interim, health experts played an outsized role when compared to politicians; as such, their assessment of the virus was instrumental in shaping governmental perceptions about the need to act. This chapter takes the unique opportunity presented by Covid-19 to explore the role of health experts

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[1] In the Netherlands, the approach chosen by the government was supported by 73% of the population and Rutte's approval rate increased (Kester, 2020). The majority of the political parties agreed with or withheld their critique regarding the chosen approach. The approach was critiqued by only a few and also the experts received little criticism during the early stages of the crisis. In Sweden, the trust in government and the Public Health Agency increased steadily throughout March (Novus, 2020).

[2] The Sweden Democrats criticized the FOHM for not closing schools and the Christian Democrats called for an audit of the government's handling of the pandemic (Oscarsson, 2020).

in declaring this initially creeping crisis, a concept defined in the introduction to this book, as a full-blown crisis.

Our analysis helps to illuminate response patterns to a high-profile, unfolding creeping crisis—with a special emphasis on the expert-politician interface when the actual crisis hits. We seek to explain why both countries arrived at a fairly similar, delayed response. We start this chapter with a brief description of the pandemic management structures in place, focusing on the role and position of national health experts. We then describe the six weeks between the first announcements of the virus and the imposition of the crisis regime. We end with a few lessons to improve recognition of when a creeping crisis may be tipping into a full-blown crisis.

7.2   SETTING THE SCENE: NATIONAL PANDEMIC MANAGEMENT STRUCTURES

7.2.1   *Sweden: Agencies as Crisis Manager*

Sweden has a unique governmental system. The central government is small, while executive power is concentrated in autonomous national agencies and local administrations have substantial powers. Agencies have most of the resources, expertise, and human resources to execute policies (Pierre, 2020, p. 4). Ministerial steering (*Ministerstyre*) of agencies is forbidden. The government has some formal levers in relation to the agencies (they are autonomous, not independent): it appoints the agency head, issues yearly "instructions", and provides agencies with an annual budget that can be withdrawn at any time. The government relies on informal dialogues and unofficial suggestions, enhanced by "a strong sense of loyalty towards the government of the day among the civil servants" (Pierre, 2020, p. 2). Importantly, the Swedish constitution does not allow for exceptions during crises. A national response to a large-scale crisis continues to be run by autonomous agencies.[3]

Swedish crisis management is guided by a simple principle: the actor responsible for a certain policy issue during normal times is also responsible for that issue during a crisis (Becker & Bynander, 2017, p. 75). The Ministry for Health and Social Affairs and its agencies, the FOHM and

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[3] A light degree of coordination does take place from the central government via a standing crisis council—a governance innovation started in 2005 following Sweden's experience in the Asian Tsunami (Becker & Bynander, 2017).

National Board for Health and Welfare (NBHW) are thus responsible for managing a pandemic in coordination with related agencies such as the Swedish Civil Contingencies Agency (MSB).

The FOHM's Director-General, Johan Carlson, is responsible for Sweden's coronavirus strategy and gives advice to politicians at all levels (Bendjelloul & Lindqvist, 2020). Through instructions, the government has authorized the FOHM to issue guidelines for businesses and the public to contain the spread of any virus. It can issue regulations (*föreskrifter*) with legal sanctions or general advice (*allmänna råd*) without legal sanctions. Unlike laws, these do not require parliamentary approval. If a law must be changed during a pandemic, for instance to ban public gatherings, the agency issues a request (*hemställan*) to the government.

Director-general Carlson is supported by chief epidemiologist Anders Tegnell and other civil servants at the FOHM. The chief epidemiologist oversees the monitoring of contagious diseases in Sweden.[4]

The FOHM can convene the National Pandemic Group (NPG) to ensure coordination of the measures aimed at containing the pandemic.[5] The NPG is an informal structure consisting of representatives from all agencies involved in pandemic preparedness and management (FOHM, 2019).[6] The aim of the forum is to address potential overlap and to coordinate communication from and amongst the agencies (MSB and Socialstyrelsen, 2011, p. 51).

7.2.2   The Netherlands: Ministers as Crisis Manager

In the Netherlands, the Minister of Health, Welfare and Sport (hereafter, Minister of Health) is formally responsible for the management of a pandemic response. The prime minister can oversee crisis response tasks that are not directly related to health questions. This coordination takes place in meetings of the Ministerial group "Crisismanagement," which is chaired by the prime minister (NCTV, 2020).

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[4] It would thus be more logical to bring forward the Director General than the Tegnell at the press conferences and in media interviews (Olsson, 2020).

[5] During a pandemic, the FOHM collaborates closely with the 21 regional infection control physicians (*Smittskyddsläkare*). They are in charge of reporting the epidemic development in each region to the FOHM (MSB and Socialstyrelsen, 2011, p. 12).

[6] The agencies represented in NPG are the FOHM, the NBHW, MSB, the Medical Products Agency (MPA), Swedish Work Environment Authority (AV), Swedish Association of Local Authorities and Regions (SKR/SALAR), and the county administrative boards.

The Minister of Health benefits from the advice of experts, who are assembled in the so-called Outbreak Management Team (OMT). The OMT is formally convened by the National Institute for Public Health and Environment (RIVM) but operates independently. OMT members are doctors and researchers with university affiliations. Other experts may be invited to join OMT meetings and discuss topics from the point of view of their respective expertise (*Rijksinstituut voor Volksgezondheid en Milieu* [RIVM], 2020). The OMT is headed by Jaap van Dissel, a professor of internal medicine specialized in infectious diseases and head of the Center for Infectious Disease Control (CIb) (RIVM, 2011).

The OMT offers its advice to the Ministry of Health, in which issues are discussed collectively by representatives of local government and other departments (in the so-called BAO committee). The BAO considers whether the OMT advice is feasible from a political, societal, and administrative perspective. The BAO [Bestuurlijk afstemmingsoverleg] then advises the Minister of Health (RIVM, n.d.). The implementation of behavioral guidelines is in the hands of the 25 "safety regions" of the Netherlands (NCTV, 2020).

The OMT advice gained considerable stature and publicity during the first phase of the pandemic. Dutch prime minister Rutte often assured the public that he was acting on the basis of scientific advice, at one point saying that the OMT advisories had a "holy" status (Rijksoverheid, 2020d). In reality, the relationship between the OMT experts and the political crisis managers adhered to the crisis "hierarchy": experts offered advice, politicians made the decisions (Boin et al., 2020).

7.3   Six Critical Weeks

The experts did not miss or ignore the information about a new virus emerging in China. By the second week of January, they had the virus firmly on their radar. Experts from both countries were quick to start research on the new coronavirus. In Sweden, experts at the national reference laboratory (*Nationellt referenslaboratorium*, NRL) for parasitology began diagnosing the virus (FOHM, 2020b). In the Netherlands, the Erasmus Medical Centre started participating in international research in collaboration with the WHO (NOS, 2020b).

Key experts in both countries were remarkably quick to offer statements about the new virus. The first messages from the Swedish experts were positive and confident. On January 16, chief epidemiologist Anders Tegnell stated that for the coronavirus "to become a large outbreak, it is

required that the virus is good at spreading from human to human. That does not seem to be the case with this virus" (FOHM, 2020c). The chief expert moreover claimed that a new SARS-like epidemic was not likely (Alexandersson, 2020) and that the virus was less dangerous than the former coronaviruses of SARS and MERS (Höglund, 2020).

Experts in the Netherlands offered similar assessments, reminding the public that "there are no direct flights from Wuhan to the Netherlands", "the virus does not appear to be very contagious," and "we have protocols ready" (Nieuwenhuis & Van Zon, 2020; NOS, 2020a). On January 24, when the first corona case was reported in Europe, RIVM spokesperson Harald Wychgel stated that the risk of infections in the Netherlands was "very low" (Taha, 2020).

Chinese experts had a more alarming message for their international colleagues. In January, they confirmed that the virus was transmitted human-to-human (even though there was still uncertainty about how easily the virus was transmitted). The incubation period was estimated to vary between 3 and 14 days.

The experts of the Dutch Outbreak Management Team acted upon the scientific findings and advised the Minister of Health on January 27 to classify the new coronavirus an "A-disease" (an exclusive list of dangerous diseases such as Ebola, SARS, and Smallpox). The minister did so the same day (Jak, 2020). The Swedish experts issued the same request to their government on January 31. On February 1, the Swedish government classified the coronavirus an A-disease (FOHM, 2020d).

The A-status has legal implications in both countries. In the Netherlands, it places the response firmly in the hands of the Minister of Health, who receives far-reaching powers, and requires doctors and hospitals to report suspected cases (Jak, 2020). In Sweden, the A-disease status triggers the possibility for mandatory contact-tracing and reporting in accordance with the Communicable Disease Act. It gives authorities power to decide on quarantine measures and isolation of contagious individuals (FOHM, 2020d).

Nevertheless, experts still offered rather conservative assessments in public regarding the new and unknown threat faced by the public. Even after the arrival of the virus in Sweden on January 31, the FOHM and the government continued to downplay the risk of the virus spreading in Swedish society. The FOHM did not heighten its risk assessment from "very low" to "low" until three weeks into February (FOHM, 2020a). The government and experts were confident that Sweden was

well-prepared, even if the virus arrived. The government mimicked the messages sent by the experts. The shared view was that the new virus was not as dangerous as previous coronaviruses (Von Hall, 2020).

On February 1, 2020, the same day that the FOHM asked the WHO to clarify how the new coronavirus was transmitted (Runblom, 2020), the agency tweeted there was no scientific evidence that the virus spreads during the incubation period (*Folkhälsomyndigheten*, 2020a). The following day, however, the WHO stated that the virus could in fact transmit during the incubation period (the FOHM shared this clarification with the public) (*Folkhälsomyndigheten*, 2020b). On February 2, Sweden evacuated dozens of citizens from Wuhan, China. The FOHM advised people returning from China to be attentive to symptoms; quarantine was not deemed necessary.

Dutch experts communicated in similar vein. In mid-February 2020, the OMT chairman, Jaap van Dissel, gave his second technical briefing to members of parliament. During the briefing, Van Dissel explained that much about the coronavirus was still unknown. He confidently stated, though, that random testing of people without symptoms would be ineffective (Tweede Kamer der Staten-Generaal, 2020a). On February 21, Aura Timen, a member of the OMT, said that based on the available data, she did not think the virus would spread quickly throughout Europe (KNAW, 2020).

The WHO had classified the coronavirus a public health emergency of international concern as early as January 30 (BBC, 2020). Yet, not much happened in February. Neither of the countries started screening incoming travelers because experts argued it would be ineffective, nor were behavioral modifications suggested (FOHM, 2020c; Rijksoverheid, 2020e). Events like carnivals, professional soccer games, and pop concerts continued unabated.

On February 27, the first coronavirus case was reported in the Netherlands (NU, 2020). The day earlier, a second corona case was spotted in Sweden, almost a month after the first case had been reported (TT, 2020a). Yet experts and politicians in both Sweden and the Netherlands remained calm when they heard the news and stayed confident that they could control the situation. That would soon prove an illusion. The explosion of corona cases in northern Italy occurred during the Spring Break for many European countries. This synchronicity allowed for the virus to spread quickly throughout Europe.

Indeed, everything changed in March. The number of corona cases started to increase rapidly in both countries. On March 3, the number of cases in Sweden shot up to 79 (Brischetto, 2020). That same day, 23 corona cases were reported in the Netherlands (NOS, 2020c). The first Covid-19 patient died on March 6 in the Netherlands (NU, 2020). The first Covid-19 related death in Sweden occurred on March 11 (TT, 2020a).

On March 6, after receiving alarming messages from hospitals in the Dutch province of Noord-Brabant, Van Dissel said that "this is a wake-up call, a lot is eluding the medical radar" (Hoedeman & Klaassen, 2020). That weekend, testing of staff in several hospitals in Noord-Brabant showed that 4% of the medical staff was infected. On March 10, Van Dissel warned parliamentarians that the healthcare system could soon be overwhelmed, and new cases might no longer be traceable (Tweede Kamer der Staten-Generaal, 2020b). Surprisingly, on March 13, Van Dissel reassured people in an interview with the daily newspaper *de Volkskrant* that it was safe to visit bars and restaurants (Van den Dool, 2020). The bars and restaurants were closed two days later.

In Sweden, on March 10, the FOHM heightened its risk assessment for domestic spread to "very high." The following day, the first corona death was reported and the first measure (a ban on events with more than 500 guests) was put in place (TT, 2020a). On March 12, Swedish authorities quit contact tracing as, according to chief epidemiologist Tegnell, this was "now meaningless" (Expressen TV, 2020). Sweden changed its course and no longer strictly followed the WHO protocols. Rather than attempting a suppression approach, as most European countries did, Sweden opted for a mitigation approach that sought to flatten but not eliminate the curve of infections.[7]

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[7] Many European countries opted for a suppression approach rather than a mitigation approach after the Imperial College London published Corona Report 9. The mitigation approach aims at slowing down the spread of the virus yet not necessarily stopping it completely. The suppression approach aims at reducing the growth of the virus as much as possible and keeping it at a low level. The report created quite a fuss because it stated that if the UK government were to continue its mitigation approach, hundreds of thousands of people would die because of Covid-19. A challenge of the suppression approach is, however, that it must be maintained until a vaccine is available (Ferguson et al., 2020).

7.4 Blindsided: Explaining the Slow Response in the Netherlands and Sweden

In both countries, top health experts repeatedly reassured politicians and the public that everything was under control. Even though much about the virus was unknown, experts suggested that they understood the virus and its mode of propagation. Perhaps most worryingly, they were slow to understand that they had been wrong about the virus for quite some time—thus delaying the response.

How is it possible that top experts, highly qualified and experienced, were slow to recognize an announced pandemic? We offer four possible explanations for the position of these experts, garnered from previous research as well as evidence from this case.

7.4.1 "It Won't Happen Here"

For decades, a global pandemic has featured on virtually every list of possible future crises. The arrival of a new, deadly flu pandemic seemed just a matter of time. In recent years, modern societies have experienced new and deadly diseases (AIDS, SARS, MERS, bird flu). After the SARS outbreak in 2003, the European Center for Disease Prevention and Control (ECDC) was established (and located in Stockholm). The EU continued to develop its Early Warning Systems for health (Guglielmetti, Coulombier, Thinus, Van Loock, & Schreck, 2006). It is thus no surprise that both Sweden and the Netherlands had experts ready to advise—or in the case of Sweden, to manage—the decision-making process aimed at formulating a pandemic response.

Remarkably, however, the experts did not seem to believe that the coronavirus would wreak havoc in their own country. They learned about the new virus and dutifully began to study it. They agreed that it was a dangerous disease and classified it an A-disease. Nevertheless, they did not appear to accept the reality of a contagious virus crossing borders in a borderless world. A few months into the disaster, several experts in the Netherlands explained how they had underestimated the virus:

> We never experienced this before, it is chilling … When we saw the first data from China, we said to each other: this is weird, this cannot be. The speed of development surprised us … [We thought:] This looks like a measurement error—Jacco Wallinga, head of the Infectious Disease Modelling unit at the RIVM. (Boin et al., 2020, p. 32)

> I, too, saw the images from China. And I thought "Well, it will not be that bad", and then it reached Italy and then I saw the images again … You see it, but you do not feel it. Only when you feel it, you are aware of it—Diederik Gommers, Professor Intensive Care Medicine at Erasmus Medical Centre. (Boin et al., 2020, p. 32)

> On Friday February 21, I spoke at a symposium in Amsterdam. I had analyzed the situation in Europe: in Italy they had three corona cases, people from China, who had been in the hospital since the end of January. Nothing else. We had two groups of infections in Europe: one in France, one in Germany. So, I said during my speech that the risks were not that high. Later on, I was heavily attacked, I think rightly so; I was perhaps overconfident—Aura Timen, head of the National Coordination Centre for Communicable Disease Control at the RIVM. (Boin et al., 2020, p. 40)

In Sweden, experts were convinced that they knew how to handle a pandemic. Sweden would impose measures in a step-wise, incremental fashion in order to learn from experience which measures had the best effects. The experts soon found out that it was harder than they had envisioned. Chief epidemiologist Tegnell admitted on March 8 that he initially thought China would contain the virus and that it would not spread outside of China (Nordström, 2020). About one month into the crisis, Tegnell stated that his agency should have understood that the death rate was going to be higher than anticipated (Torkelsson, 2020). In June, Tegnell turned self-critical and proclaimed "If we would encounter the same disease, with the knowledge that we have about it today, I think we would end up doing something between what Sweden did and what the rest of the world did" (Öhman & Rosén, 2020).

A few months into the pandemic, experts who had previously supported the Swedish strategy in the face of early criticism, turned critical themselves:

> If we were to do this again, I think we would have imposed tougher measures in the beginning. We should have known that we lacked sufficient preparedness in our health and elderly care. A lockdown would have given us the chance to prepare, think things through, and curb the spread of infection to a maximum. But even with the benefit of hindsight, I don't know if I would have been wiser than our leadership was.
> —Annika Linde, former chief epidemiologist of Sweden (Svahn, 2020)

> What surprised me the most was how fast everything went. From individual cases to societal spread, from intensive contact tracing to another strategy

and then back to intensive contact tracing. If you look back, everything went really fast.—Maria Löfgren, infection control physician of Region Halland. (Trysell, 2020)

What surprised me the most was the initial development after the first reports from China on January 1, and the speed to which the contagion spread globally.—Per Follin, infection control physician of Region Stockholm. (Trysell, 2020)

7.4.2   *"Just Following the Science"*

During the early stages of Covid-19, experts in both Sweden and the Netherlands closely adhered to the paradigm and protocols of the WHO on the management of a pandemic. The protocols were quite limited in nature and had shaky foundations. The available scientific literature at the time offered little evidence upon which to base WHO prescriptions (Aledort, Lurie, Wasserman, & Bozette, 2007; WHO Writing Group, 2006). The WHO prescribed a set of simple behavioral guidelines that were thought to be sufficient for an effective pandemic response. These guidelines pertained to personal hygiene and social distancing in combination with the isolation of infected people ("stay home if you have symptoms").

Swedish and Dutch experts followed the WHO guidelines and advised accordingly. They repeatedly emphasized the importance of washing hands and sneezing in elbows. The next step—not shaking hands—was the epitome of governmental intervention, the highest ladder on the escalation ladder (according to WHO wisdom at the time).

Another WHO prescription was to test patients and trace the contacts of people who had contracted the virus, in order to map the spread of the virus and identify new patients. Once the identification of patients and tracing their contacts was no longer possible, and the virus could no longer be contained, the WHO prescribed that so-called non-pharmaceutical interventions (NPIs) should be considered. On March 7, the WHO recommended measures to avoid crowding and mass gatherings. It suggested that countries had to "define rationale and criteria for use of social distancing measures such as (…) school closure" (WHO, 2020b, p. 2).

In the literature, as experts surely knew, there was little evidence for the effectiveness of social distancing, closing shops, schools, and restaurants. There was also little evidence suggesting that large-scale events should be

canceled (WHO Writing Group, 2006). In fact, in the words of the WHO (2006, p. 9), even "the effectiveness of personal hygiene is plausible but not evidence-based."

This placed experts in a quandary. Should they stick with the science or follow unproven guidelines? In Sweden, the FOHM issued a request to the Swedish government to prohibit public gatherings on March 11. Swedish experts did not support the idea of school closure. But the government did not want to completely forego this policy option, should the experts change their mind. For that purpose, on March 19, the Parliament passed a new bill that empowered the government to temporarily close schools. Experts maintained there was no scientific evidence to support the idea that closing schools would reduce the risk of infection spread (FOHM, 2020e). All schools, except upper secondary schools and universities, stayed open. Sweden stuck with an approach founded on evidence-based knowledge.

On March 12, Dutch Prime Minister Rutte announced the first measures. People were recommended to work from home as much as possible, universities and colleges were told to provide online classes, and events of more than 100 guests were prohibited (Rijksoverheid, 2020b). On March 15, it was announced that bars, restaurants, gyms, sports clubs and schools had to close (Rijksoverheid, 2020c). On March 23, all events were canceled, social gatherings were only allowed with a maximum of three people while adhering to social distancing rules, and contact professions (hairdressers, nail salons, etc.) were told to close (Rijksoverheid, 2020f). Some of these measures (closing schools, bars, and restaurants) were not recommended by the OMT scientists. The political crisis managers, however, overrode their advisors.

7.4.3   *"The Public Won't Adhere to Extreme Measures"*

Crisis managers sometimes base their decisions on misinformed beliefs. One persistent belief, for instance, is that the public will panic if it learns about the extent and potential impact of an impending threat. Another one is the assumption that people in a disaster setting will riot and loot.[8] International experts seemed to believe that non-pharmaceutical interventions (social distancing, school closures, etc.) were "likely to be ineffective,

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[8] There is extensive evidence showing that these beliefs are not true (see, for instance, Quarantelli, 1988).

infeasible or unacceptable to the public" (Aledort et al., 2007, p. 208). As we now know, there is no truth to that belief (people and businesses everywhere voluntarily adhered to strict lockdown regimes).

In the early phase of the emerging threat, Dutch experts were convinced that far-reaching measures might reach too far. For instance, the experts did not consider the termination of "*carnaval*" festivities—a traditional event in the southern Dutch provinces, which subsequently suffered terribly from the first onslaught of the virus. Van Dissel later explained that "he would not have been able to sell it" if he had proposed to cancel the festivities (Hoedeman & Klaassen, 2020). The OMT experts would experience more difficulties in "reading" the public mood, prompting the creation of a behavioral assessment unit to meet this challenge.

Sweden adhered to the notion that extreme, long-term measures might be ineffective, if not counterproductive. The FOHM settled on less extreme restrictions, designed in such a way that they could be followed by the public for an extended period, since the agency argued that "the virus will remain in society for a long time" (FOHM, n.d.). The Swedish strategy left much discretion to individual Swedes. Sweden thus followed the responsibility principle whereby authorities trust the public to adhere to their general advice. Similarly, the public trusts the authorities and displays a high degree of voluntary compliance. Nonetheless, when people did not follow the governmental recommendations, the authorities did not hesitate to toughen the measures. In some cases, the recommendations became laws (for instance, the national visit ban on nursing homes). The government also threatened to close restaurants if they did not follow the regulations imposed on them (Malm, 2020). These were adopted, however, quite late after the onset of the pandemic.

7.4.4   *"We Are Well Prepared"*

In the absence of a vaccine, preparedness had to rely on strong organization. An effective response, from this perspective, is based on the identification of the "index patient"—the first known patient in a country. Through tracking the contacts of the index patient, other infected people can be "chased down" and placed in quarantine. This tracking and tracing of suspected cases is no rocket science, but it requires substantial resources, well-trained personnel, and excellent managerial skills.

On paper, both countries were well prepared to perform this task. The Dutch had plans and organizational units in place. In 2005, the Center for

Infectious Disease Control (CIb) was created. This center was established to enhance the preparedness of the country in the face of the rising threat of new infectious diseases (RIVM, 2015). Over the years, Dutch preparedness was tested by the emergence of various new diseases. The available plans and organizational structure performed well in response to these health threats. The SARS and Mexican Flu outbreaks, for example, were detected early on and the situation was quickly brought under control (Boin et al., 2020). These successes inspired deep confidence amongst Dutch experts and politicians in their state of preparedness.

Unfortunately, this pandemic was different. Due to the long incubation time and the many asymptomatic cases, there were many index patients (until the first index patient was finally identified).[9] In addition, the capacity for testing suspected cases was limited. When the first corona case was reported in the Netherlands, the OMT stated that the best thing to do was to contain the virus by actively tracing patients and their contacts (Rijksoverheid, 2020g). However, the responsible organizational units—the local health units—were not prepared for the task. On March 10, the head of one of the local health units said that her employees were very busy and that "the work pressure is sky high" (Tweede Kamer der Staten-Generaal, 2020b). On March 12, Van Dissel told the press that it was impossible to trace all new corona cases. The Dutch government gave up on mass testing and contact tracing (Rijksoverheid, 2020b).

The Swedes also had plans and organizational units in place to handle imported cases and to perform contact tracing. The Swedish authorities began conducting active contact tracing after the first case was discovered on January 31. For almost a month, the number of corona cases reported in Sweden remained in single digits. On February 26, when Gothenburg experienced its first case, Anders Tegnell claimed that "our current strategy works—to inform people who have been in the affected areas who get symptoms and to offer them quick treatment" (FOHM, 2020f). By March 12, however, the number of cases had reached such high levels that Tegnell admitted that contract tracing was impossible and said people in the region of Stockholm were no longer going to be tested (Expressen TV, 2020). Sweden's testing capacity proved to be insufficient. On March 22, the FOHM announced that it no longer considered testing other than in hospitals (Fall, Kämpe, Fall, Larsson, & Bergh, 2020).

[9] According to the RIVM, the first (unofficial) corona cases were already in the Netherlands in January (Algemeen Dagblad, 2020).

7.5   Recognizing When a Creeping Crisis Comes to a Head: Lessons from Covid-19

As seen in the case of Covid-19, the move from watching an unfolding crisis to preparing for its onslaught is mediated by the expert-politician interface. That interface can shape how societies prepare for impending crises, from the moment those crises begin to "creep."

The world of science is ruled by methods of validation, which aim to separate mere beliefs from societal patterns and laws of nature. The political arena revolves around value conflicts that must be abridged through negotiation and mechanisms of delegating and monitoring power. Politicians often ask scientists for advice, which they use as they see fit. Scientists bemoan that policy is not evidence based, but they rarely refrain from offering their insights when asked.

When in crisis, politicians tend to pay more attention to what scientists have to say. Suddenly they want to know what the basis is for their scientific insights. Scientists are hard pressed to provide advice on which much may depend. They move into positions that are as close to decision-making power as non-elected officials may find themselves. The Covid-19 crisis was no exception. In the Netherlands, as in other countries, scientists who had labored anonymously for years suddenly shared the stage with political crisis managers. In Sweden, scientists pretty much *ran* the response, placing politicians in the back benches of the crisis management arena.

So, what have we learned? Did the relationship between scientists and decision-makers help the latter to declare this creeping crisis a full-blown crisis, in good time? Should the relationship between policymakers and scientists be reconsidered?

To start, scientists clearly did not call Covid-19 for what it was: one of the biggest crises to hit the world since World War II. Experts followed the science, which, in hindsight, helps to understand why it took so long to declare this a full crisis. Well into the crisis, scientists "missed" the emerging crisis in the nursing homes (a creeping crisis within a creeping crisis). As we write this, in late 2020, it appears that scientists failed to call the "second wave"—a resurgence of Covid-19. These observations are, of course, disconcerting.

We identified an interesting divergence between the two countries. In the Netherlands, politicians closely followed the assessments of scientists during the incubation phase. But when it became abundantly clear that the experts had misread the threat, the politicians took over. Belatedly but

swiftly, they took measures that experts had waved off as not supported by scientific evidence.

In Sweden, science remained in the driving seat. Swedish scientists stuck with the evidence-based regime that their Dutch colleagues had prescribed to their political headmasters. Put differently, Swedish politicians remained true to the designed crisis management principles and practices. The Swedish approach, as it subsequently came to be known, attracted world-wide attention. It was nothing but the regime that scientists had proposed in international journals and had agreed upon during international conferences. Remarkably, Sweden was the only country that stuck with science (Milne, 2020). Whether the Swedes were right to do so will be the subject of much future research (it will take some time before the final assessment comes in). Sweden has become a test lab for pandemic management; that much is clear.

It also seems clear that the advisory role of scientists should not be abandoned. It is hard to see how a pandemic could be managed without the insights of science. But our analysis of two countries in which scientists play a major role in pandemic management offers a few pointers for further discussion and analysis. These points are relevant in all creeping crises. Three points in particular merit attention:

Scientists advise, politicians decide—or not? The role of scientists seems circumscribed in modern conceptions of democracy. While scientists may have critical knowledge and insights regarding strategy and decisions, democracies expect politicians to make those decisions. They are elected and they are responsible. Is there reason to reconsider this maxim?

Scientists should stick with the science. The scientists disappointed in the initial phase of the Covid-19 crisis. They did so because they stuck with the scientific paradigm. It seems logical that scientists should stick with the science. If the science is limited, so be it. Scientists should admit ignorance and hand the decision back to politicians. They may start working to address the uncertainty by conducting research.

Who should declare a crisis? The calling of the pandemic was in the hands of politicians, but they did so based on scientific assessments. Politicians dutifully categorized Covid-19 an A-disease when scientists advised them to do so. But scientists failed to persuade politicians of the urgency of the threat and the need to act. The reason is simple: they did not believe it was necessary. This evokes the question: who should declare a crisis and based on what evidence?

References

Aledort, J., Lurie, N., Wasserman, J., & Bozette, S. A. (2007). Non-pharmaceutical public health interventions for pandemic influenza: An evaluation of the evidence base. *BMC Public Health, 7*(208), 1–9. https://doi.org/10.1186/1471-2458-7-208

Alexandersson, M. (2020, January 16). Epidemiolog: "Ny sarsepidemi osannolik". *Svenska Dagbladet*. Retrieved November 19, 2020, from https://www.svd.se/epidemiolog-ny-sarsepidemi-osannolik

Algemeen Dagblad. (2020, June 4). Corona was al in januari in Nederland. *Algemeen Dagblad*. Retrieved November 19, 2020, from https://www.ad.nl/binnenland/corona-was-al-in-januari-in-nederland~a27ef0fb/

BBC. (2020, January 31). Coronavirus declared global health emergency by WHO. BBC. Retrieved November 19, 2020, from https://www.bbc.com/news/world-51318246

Becker, P., & Bynander, F. (2017). Chapter 4: The system for crisis management in Sweden: Collaborative, conformist, contradictory. In C. N. Madu & C.-H. Kuei (Eds.), *Handbook of disaster risk reduction & management* (pp. 69–95). New Jersey: World Scientific Press & Imperial College Press. https://doi.org/10.1142/9789813207950_0004

Bendjelloul, J., & Lindqvist, J. (2020, April 5). Folkhälsomyndighetens Johan Carlson: Det är klart att det kan kännas lite skrämmande. *Dagens Nyheter*. Retrieved November 19, 2020, from https://www.dn.se/nyheter/sverige/folkhalsomyndighetens-johan-carlson-det-ar-klart-att-det-kan-kannas-lite-skrammande/

Boin, A., Overdijk, W., Van der Ham, C., Hendriks, J., & Sloof, D. (2020). *Covid-19: Een analyse van de nationale crisisrespons*. Leiden: The Crisis University Press.

Brischetto, L. (2020, March 3). Inga reserestriktioner till Italien—trots stigande dödstal. *SVT Nyheter*. Retrieved November 19, 2020, from https://www.svt.se/nyheter/inga-reserestriktioner-till-italien-trots-stigande-dodstal

Buckley, C., & Myers, S. L. (2020, February 1). As new Coronavirus spread, China's old habits delayed fight. *The New York Times*. Retrieved November 19, 2020, from https://www.nytimes.com/2020/02/01/world/asia/china-coronavirus.html.

DN-TT. (2020, March 25). Forskare i upprop till regeringen. Dagens Nyheter. Retrieved November 19, 2020, from https://www.dn.se/nyheter/sverige/forskare-i-upprop-till-regeringen/

ECDC [European Centre for Disease Prevention and Control]. (2020, February 13). *Risk assessment: Outbreak of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2): increased transmission beyond China—fourth update*. Retrieved November 19, 2020, from https://www.ecdc.europa.eu/en/publications-data/outbreak-severe-acute-respiratory-syndrome-coronavirus-2-sars-cov-2-increased

Expressen TV. (2020, March 12). Statsepidemiologen Anders Tegnell: 'Meningslöst med smittspårning nu' [Interview]. *Expressen TV*. Retrieved November 19, 2020, from https://www.expressen.se/tv/nyheter/coronaviruset/statsepidemiologen-anders-tegnell-meningslost-med-smittsparning-nu/

Fall, T., Kämpe, O., Fall, K., Larsson, N-G., & J. Bergh. (2020, March 22). DN Debatt: Akut att Sverige testar fler—forskningslabb kan hjälpa till. *Dagens Nyheter*. Retrieved November 19, 2020, from https://www.dn.se/debatt/akut-att-sverige-testar-fler-forskningslabb-kan-hjalpa-till/

Ferguson, N., Laydon, D., Nedjati-Gilani, G., Imai, N., Ainslie, K., Baguelin, M., … Ghani, A. (2020). *Report 9: Impact of non-pharmaceutical interventions (NPIs) to reduce Covid-19 mortality and healthcare demand*. Imperial College London, 10, 77482. https://doi.org/10.25561/77482

FOHM [Folkhälsomyndigheten]. (2019). Pandemiberedskap. Hur vi förbereder oss—ett kunskapsunderlag. Folk 19074-1. Retrieved from https://www.folkhalsomyndigheten.se/contentassets/b6cce03c4d0e4e7ca3c9841b-d96e6b3a/pandemiberedskap-hur-vi-forbereder-oss-19074-1.pdf

FOHM [Folkhälsomyndigheten]. (2020a, March 6). Pressträff om den nationella pandemigruppens möte. Retrieved November 19, 2020, from https://www.folkhalsomyndigheten.se/nyheter-och-press/nyhetsarkiv/2020/mars/presstraff-om-den-nationella-pandemigruppens-mote/

FOHM [Folkhälsomyndigheten]. (2020b, February 13). Utökad kapacitet för diagnostik av det nya coronaviruset. Retrieved November 19, 2020, from https://www.folkhalsomyndigheten.se/nyheter-och-press/nyhetsarkiv/2020/februari/utokad-kapacitet-for-diagnostik-av-det-nya-coronaviruset/

FOHM [Folkhälsomyndigheten]. (2020c, January 16). Nytt coronavirus upptäckt i Kina. Retrieved November 19, 2020, from https://www.folkhalsomyndigheten.se/nyheter-och-press/nyhetsarkiv/2020/januari/nytt-coronavirus-upptackt-i-kina/

FOHM [Folkhälsomyndigheten]. (2020d, January 31). Folkhälsomyndigheten föreslår att nytt coronavirus tas upp i smittskyddslagen. Retrieved November 19, 2020, from https://www.folkhalsomyndigheten.se/nyheter-och-press/nyhetsarkiv/2020/januari/folkhalsomyndigheten-foreslar-att-nytt-coronavirus-tas-upp-i-smittskyddslagen/

FOHM [Folkhälsomyndigheten]. (2020e, March 1). Ingen effektiv åtgärd att låta friska skolbarn stanna hemma. Retrieved November 19, 2020, from https://www.folkhalsomyndigheten.se/nyheter-och-press/nyhetsarkiv/2020/mars/avstangning-av-friska-skolbarn-ingen-effektiv-atgard/

FOHM [Folkhälsomyndigheten]. (2020f, February 26). Nytt bekräftat fall av covid-19. Retrieved November 19, 2020, from https://www.folkhalsomyndigheten.se/nyheter-och-press/nyhetsarkiv/2020/februari/nytt-bekraftat-fall-av-covid-19/

FOHM [Folkhälsomyndigheten]. (n.d.). Folkhälsomyndighetens arbete med covid-19. Retrieved November 19, 2020, from https://www.folkhalsomyndigheten.se/smittskydd-beredskap/utbrott/aktuella-utbrott/covid-19/folkhalsomyndighetens-arbete-med-covid-19/

Folkhälsomyndigheten [@Folkhalsomynd] (2020a, February 1). *Vi får många frågor om coronaviruset smittar under inkubationstiden. Vår bedömning är att det smittar när patenten är sjuk och vid insjuknandet. De källor som hävdar att det skulle smitta under inkubationstiden saknar vetenskapligt stöd. Läs mer i vår FAQ* [Tweet]. Twitter. Retrieved from https://twitter.com/Folkhalsomynd/status/1223587292759101441

Folkhälsomyndigheten [@Folkhalsomynd] (2020b, February 2). WHO klargör*: Sällsynt att symtomfri smittar vidare det nya coronaviruset. Det smittar när patienten är sjuk och i samband med insjuknandet. Läs våra frågor och svar* [Tweet]. Twitter. Retrieved from https://twitter.com/Folkhalsomynd/status/1223888824411074560

Guglielmetti, P., Coulombier, D., Thinus, G., Van Loock, F., & Schreck, S. (2006). The early warning and response system for communicable disease in the EU: An overview from 1999 to 2005. *Eurosurveillance, 11*(12). https://doi.org/10.2807/esm.11.12.00666-en

Hoedeman, J., & Klaassen, N. (2020, May 2). 'Dat kutvirus', verzuchtte de premier. Reconstructie van een wanhopige strijd. *Het Parool*. Retrieved November 19, 2020, from https://www.parool.nl/nieuws/dat-kutvirus-verzuchtte-de-premier-reconstructie-van-een-wanhopige-strijd~b46c25ec/

Höglund, J. (2020, January 16). Nytt lungvirus spritt till Japan—höjd beredskap även i Sverige. *Göteborgs-Posten*. Retrieved November 19, 2020, from https://www.gp.se/nyheter/världen/nytt-lungvirus-spritt-till-japan-höjd-beredskap-även-i-sverige-1.22694993

Jak, T. (2020, January 28). Wuhan-virus is in Nederland nu een A-ziekte, maar een besmetting is hier nog niet geconstateerd. *Trouw*. Retrieved November 19, 2020, from https://www.trouw.nl/nieuws/wuhan-virus-is-in-nederland-nu-een-a-ziekte-maar-een-besmetting-is-hier-nog-niet-geconstateerd~b7c2d78c/

Kester, J. (2020, March 17). Groot vertrouwen in Rutte én zijn aanpak van het coronavirus na toespraak. *EenVandaag*. Retrieved November 19, 2020, from https://eenvandaag.avrotros.nl/panels/opiniepanel/alle-uitslagen/item/groot-vertrouwen-in-rutte-en-zijn-aanpak-van-het-coronavirus-na-toespraak/

KNAW [De KNAW]. (2020, May 19). *KNAW webinar: het nieuwe coronavirus* [video]. YouTube. Retrieved November 19, 2020, from https://www.youtube.com/watch?v=o5fhT0NVfe4

Lawler, D. (2020, March 24). Timeline: How Italy's coronavirus crisis became the world's deadliest. *Axios*. Retrieved November 19, 2020, from https://www.axios.com/italy-coronavirus-timeline-lockdown-deaths-cases-2adb0fc7-6ab5-4b7c-9a55-bc6897494dc6.html

Lönegård, C. (2020, February 28). M-ledarens kritik: "Känns förvirrande". *Svenska Dagbladet*. Retrieved November 19, 2020, from https://www.svd.se/m-ledarens-coronakritik-historia-av-att-reagera-sent

Malm, S. (2020, April 24). Hotet mot krögarna—när tillsynen ökar. *Expressen*. Retrieved November 19, 2020, from https://www.expressen.se/nyheter/coronaviruset/just-nu-presstraff-med-damberg-om-coronaviruset/

Milne, R. (2020, October 16). Sweden's solitary voice in a crisis. *Financial Times*, p. 17.

MSB & Socialstyrelsen. (2011). *Influensa A (H1N1) 2009: utvärdering av förbere-delser och hantering av pandemin*. Retrieved from https://www-edit.msb.se/siteassets/dokument/om-msb/vart-uppdrag/regeringsuppdrag/2011/110201-hantering-av-pandemin-2009.pdf

NCTV. (2020, March 9). *Nationale crisisstructuur actief voor coronavirus*. Retrieved November 19, 2020, from https://www.nctv.nl/actueel/nieuws/2020/03/09/nationale-crisisstructuur-actief-voor-coronavirus

Nieuwenhuis, M., & Van Zon, H. (2020, January 18). RIVM 'alert op' mysterieus Chinees virus: 'mogelijk 1700 besmettingen'. *Algemeen Dagblad*. Retrieved November 19, 2020, from https://www.ad.nl/buitenland/rivm-alert-op-mysterieus-chinees-virus-mogelijk-1700-besmettingen~ae309bc6/

Nordström, I. (2020, March 7). Tegnell medger miss i virus-bedömning: "Trodde att Kina skulle få stopp på det". *Omni*. Retrieved November 19, 2020, from https://omni.se/tegnell-medger-miss-i-virusbedomning-trodde-att-kina-skulle-fa-stopp-pa-det/a/pLkM9E

NOS. (2020a, January 22). China meldt ruim 400 besmettingen met coronavirus, negen doden. *NOS*. Retrieved November 19, 2020, from https://nos.nl/artikel/2319660-china-meldt-ruim-400-besmettingen-met-coronavirus-negen-doden.html

NOS. (2020b, January 17). Chinese coronavirus niet in Europa, maar Erasmus MC is er toch druk mee. *NOS*. Retrieved November 19, 2020, from https://nos.nl/artikel/2318973-chinese-coronavirus-niet-in-europa-maar-erasmus-mc-is-er-toch-druk-mee.html

NOS. (2020c, March 3). Corona-overzicht: weer nieuwe besmettingen, 'reis liever niet naar Noord-Italië'. *NOS*. Retrieved November 19, 2020, from https://nos.nl/artikel/2325692-corona-overzicht-weer-nieuwe-besmettingen-reis-liever-niet-naar-noord-italie.html

Novus. (2020, April 20). Coronastatus 0420 [graphic data]. *Novus*. Retrieved from https://novus.se/coronastatus-0420-2/

NU.nl (2020, March 27). Tijdlijn: Het coronavirus in Nederland. *NU.nl* Retrieved from https://www.nu.nl/coronavirus/6040831/tijdlijn-het-coronavirus-in-nederland.html

Öhman, D., & Rosén, E. (2020, June 3). Tegnell: Fler åtgärder hade behövts. *Sveriges Radio*. Retrieved November 19, 2020, from https://sverigesradio.se/sida/artikel.aspx?artikel=7487188&programid=83

Olsson, S. (2020, April 9). Olsson: Statsepidemiologen lyder under generaldirektören. *Nya Wermlands-Tidningen*. Retrieved November 19, 2020, from https://www.nwt.se/2020/04/09/olsson-statsepidemiologen-lyder-under-generaldirektoren/

Oscarsson, M. (2020, March 19). KD: Statens hantering av corona måste granskas. *Expressen*. Retrieved November 19, 2020, from https://www.expressen.se/debatt/kd-statens-hantering-av-corona-maste-granskas/

Pierre, J. (2020). Nudges against pandemics: Sweden's Covid-19 containment strategy in perspective. *Policy and Society, 39*(3), 478–493. https://doi.org/10.1080/14494035.2020.1783787

Quarantelli, E. L. (1988). Disaster crisis management: A summary of research findings. *Journal of Management Studies, 25*(4), 373–385. https://doi.org/10.1111/j.1467-6486.1988.tb00043.x

Rijksoverheid. (2020a, March 9). *Letterlijke tekst persconferentie minister-president Mark Rutte en directeur Jaap van Dissel (Centrum Infectieziektebestrijding) na afloop van crisisberaad kabinet* [Speech]. Retrieved November 19, 2020, from https://www.rijksoverheid.nl/onderwerpen/coronavirus-covid-19/documenten/mediateksten/2020/03/09/letterlijke-tekst-persconferentie-minister-president-mark-rutte-en-directeur-jaap-van-dissel-rivm-na-afloop-van-crisisberaad-kabinet

Rijksoverheid. (2020b, March 12). *Nieuwe maatregelen tegen verspreiding coronavirus in Nederland*. Retrieved November 19, 2020, from https://www.rijksoverheid.nl/actueel/nieuws/2020/03/12/nieuwe-maatregelen-tegen-verspreiding-coronavirus-in-nederland

Rijksoverheid. (2020c, March 15). *Letterlijke tekst persconferentie ministers Bruins en Slob over aanvullende maatregelen coronavirus* [Statement]. Retrieved November 19, 2020, from https://www.rijksoverheid.nl/documenten/mediateksten/2020/03/15/persconferentie-minister-bruins-en-slob-over-aanvullende-maatregelen-coronavirus

Rijksoverheid. (2020d, April 7). *Letterlijke tekst persconferentie minister-president Rutte en minister De Jonge na afloop van crisisberaad kabinet (17-4-2020)* [Statement]. Retrieved November 19, 2020, from https://www.rijksoverheid.nl/documenten/mediateksten/2020/04/07/letterlijke-tekst-persconferentie-minister-president-rutte-en-minister-de-jonge-na-afloop-van-crisisberaad-kabinet

Rijksoverheid. (2020e, January 27). *Advies situatie rondom de uitbraak met het nieuwe coronavirus vanuit Wuhan* [Letter]. Retrieved November 19, 2020, from https://www.rijksoverheid.nl/documenten/brieven/2020/01/27/advies-nav-omt-2019-ncov-wuhan

Rijksoverheid. (2020f, March 24). *Aanvullende maatregelen 23 maart*. Retrieved November 19, 2020, from https://www.rijksoverheid.nl/actueel/nieuws/2020/03/24/aanvullende-maatregelen-23-maart

Rijksoverheid. (2020g, February 28). *Brief over advies van Outbreak Management Team over Covid-19* [Letter]. Retrieved November 19, 2020, from https://www.rijksoverheid.nl/documenten/brieven/2020/02/28/brief-over-advies-van-outbreak-management-team-over-covid-19

RIVM [Rijksinstituut voor Volksgezondheid en Milieu]. (2011, September 21). *Prof. J.T. (Jaap) van Dissel.* Retrieved September 14, 2020, from https://www.rivm.nl/en/about-rivm/knowledge-and-expertise/experts-and-expertise/prof-j-t-jaap-van-dissel

RIVM [Rijksinstituut voor Volksgezondheid en Milieu]. (2015, June 11). *Centrum voor Infectieziektebestrijding bestaat 10 jaar.* Retrieved September 14, 2020, from https://www.rivm.nl/nieuws/centrum-voor-infectieziektebestrijding-bestaat-10-jaar

RIVM [Rijksinstituut voor Volksgezondheid en Milieu]. (2020, September 2). *Outbreak Management Team (OMT).* Retrieved September 14, 2020, from https://www.rivm.nl/coronavirus-covid-19/omt#:~:text=De%20vaste%20OMT%2Dleden%20zijn,Microbiologie%20(NVMM)%20en%20het%20Landelijk

RIVM [Rijksinstituut voor Volksgezondheid en Milieu]. (n.d.). Folder landelijke advisering bij infectieziektedreigingen en -crisis. Retrieved September 14, 2020, from https://www.rivm.nl/folder-landelijke-advisering-bij-infectieziektedreigingen-en-crises

Runblom, K. (2020, February 1). Uppmaningen till WHO: Förtydliga hur viruset smittar. *Sveriges Radio.* Retrieved November 19, 2020, from https://sveriges-radio.se/sida/artikel.aspx?programid=83&artikel=7399273

Rutten, R. (2020, April 1). Wilders en Baudet steunen het kabinet met tegenzin. *NRC Handelsblad.* Retrieved November 19, 2020, from https://www.nrc.nl/nieuws/2020/04/01/wilders-en-baudet-steunen-het-kabinet-met-tegenzin-a3995648

Spiteri, G., Fielding, J., Diercke, M., Campese, C., Enouf, V. Gaymard, A. … Ciancio, B.C. (2020). First cases of coronavirus disease 2019 (Covid-19) in the WHO European Region, 24 January to 21 February 2020. *Eurosurveillance, 25*(9). https://doi.org/10.2807/1560-7917.ES.2020.25.9.2000178

Svahn, C. (2020, May 19). Annika Linde: En månads stängning hade gett oss tid. *Dagens Nyheter.* Retrieved November 19, 2020, from https://www.dn.se/nyheter/sverige/annika-linde-en-manads-stangning-hade-gett-oss-tid/

Taha, N. (2020, January 24). Dit doet Nederland als het coronavirus hier opduikt. *Algemeen Dagblad.* Retrieved November 19, 2020, from https://www.ad.nl/binnenland/dit-doet-nederland-als-het-coronavirus-hier-opduikt~aab5d822/

Torkelsson, A-C. (2020, April 24). Folkhälsomyndigheten har underskattat dödssiffrorna. *Omni.* Retrieved November 19, 2020, from https://omni.se/folkhalsomyndigheten-har-underskattat-dodssiffrorna/a/4qe56E

Trysell, K. (2020, September 9). 21 smittskyddsläkare om coronapandemin. *Läkartidningen*. Retrieved November 19, 2020, from https://lakartidningen.se/aktuellt/nyheter/2020/09/21-smittskyddslakare-om-coronapandemin/

TT. (2020a, April 5). Detta har hänt: Sverige under coronakrisen—Dag för dag. *Dagens Industri*. Retrieved November 19, 2020, from https://www.di.se/nyheter/detta-har-hant-sverige-under-coronakrisen-dag-for-dag/

TT. (2020b, January 31). Smittade kvinnan isolerade sig i hemmet. Aftonbladet. Retrieved November 19, 2020, from https://www.aftonbladet.se/nyheter/a/BRBKAe/smittade-kvinnan-isolerade-sig-i-hemmet

Tweede Kamer der Staten-Generaal. (2020a). *Verslag van een technische briefing, gehouden op 20 februari 2020, over ontwikkelingen Coronavirus*. Retrieved November 19, 2020, from https://www.tweedekamer.nl/debat_en_vergadering/commissievergaderingen/details?id=2020A00836

Tweede Kamer der Staten-Generaal. (2020b). *Verslag van een technische briefing, gehouden op 10 maart 2020, over ontwikkelingen coronavirus*. Retrieved November 19, 2020, from https://www.tweedekamer.nl/debat_en_vergadering/commissievergaderingen/details?id=2020A01119

Van den Dool, P. (2020, March 13). RIVM-baas: 'Helft Nederlanders zal uiteindelijk virus krijgen'. *NRC Handelsblad*. Retrieved November 19, 2020, from https://www.nrc.nl/nieuws/2020/03/13/rivm-baas-helft-nederlanders-zal-uiteindelijk-virus-krijgen-a3993743

Von Hall, G. (2020, January 23). Experten: "Flera tusen kan dö—vaccin utvecklas". *Svenska Dagbladet*. Retrieved November 19, 2020, from https://www.svd.se/virusexpert-flera-tusen-kan-do%2D%2Dvaccin-utvecklas

WHO [World Health Organization]. (2006). *Pandemic influenza preparedness planning: Report on the second joint WHO/European Commission workshop, Copenhagen, 24–26 October 2005*. Retrieved November 19, 2020, from https://www.euro.who.int/document/e88206.pdf

WHO [World Health Organization]. (2020a). *Report of the WHO-China Joint Mission on Coronavirus Disease 2019 (Covid-19)*. Retrieved November 19, 2020, from https://www.who.int/publications-detail/report-of-the-who-china-joint-mission-on-coronavirus-disease-2019-(covid-19)

WHO [World Health Organization]. (2020b, March 7). Responding to community spread of Covid-19. *Interim Guidance*. Retrieved November 19, 2020, from https://apps.who.int/iris/bitstream/handle/10665/331421/WHO-Covid-19-Community_Transmission-2020.1-eng.pdf?sequence=1&isAllowed=y

World Health Organization Writing Group. (2006). Nonpharmaceutical interventions for pandemic influenza, international measures. *Emerging Infectious Diseases, 12*(1), 81–87. https://doi.org/10.3201/eid1201.051370

Political Attention in a Creeping Crisis: The Case of Climate Change and Migration

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Abstract This chapter discusses the creeping crisis of rising human displacement induced by environmental degradation and natural catastrophes. Sea-level rise, droughts, and the increased occurrence of hurricanes and floods already have, and increasingly will have, drastic effects on migration patterns. Climate-induced displacement already outnumbers displacement from war or violence. Nation states and the international community have consistently failed to properly address this phenomenon. Only recently has political attention begun to increase. This chapter argues that our understanding of climate-induced migration can be improved with the help of the creeping crisis concept. In addition, climate-induced migration may provide insights to the underlying mechanisms of creeping crises. More to the point, this chapter explores the rise and fall of political attention in this case, offers insights on what

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lies behind this and reflects upon the broader implications for the literature on creeping crises.

8.1   Introduction

Climate change is one of the most severe crises facing humankind. Climate change is a label that covers a number of multifaceted and interconnected changes taking place as the result of CO2 emissions and a warming climate. Those changes have destructive effects, from shortages in food and water to decreased biodiversity, from air pollution to mortalities from heat waves, from increasingly intense forest fires to—the focus of this chapter—rising human displacement.

Climate-induced displacement now outnumbers displacement from war and violence. In 2019, nearly 25 million people left their homes as a result of various kinds of natural disasters (Internal Displacement Monitoring Centre [IDMC], 2020). The risk of being displaced by disasters has more than doubled since 1970 (Ginetti, Lavell, & Franck, 2015). The World Bank predicts that over 140 million people will be internally displaced in 2050 as a result of climate change (Rigaud et al., 2018).

Despite clarity on the existence of the problem, much uncertainty remains. The scale of the problem depends on the severity of climate change consequences, on whether households and societies can adapt, and on how many of those living in exposed areas can or will leave. Moreover, research shows that climate-induced displacement is deeply intertwined with other types of migration, not only with economic migration but also with migration from climate-induced conflicts (see, e.g., The Government Office for Science, 2011).

The effects of climate change differ across the world. Climate-induced migration involves persons being forced off their South Pacific island as sea levels rise, just as it can include persons losing their home in the Bahamas after a tropical storm, an evacuation of an Australian town threatened by bush fires, or farmers in Tanzania leaving their villages after years of drought making land uncultivable. Common to these diverse types of forced mobility is that they relate to—and are exacerbated

by—different kinds of natural disasters which are becoming more frequent and more intense following increasingly severe climate change. Lost housing or land, threatened food or water security, and decreased income resulting from failed crops are typical examples of climate-related drivers of human mobility. Like all types of migration, mobility induced by climate change is primarily within-state but increasingly cross-border.

Our understanding of climate-induced migration can be improved with the help of the creeping crisis concept. Moreover, climate-induced migration as a case provides new insights about the underlying mechanisms driving creeping crises, as first presented in the introduction to this book. Climate-induced migration is the result of a complex interaction of "facilitating" factors, including climate change itself but also disasters and destruction generated by climate change. Multiple developments, and occasional interactions between them, combine into long chains of deeper problems; for instance, movement stems from flooding, flooding from climate change, and climate change from certain societal choices. Additional problems emerge "downstream" from migration flows. Uncontrolled migration can cause social unrest in receiving societies. Poor migration management and uncoordinated border closure force migrants to take dangerous journeys or may trap them in limbo, creating unsafe camps and exacerbating poverty (Lustgarten, 2020). Unplanned migration can also increase population density and put even more pressure on ecosystems (IOM, 2009).

The next section of this chapter sets the scene, describing the threat potential as well as the "pace and space" of the climate-induced migration phenomenon. Section 8.3 traces the political discussion and moments of attention regarding climate-induced migration, mainly at the international level. Despite repeated expert warnings, and clear manifestations, policy makers have failed to address climate-induced migration in any substantial way, whether through legal protections or even adaptation and resilience. Section 8.4 briefly reflects upon the synchronicity between precursor events and political attention. The fifth and final section formulates insights for research on creeping crises.

8.2   The Pace and Space of the Crisis

Environmental change has always been a driver of human movement. Most types of environmental degradation—sudden or gradual—worsen people's living conditions to some degree. At a certain point, degradation

requires changes in lifestyle and even forced migration. The increased frequency and intensity of such events paint a grim picture of the human consequences of climate change and forebode even worse events.

Recent disasters have given us a preview of future events. In October 1998, Hurricane Mitch hit Central America, the worst hurricane to strike the area in over a century. The event killed thousands of people and displaced over 50,000 persons. In Nicaragua, one of the most affected countries, households exposed to heavy rainfall during Hurricane Mitch experienced a 50% larger risk of displacement compared to less exposed households (Carvajal & Pereira, 2010; Kniveton, Smith, Black, & Schmidt-Verkerk, 2009; Westhoff et al., 2008). The Indian Ocean earthquake and Tsunami in December 2004 caused extreme devastation. Approximately 1.7 million people were displaced as a result of the tsunami, mainly in Indonesia, Sri Lanka, and India (Inderfurth, Fabrycky, & Cohen, 2005). Hurricane Katrina forced over one million people from their homes in the U.S. Gulf Coast in August 2005, and tens of thousands of those remained displaced years after (Kromm & Sturgis, 2008). In May 2009, Cyclone Aila forced about 2 million people from their homes in Bangladesh. Damaged houses and lands, together with loss of working opportunities and reduced food and water security, were the main factors driving people from their land (Islam & Hasan, 2016). 2019 was a particularly bad year for disasters and disaster-related displacement, hitting a range of countries and communities hard. Cyclones Idai and Kenneth displaced 2.2 million people in Mozambique, Malawi and Zimbabwe (Wachiaya, 2020), while major moves in human settlements were accelerated by Hurricane Dorian in the Bahamas. Widespread wildfires in California, Australia, and the Amazon have had similar effects.

On top of all these dramatic examples, we should not forget the gradual and indirect disasters that are also major drivers of displacement: sea-level rises in low-lying island states, for instance, or the incremental movements caused by drought. This kind of movement may take a pre-emptive form; for example, preventative evacuations take place and populations sometimes never quite recover. A large part of the disaster displacement figures for 2018, for instance, come from typhoon evacuations in the Philippines (IDMC, 2019).

Systematic data on disaster displacement is scarce, especially before 2008. Today, the most advanced dataset on disaster displacement comes from the Internal Displacement Monitoring Centre (IDMC). Their data shows that displacement from slow-onset disasters is generally much more

difficult to capture than sudden-onset disasters. For instance, only since 2017 has the IDMC included drought in their calculations, and while the number is not insignificant (approximately 764,000 in 2018), these figures are heavily underestimated (IDMC, 2019). In addition, research shows that it is generally difficult to measure displacement in situations where climate change is a driver or contributing factor. Most climate-related displacement may be disguised as, or perhaps intertwined with, a variety of other compounding factors, including urbanization, work migration, starvation (i.e., searching for food or water), or flight from climate-induced conflict.

Persons living in areas severely affected by sudden- and slow-onset disasters, and which are already vulnerable for other reasons, have the most difficulty in adapting to environmental changes and are therefore most at risk of being displaced (Kolmannskog, 2008; Piguet, Pécoud, & de Guchteneire, 2011; Swing, 2008). When people are forced to move, the displacement itself is a crisis to the individual. From a broader perspective, however, there are other consequences of large migration flows. Poverty, insecurity, marginalization, social unrest, and further ecological degradation can result (Ionesco, Mokhnacheva, & Gemenne, 2017; Rigaud et al., 2018). If properly addressed, however, through aid, assistance, management of flows, migration can come with multiple benefits to the receiving community and may be an effective way for persons and societies to adapt to a changing climate (Jakobsson, 2018; UNHCR, 2011). The potential benefits, in short, are there to be had if adequate attention and response is given.

When applying the definition of a creeping crisis to this case, climate-induced migration appears to conform closely. First, large-scale uncontrolled climate-induced migration can be seen as a threat to societal values and life-sustaining systems. This is true for the displaced persons, of course, whose livelihoods are threatened. It also holds for the potential to destabilize societies and redraw the world's population settlements in relatively short periods of time.

It is important to note here that, if using the creeping crisis concept to identify a "threat agent," that agent here not be climate migrants as such, but rather the chain of phenomena that include environmental changes, disasters, and the resulting circumstances that force displacement. Moreover, one should be careful when speaking of migration in crisis terms, as there is a risk of framing vulnerable groups of people as "threats" to (primarily) western societies. This chapter underlines that the potential

full-blown crisis lies in the societal (social unrest, destitution) and ecological pressures that may result from an inadequate response to these increasing migration flows—apart from the individual crisis experienced by those displaced. The scale of this threat, though, depends highly on a variety of factors and will further vary based on whether governments respond effectively. A failure to "bend" the emission curve will see temperatures likely rise significantly over decades (IPCC, 2014b), but effects will be incremental and may appear less than catastrophic. Such dynamics play into the threat framing problem addressed further below.

Second, the climate migration crisis adheres to the creeping crisis concept because it evolves over time and space. It has a long incubation time, "an epochal character" without a clear beginning (as mentioned, the relationship between mobility and environmental changes has always been present) and no clear end. It manifests itself in different locations, around the world, and damage differs considerably. Even though the circumstances may escalate to the point where it constitutes a full-blown crisis to all societies, it is difficult to say in advance when such a tipping point might be reached.

Third, as we have seen, no one is in the dark about the contours and seriousness of this problem. There are regular occurrences of the crisis that, while perhaps paling in comparison to what is ahead, already draw attention and some degree of response. Fourth, as we will see below, the existing and potential climate migration crisis has attracted varying degrees of attention over the past decades. Attention comes and goes, sometimes but not always in relation to actual precursor events. Few coherent and collectively held framings (amongst global leaders, for instance) of climate-induced migration as an existential threat can be found.

This leads to a related issue: that climate-induced migration as a policy issue thus far remains insufficiently addressed, the fifth and last criteria of the creeping crisis definition. If climate-induced migration would have been properly dealt with through climate change mitigation or effective protection and relocation measures, it could have been treated as a regular crisis and managed accordingly. But a lack of action, as returned to in the conclusion below, propels the creeping nature of the problem. Climate-induced migration continues, and even deepens in severity, with every precursor event that takes place. Such events are dealt with, and then attention fades. The notion of a creeping crisis helps to disentangle this growing problem's component parts, outline its dynamics, identify its key challenges, and suggest opportunities for action.

8.3 Political Attention
and Climate-Induced Migration

The story of climate-induced migration as a creeping crisis is one of gradual and growing political attention that, while notable, has not yet reached a tipping point. Moreover, while migration responses are initiated at the national level, very few receiving countries in the world have discussed changing asylum or migration legislation to include climate-induced migrants or displaced in any real sense. Instead, political attention in this case primarily comes from international organizations (IOs) and international NGOs.

In 1985, researcher Essam El-Hinnawi at the United Nations Environment Programme (UNEP) presented a report titled "Environmental Refugees"—one of the first uses of the concept and the moment when it first made its way into the minds and onto the agendas of policy makers. The report warned of how environmental degradation could drive large numbers of people, especially in poor countries, on the move, creating a new category of refugees (El-Hinnawi, 1985). From there, attention to the issue grew in academic circles while any sense of ownership was found only amongst smaller groups of engaged individuals, often within large IO secretariats. For instance, the United Nations Refugee Agency (UNHCR) and the International Organization for Migration (IOM) made repeated announcements about how they increasingly saw environmental-related factors as a driver of overall refugee movement during their operational work in the field. The UN High Commissioner for Refugees at the time, Antonio Guterres, started an awareness campaign, informally including climate-induced displacement under the UNHCR's mandate. The argument was that the circumstances of displaced persons resembled those of refugee-like situations (Guterres, 2009).

Several reports of the UN's Intergovernmental Panel on Climate Change (IPCC) also drew attention to the effects of climate change on human migration. In their 1990 assessment report, the IPCC stated that: "migration and resettlement may be the most threatening short-term effects of climate change on human settlements" (IPCC, 1990, chap. 5, pp. 5–9) and that "forced migration and resettlement would be the most severe effects of climatic change as a result of natural disaster and loss of employment" (IPCC, 1990, chap. 5, pp. 5–10). The 1992 report stated that "the gravest effects of climate change may be those on human

migration" (IPCC, 1992, sect. 5.0.10). Such sentiments continued to be expressed over the years. An IPCC report from 2007 noted displacement as one of the central consequences of climate change (IPCC, 2007) and a working group contribution to the 2014 IPCC report stated that "climate change over the 21st century is projected to increase displacement of people" (IPCC, 2014a, p. 20).

In 2007, climate-induced migration climbed further up the international agenda. This was not the result of a particular displacement event but rather of an active and successful connection between displacement and issues of climate security at large (Jakobsson, 2018)—a popular topic in the UN at the time (Mobjörk et al., 2016) and one promoted by policy entrepreneurs. For instance, the British Foreign Secretary, Margaret Beckett, warned the UN Security Council that climate change could result in migration on an unprecedented scale (UN Security Council, 2007). Two specific ways of framing the issue contributed to increased political salience of the issue. One framing was the impression, buoyed by press attention and visual imagery, of climate refugees as a security threat (Boas, 2015; White, 2012). The other was the use of climate migrants as "the human face of climate change" (Gemenne, 2011; Warner, 2011). Both narratives, which originated and evolved in the period 2007–2009, facilitated the inclusion of climate-induced migration in the UN Security Council, the UNHCR and ultimately in the United Nations Framework Convention on Climate Change (UNFCCC) (Jakobsson, 2018).

The leap in political attention paved the way for the issue's inclusion in the UN climate negotiations. UN humanitarian agencies joined forces to send a strong message with regard to the issue's relevance to gathering climate change negotiators (McAdam, 2014; Warner, 2011). The strengthened legitimacy brought by the involvement of the humanitarian community, alongside tireless work from advocates and entrepreneurs (not least the Inter-Agency Standing Committee, IASC), led to the formal recognition in the 2010 Cancun Adaptation Framework of climate change induced displacement, migration, and planned relocation. This major step included calls for all countries to undertake "measures to enhance understanding, coordination and cooperation in this area" (UNFCCC, 2011, sect. 14f). While this formulation appeared rather weak and non-binding, it signaled a jump in attention, international attention, and provided a stepping-stone for advocates to demand further political attention (McAdam, 2014). The inclusion in the Cancun Adaptation

Framework also clearly connected this issue to climate change politics, leading to an increased politicization of the issue (Jakobsson, 2018).

In 2011, Guterres again boosted attention for climate-induced displacement, this time as part of the 60th anniversary of the Refugee Convention. In parallel, a UNHCR expert meeting drew attention to the existing legal gaps for climate and disaster-related displacement, noting the lack of legal protections in current international law. However, both the proposal for the UNHCR to lead the charge on protection for disaster displacement and the proposal to fill the existing protection gaps were blocked by the UNHCR Executive Committee and its ministerial conference later that year. This made it difficult for the UNHCR secretariat to further advocate and enhance protection mechanisms for climate-induced displacement during that year. Disagreement amongst national governments over the effect of adding climate-induced migration to existing refugee issues slowed the process. There was also a feeling among stakeholders that there was still too little research on the issue (McAdam, 2014), that the UNHCR already had too much on its plate, and that there was a general fatigue associated with having to take on further responsibility for refugees (Interview with practitioner October 9, 2017).

The difficulties surrounding the UNHCR's ownership of this issue inspired the Norwegian and Swiss governments to establish the Nansen Initiative, a platform in which states could meet to discuss cross-border disaster displacement and exchange best practices. The Nansen Initiative helped to anchor the issue on the international agenda following the UN breakdown discussed above. It also became clear that efforts to spur political attention must be more broadly targeted toward the "right" people (Interview with practitioner October 9, 2017). While the inclusion of migration into climate change politics helped provide a spot on the international political agenda, over the years it became clear that the parts of governments represented there were not the ones that could take measures to address the rights of refugees and migrants. One interviewee explained it as follows: "If you are looking at who the actors are there, then there are ministries of environment and finance and foreign affairs. They are not ministries dealing with migration issues. So, the real specialists are outside the UNFCCC process" (Interview with practitioner October 13, 2017). In short, national governments needed to take more responsibility.

A major step was the COP21 meeting in Paris on climate change, in late 2015. That agreement established the Task Force on Displacement

(TFD) to "develop recommendations for integrated approaches to avert, minimize and address displacement related to the adverse impacts of climate change" (UNFCCC, 2015, sect. 49). The fight to include that language was hardly easy; opposition emerged and, at times, that particular text was even dropped from the draft (Interview with practitioner February 19, 2016).[1] Another advance was that lobby groups began pushing for its inclusion in the Sendai Framework for Disaster Risk Reduction in the beginning of the year (Interview with practitioner October 9, 2017). Advocates believed it was important to establish climate-induced migration in a disaster risk reduction policy because the latter is seen as more technical and less political than the more controversial question of refugee rights associated with the UNHCR (Interviews with practitioners February 2, 2017; March 16, 2017 and March 28, 2017). Furthermore, climate-induced migration earned a prized reference in the UN Sustainable Development Goals (goal 13 on climate action). Finally, 109 governments endorsed the Nansen Protection Agenda, an unbinding yet symbolically important blueprint for how to exchange and make use of best practices on cross-border disaster displacement.

In recent years, issues of climate change, migration and displacement have received renewed political attention. The Nansen Initiative was succeeded by the Platform for Disaster Displacement (PDD) with the aim to promote implementation of the Nansen Protection Agenda. The newly established Global Compact on Safe, Orderly and Regular Migration (GCM) (and to some extent the Global Compact on Refugees) from 2018 clearly mentions disaster displacement and acknowledges that climate change can be a driver of migration. Moreover, the framework suggests possible solutions such as humanitarian visas, temporary work permits, and planned relocation. In doing so, it reflects both the language and suggestions of the Nansen Protection Agenda and the TFD recommendations from 2018. The TFD had a renewed and stronger mandate from the UNFCCC: to guide capacity building and to promote the issue within the new Global Compact, mentioned above, and global platforms for disaster risk reduction (UNFCCC, 2019).

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[1] Moreover, in the UNFCCC context, issues of climate change and migration are discussed under the Warsaw International Mechanism for Loss and Damage (WIM), which adds to the issue's sensitivity since that connects it to matters of compensation.

Climate-induced migration thus gradually rose on international agendas, propelled by policy entrepreneurs, issue linkages, and inclusion in wider agreements on climate change. The issue, one might surmise, was able to ride the wave of climate change attention more broadly. Yet, there was no global groundswell of support for the issue as an impending crisis. Crucially, an insufficient number of national governments have given sustained, political-level attention to climate-induced migration.

8.4   Implications for Synchronicity

The political attention dynamics outlined above took place largely in isolation from the precursor events that revealed deep problems associated with a changing climate. In the crisis literature, along with public policy research, disasters and extreme events are seen as external shocks that generate attention and shake up policy systems. Opportunities for change thus emerge (Birkland, 1997; Sabatier, 1999). In the case here, though, attention does not seem clearly linked to actual events. Analysis in Jakobsson (2018) shows that advocates were more successful using issue linkages and "strategic framing" (Rhinard, 2017) than exploiting shocks (e.g. disasters) to drive the issue up the policy agenda. This is consistent with research showing the effectiveness of linking new issues to previously held norms—defined as widely accepted standards of behavior (Florini, 1996; Rost Rublee, 2009). For instance, the largest single boost in attention came in the period 2007–2009, mentioned above, when climate-induced migration was presented as a security threat, and as part of the climate and security agenda that was popular in UN discussions at that time.

This suggests that attention-related tipping points, to the extent they exist, are not necessarily linked to the accumulation of evidence, knowledge, or a plethora of worsening precursor events. Those factors are all present in this case, but no massive, global shift in attention has taken place. What shifts can be found are the result of policy dynamics. It may be more useful to think of attention, synchronicity and creeping crises in relation to traditional theories on "windows of opportunities" (see e.g., Kingdon, 1984) or "attention cycles" (Downs, 1972). Creeping crises play out over long periods of time, meaning that event-driven dynamics and policy cycle-driven dynamics may intermingle to drive attention forward (or backward) at specific moments of time, but rarely in a linear way.

How is attention related to response? As Boin, Ekengren, and Rhinard (2020) have pointed out: "attention is one thing, but what really counts is a response" (p. 125). In the case of climate-induced migration, the response has been faltering at best. There is an almost complete lack of concrete, meaningful national responses to this creeping crisis. At the international level, too, some aspects of the response to climate-induced migration are worth highlighting.

One is that decision venue matters. Where the issue "lands" for consideration—the institutional setting within which the issue can be discussed—determines whether it is acted upon. When framed as a climate change issue, the problem falls under the UNFCCC; when framed as a refugee issue it falls under the UNHCR; when framed in other ways, other institutional venues become relevant. These venues are more or less sympathetic to addressing the issue. The UNFCCC venue, focused on climate change, was occasionally more sympathetic than the UNHCR, in which proposals to help refugees in urgent situations (at a time when Europe was struggling with a migration crisis of its own—see the chapter by Landström and Ekengren in this volume) dampened political interests in strengthening protection mechanisms. At the same time, the UNFCCC was not equipped to handle issues of refugee and migrant rights. We can also note that xenophobic discourses crept into *all* migration-related discussions during these times. This case thus teaches us that it is not only important to trace political attention when studying creeping crises. It is of equal importance to investigate what underlies "active neglect"—efforts to keep the issue off the agenda.

Another notable dynamic in this case is the effects of what might be called a "partial response" to this creeping crisis. During more climate-related disasters, the international community mobilizes a familiar, technocratic response: aid and assistance flow amply to address the immediate destruction caused by the disaster. That model of attention and response works well in the short-term, but a sense of resolution (along with agenda crowding) prevents longer policy discussions of root causes of the problem or its longer-term effects, such as displaced population. The world thus lacks a template for addressing climate-induced migration, in contrast to immediate disasters. Disasters receive wide attention and a full response, while climate-induced migration receives sporadic attention and virtually no meaningful, concrete response at all. The issue is not seen as particularly "pressing" (Interview with practitioner October 9, 2017).

8.5   Conclusions and Reflections

This chapter set out to explore the case of climate-induced migration through the lens of the creeping crisis concept. Like other creeping crises, this case shows that, despite repeated calls for adequate responses since the mid-1980s, very little substantial action has been taken. The potentially severe effects of climate change on human mobility have been known for at least 35 years, but thus far, political responses have been generally cautious, to say the least. A number of key factors can be identified as possible explanations for a sustained lack of attention and response.

First, as set out above, there is a general lack of political will to properly address this problem. This lack of will corresponds to (a) a general reluctance to finance adaptation, compensation and risk reduction abroad—even though some small measures have been taken; (b) the general difficulties in finding a political willingness to mitigate climate change at large; and, (c) a reluctance to tackle the politically sensitive issue of refugee protection. The last point stems from a rise in anti-immigration and populist parties, as well as a fear of renegotiating the international consensus on refugee rights. There is also a general reluctance to give more responsibilities to the UNHCR (which member states considered already overwhelmed by the responsibilities for conventional refugees) (Interviews with practitioners February 17, 2016 and October 9, 2017).

Second, this case demonstrates the difficulties of making policy makers act when there is a low sense of urgency and "pressingness"—capturing an essential problem with addressing creeping crises at large. One of the practitioners interviewed for this chapter said that some crucial stakeholders believe this is not yet a "real" issue, and that other issues are more pressing (Interview with practitioner October 9, 2017). Another aspect is that, apart from the clear manifestations of climate-induced displacement, other indicators are more subtle and complex and do not necessarily send urgent signals. For instance, empirical research shows that climate change often merges with other migration patterns related to economic migration or urbanization, especially in relation to slow-onset natural disasters such as drought.

Third, this case shows the lack of collectively agreed definitions and clear terminology surrounding the issue. Importantly, the victims of climate-induced migration are a diverse group, both in terms of causes of flight and pattern of mobility. This diversity results in confusion regarding the causality, scope, and responsibility assigned to this creeping crisis (Castles, 2010; European Commission, 2013; Piguet et al., 2011; Swing, 2008; Interviews with practitioners, February 16–17, 2016; October 10, 2017).

Fourth, previous research shows that once a policy issue gains salience, it needs to be "coupled" with a policy instrument or a solution; otherwise, a rise in issue attention risks stagnation (Kingdon, 1984). In this case, the policy response suffers from a lack of available and feasible solutions. There is no model of response akin to disaster management. In the times when political attention has been most intense, such as 2007, 2011 or 2015, there has been no concrete, comprehensive solution that would adequately mitigate climate-induced migration and protect those displaced. One reason for this is the lack of an agreed response. Our understanding of this major societal problem has deepened in the past 35 years, but it has also become increasingly clear that it cannot be handled through one solution or measure. Even in the specific field of refugee protection, it has been shown that displaced migrants constitute a wide and diverse group, requiring a huge array of different protection measures needed for different kinds of climate-induced movement (McAdam, 2011). Wildavsky's (1984) insights on the obstacles to crisis response—"no solution, no problem"—appear relevant here. A low sense of urgency, the complexity of the problem, the lack of an obvious solution, and fleeting attention—all work against politicians' motivations to tackle this increasingly worrisome creeping crisis.

References

Birkland, T. A. (1997). *After disaster: Agenda setting, public policy, and focusing events.* Georgetown University Press.

Boas, I. (2015). *Climate migration and security: Securitisation as a strategy in climate change politics.* New York: Routledge.

Boin, A., Ekengren, M., & Rhinard, M. (2020). Hiding in plain sight: Conceptualizing the creeping crisis. *Risk, Hazards & Crisis in Public Policy, 11*(2), 116–138.

Carvajal, L., & Pereira, I. (2010). Evidence on the link between migration, climate shocks, and adaptive capacity. In R. Fuentes-Nieva & P. A. Seck (Eds.), *Risk, shocks, and human development* (pp. 257–283). Palgrave Macmillan.

Castles, S. (2010). Afterword: What now? Climate-induced displacement after Copenhagen. In J. McAdam (Ed.), *Climate change and displacement. Multidisciplinary perspectives* (pp. 239–246). Oxford and Portland, OR: Hart Publishing.

Downs, A. (1972). Up and down with ecology: The issue attention cycle. *Public Interest, 28*, 38–50.

El-Hinnawi, E. (1985). *Environmental refugees.* New York: United Nations Environment Programme (UNEP).

European Commission. (2013). *Climate change, environmental degradation, and migration*. SWD (2013) 138 final; Commission staff working document.

Florini, A. (1996). The evolution of international norms. *International Studies Quarterly, 40*, 363–389.

Gemenne, F. (2011). How they became the human face of climate change. Research and policy interactions in the birth of the 'Environmental Migration' concept. In É. Piguet, A. Pécoud, & P. de Guchteneire (Eds.), *Migration and climate change* (pp. 225–259). UNESCO Publishing and Cambridge University Press.

Ginetti, J., Lavell, C., & Franck, T. (2015). *Disaster-related displacement risk: Measuring the risk and addressing its drivers*. IDMC.

Guterres, A. (2009). Climate change, natural disasters and human displacement: A UNHCR perspective. *UNHCR Policy Paper*.

IDMC [Internal Displacement Monitoring Centre]. (2019). *GRID 2019. Global report on internal displacement*. Internal Displacement Monitoring Centre; Norwegian Refugee Council.

IDMC [Internal Displacement Monitoring Centre]. (2020). *GRID 2020. Global report on internal displacement*.

Inderfurth, K. F., Fabrycky, D., & Cohen, S. (2005). The 2004 Indian Ocean tsunami: One year report. Sigur Center Asia Papers.

IOM [International Organization for Migration]. (2009). *Compendium on IOM's activities in migration, climate change and the environment*.

Ionesco, D., Mokhnacheva, D., & Gemenne, F. (2017). *The atlas of environmental migration*. London and New York: Routledge.

IPCC. (1990). *AR1: Impacts assessment of climate change*.

IPCC. (1992). *Climate change: The 1990 and 1992 Assessment*. World Meteorological Organization and United Nations Environment Programme.

IPCC. (2007). *Climate change 2007: Synthesis report. Contribution of working groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* (Core Writing Team, R. Pachauri, & A. Reisinger, Eds.).

IPCC. (2014a). *Climate change 2014: Impacts, adaptation, and vulnerability. Part A: Global and sectoral aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge University Press.

IPCC. (2014b). *Climate change 2014: Synthesis report. Contribution of working groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Geneva, Switzerland: IPCC.

Islam, M. R., & Hasan, M. (2016). Climate-induced human displacement: A case study of cyclone Aila in the south-west coastal region of Bangladesh. *Natural Hazards, 81*, 1051–1071.

Jakobsson, E. (2018). *Norm acceptance in the international community: A study of disaster risk reduction and climate-induced migration*. Stockholm Studies in International Relations 2018-1, Stockholm University.

Kingdon, J. W. (1984). *Agendas, alternatives, and public policies*. Boston: Little Brown and Company.

Kniveton, D., Smith, C., Black, R., & Schmidt-Verkerk, K. (2009). Challenges and approaches to measuring the migration-environment nexus. In F. Laczko & C. Aghazarm (Eds.), *Migration, environment and climate change: Assessing the evidence* (pp. 41–112). IOM.

Kolmannskog, V. O. (2008). *Future floods of refugees—a comment on climate change, conflict and forced migration*. Norwegian Refugee Council.

Kromm, C., & Sturgis, S. (2008). *Hurricane Katrina and the guiding principles on internal displacement. A global human rights perspective on a national disaster*. Institute for Southern Studies.

Lustgarten, A. (2020, July 23). The great climate migration. *The New York Times*. Retrieved November 19, 2020, from https://www.nytimes.com/interactive/2020/07/23/magazine/climate-migration.html

McAdam, J. (2011). Swimming against the tide: Why a climate change displacement treaty is not the answer. *International Journal of Refugee Law, 23*(1), 2–27.

McAdam, J. (2014). Creating new norms on climate change, natural disasters and displacement: International developments 2010–2013. *Refuge, 29*(2), 11–26.

Mobjörk, M., Gustafsson, M.-T., Sonnsjö, H., Van Baalen, S., Dellmuth, L., & Bremberg, N. (2016). *Climate-related security risks. Towards an integrated approach*. Stockholm International Peace Research Institute.

Piguet, É., Pécoud, A., & de Guchteneire, P. (2011). Introduction: Migration and climate change. In *Migration and climate change* (pp. 1–33). Cambridge, New York: Cambridge University Press.

Rhinard, M. (2017). Strategic framing and the European Commission. In N. Zahariadis & L. Buonanno (Eds.), *Routledge handbook of European public policy* (pp. 308–322). London: Routledge.

Rigaud, K. K., de Sherbinin, A., Jones, B., Bergmann, J., Clement, V., Ober, K., … Midgley, A. (2018). *Groundswell: Preparing for internal climate migration*. World Bank.

Rost Rublee, M. (2009). *Nonproliferation norms: Why states choose nuclear restraint*. Athens: University of Georgia Press.

Sabatier, P. A. (1999). *Theories of the policy process*. Boulder: Westview.

Swing, W. L. (2008). Environment, forced migration and social vulnerability: Identifying problems and challenges. *Environment, forced migration and social vulnerability. International conference*, 9–11 October 2008, Bonn, Germany.

The Government Office for Science. (2011). *Foresight: Migration and global environmental change. Future challenges and opportunities. Final project report*.

UN Security Council. (2007, April 17). *Security Council holds first-ever debate on impact of climate change on peace, security, hearing over 50 speakers*. SC/900. United Nations. Retrieved from https://www.un.org/press/en/2007/sc9000.doc.htm

UNFCCC. (2011). *Report of the Conference of the parties on its sixteenth session, held in Cancun from 29 November to 10 December 2010. FCCC/CP/2010/7/Add.1.* United Nations.

UNFCCC. (2015). *Decision 1/CP.21. Adoption of the Paris Agreement. FCCC/CP/2015/10/Add.1.* United Nations Framework Convention on Climate Change.

UNFCCC. (2019). *FCCC/SB/2019/5/Add.1. Report of the executive committee of the Warsaw international mechanism for loss and damage associated with climate change impacts.* United Nations.

UNHCR. (2011). *Summary of deliberations on climate change and displacement.*

Wachiaya, C. (2020). *One year on, people displaced by cyclone Idai struggle to rebuild.* UNHCR. Retrieved November 19, 2020, from https://www.unhcr.org/news/stories/2020/3/5e6a6e50b/year-people-displaced-cyclone-idai-struggle-rebuild.html

Warner, K. (2011). Climate change induced displacement: Adaptation policy in the context of the UNFCCC climate negotiations. *Legal and Protection Policy Research Series. Division of International Protection, UNHCR, PPLA/2011/.*

Westhoff, W. W., Lopez, G. E., Zapata, L. B., Wilke Corvin, J. A., Allen, P., & McDermott, R. J. (2008). Reproductive health education and services needs of internally displaced persons and refugees following disaster. *American Journal of Health Education, 39*(2), 95–103.

White, G. (2012). The "securitization" of climate induced migration. In K. R. Khory (Ed.), *Global migration. Challenges in the twenty-first century* (pp. 17–44). New York: Palgrave Macmillan.

Wildavsky, A. B. (1984). *Speaking truth to power: The art and craft of policy analysis.* Transaction.

Earthquakes in Groningen: Organized Suppression of a Creeping Crisis

Alexander Verdoes and Arjen Boin

Abstract Natural earthquakes do not occur in the northern part of the Netherlands. Yet, small earthquakes have regularly struck the area since the 1980s. For a long time, it was denied that these earthquakes were caused by the extraction of gas in the area and that these earthquakes could cause any damage. When more, and more severe, earthquakes struck the province of Groningen, these claims became unsustainable. In 2012, a relatively strong earthquake hit the area and the earthquakes became a national policy issue that threatened the legitimacy of the state. The crisis lingered on until 2018 when the national government finally realized that prolonged extraction would cause a deep crisis and decided to terminate the extraction of gas well before the depletion of the field. We argue that this visible and enduring crisis was not recognized and sufficiently addressed because of a societal dependency on the extraction of gas. The

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crisis was actively suppressed by the main actors, which ultimately undermined the legitimacy of the gas production and the state.

Keywords Creeping crisis • earthquakes • Dutch gas fields • crisis incubation • crisis response

9.1   Introduction: Earthquakes in Holland?

Every Dutch schoolchild knows that earthquakes are rare in the Netherlands. In the northern part of the Netherlands, earthquakes never occurred—until recently. In December 1986, an earthquake struck the Drenthe province, near a gas extraction site. The following years witnessed small earthquakes near other small gas fields in Drenthe and in the province of North-Holland. But the number of earthquakes really accelerated in the Groningen province, where more and more gas has been extracted since 2000. At the time of writing, in late 2020, over 1700 small earthquakes have been registered in the northern provinces of the Netherlands.

The accumulated damage has been substantial (thousands of houses have been damaged), but the industry consortium exploiting the gas fields in the northern provinces simply denied any causal relations between their activities and the earthquakes. The Dutch authorities also denied that these earthquakes were caused by the extraction of gas or could cause any significant damage. As the number and intensity of the earthquakes increased, together with the rising harm caused by the earthquakes, this claim became harder and harder to sustain.

Over the years, the earthquakes developed from a local safety threat to a national policy concern. When an M3.6 earthquake[1] struck the village of Huizinge (in Groningen province) in 2012, citizens began to mobilize against gas production. In January 2018, a small earthquake (M3.4) struck the small town of Zeerijp (also in Groningen province). This event proved a tipping point: the public began to directly relate the earthquakes with the gas fields in the north. The national government finally realized

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[1] The reference "M" refers to a Richter Scale magnitude ranking. The Richter scale (M) is a logarithmic scale. A one-step increase on this scale means that an earthquake is ten times stronger. It should be noted that the Richter scale may not be the most appropriate measure to determine the impact of earthquakes because of the interaction between shallow earthquakes, compaction related subsidence, weak soil, soft sediments, and constructions that were not designed to withstand earthquakes.

that prolonged extraction would lead to a deep crisis. The legitimacy of the state was at stake (Schmidt, Boersma, & Groenewegen, 2018).

In the 2018 quake's aftermath, the Minister of Economic Affairs, Eric Wiebes, decided to terminate the extraction of gas to ensure the safety of the region (Tweede Kamer, 2017–2018a). The minister also announced a new compensation and restoration scheme for the victims of the earthquakes. This was a major and very costly policy reversal. The Groningen gas fields had been a financial windfall for the Netherland since the 1960s, generating between 5–10% of national revenues.

Below we explore why this creeping crisis, a concept defined in the introduction to this volume, could persist for such a long time. To answer this question, we make use of primary sources (parliamentary documents) and secondary sources (academic articles, policy papers and reports, and media reports). We begin the chapter with a brief reconstruction of how lucrative gas extractions in the northern Dutch provinces slowly developed into a legitimacy threat for the national government. We describe how the government and the exploitation consortium (known as the NAM, or Nederlandse Aardolie Maatschappij) responded to these earthquakes and how these responses were perceived by citizens. In the final section, we identify factors that explain why this creeping crisis was allowed to persist.

9.2   A Crisis in Slow Motion

The unfolding crisis of the Dutch gas fields can be described in four time periods: the initial incubation period (1959–1986), a phase in which a number of precursor events gradually increased attention (1986–2012), a major jump in attention and rise on governmental agendas (2012–2018), and a final phase that led to a full-fledged response: the announced closure of the gas fields (2018–2020).

9.2.1   Incubation: Increasingly Dependent on a Financial Bonanza

In 1959, the Slochteren gas field was discovered. Located in the province of Groningen, it turned out to be one of the largest gas fields of the world (Sintubin, 2018, p. 2001). The new source of income was an unexpected gift to a poor country still rebuilding its war-torn society.

In 1962, the first Dutch gas policy was published (OVV [Onderzoeksraad voor Veiligheid], 2015, p. 33). This policy was based on two pillars. The first pillar held firm to the belief that fossil fuels would soon be replaced by nuclear energy. Therefore, the aim was to start the extraction of gas as soon as possible and deplete the field quickly in order to maximize its value before the expected arrival of nuclear energy. The second pillar defined the state as a major player in the extraction, transportation, and selling of gas in cooperation with private parties (OVV, 2015, p. 33; Mulder & Perey, 2018, p. 12).

In 1963, Dutch State Mines (a state enterprise under the authority of the Ministry of Economic Affairs) and the NAM (a joint venture between Shell and ExxonMobil) signed an agreement to coordinate the extraction, transportation, and sales of gas (OVV, 2015, p. 33). The NAM was granted a lasting concession to extract the gas, while also becoming responsible for safety and liable for the consequences of extraction.[2] Later that year, the extraction of Groningen gas began. At the same time, an enormous operation began to enable the consumption of gas by industry and households. In addition to Dutch households, many households in Belgium, France, and Germany quickly became dependent on Groningen gas.[3]

After the 1973 oil crisis, gas prices rose. The resulting gas revenues contributed substantially to the national budget. In the 1980s, the share of gas revenues in the national budget peaked, amounting to about 18% of the state revenues (OVV, 2015, p. 21). During this time period, local residents did not have any noticeable objections. They were happy with the (indirect) economic benefits that befell the economically disadvantaged region. Furthermore, citizens were proud that they could contribute to the post-war reconstruction efforts and to the emerging welfare state (Bakema, Parra, & McCann, 2018, p. 8).

It was in this same period that the first negative side-effects were encountered. The NAM acknowledged in 1971 that gas extractions in Groningen would result in subsidence of the soil. This sinking, according to the NAM, would not be problematic. Across an area of 900 sq. km, the

[2] After the discovery of the Slochteren field, the NAM continued to explore gas fields, and it discovered several smaller gas fields in other parts of the Netherlands.

[3] All the infrastructure was designed for Groningen gas, which is characterized as low calorific. High calorific gas from Russia, or Norway must be treated with nitrogen first, before it is compatible with the gas infrastructure (Mulder & Perey, 2018, p. 11; Sintubin, 2018, p. 2002).

soil would subside approximately one meter over time, but this process would be gradual. Because the process was so predictable and slow, the NAM claimed that damage could be prevented.[4]

The first small earthquakes—no more than light tremors at the time—were felt in 1976. The NAM denied that gas extraction could cause proper earthquakes (Scholtens, 2018, p. 27). The Royal Netherlands Meteorological Institute (KNMI), which is responsible for measuring seismic activity in the Netherlands, also denied the possibility of earthquakes (Kester, 2017, p. 18). The responsible ministers ascribed the observed tremors to vibrations in the atmosphere, which, they claimed, were probably caused by fighter jets breaking the sound barrier in the area (Tweede Kamer, 1988–1989).

9.2.2 Precursor Events: Increasing Earthquakes and Rising Attention

In December 1986, an M2.8 earthquake near a small gas field in Assen was strong enough to be registered by the KNMI's seismic sensors in Utrecht (approximately 150 km away) (Kester, 2017, p. 18). Other small earthquakes followed near smaller gas fields in the provinces of Drenthe and Noord-Holland. The NAM acknowledged that there were "vibrations," but it denied any relation between the tremors and the extraction of gas. The NAM also stressed that it was impossible to establish the origins of the shocks, mainly because they were not monitored (OVV, 2015, p. 37).

A geographer and member of the provincial assembly of Drenthe, Mr. Van der Sluis, suspected a causal relationship between the extraction of gas and the earthquakes occurring nearby. He held the NAM responsible for the damages that were caused by the earthquakes. The NAM fiercely denied his claims and made personal attacks on Van der Sluis, suggesting he was an ignorant geography teacher (OVV , 2015, p. 37). The NAM asserted that it was the sole authority on this topic (Van der Voort & Vanclay, 2015, p. 6) while the KNMI declared that Van der Sluis's theory could not be true (Van der Voort & Vanclay, 2015, p. 6). Meanwhile, geologists in the US and France established that gas extractions could indeed cause earthquakes (OVV, 2015, pp. 59–60). The NAM and the

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[4] In 1983, the NAM and the province of Groningen agreed that the NAM would be responsible for damage caused by the subsidence (OVV, 2015, pp. 34–35; Van der Voort & Vanclay, 2015, pp. 5–6).

KNMI denied that this was possible in the Netherlands because the geological conditions were very different. Both organizations saw no need to initiate further studies (OVV, 2015, p. 64).

The earthquakes triggered concerns among Dutch Members of Parliament (MPs) (Tweede Kamer, 1988–1989). They observed that earthquakes were suddenly occurring in an area where normally earthquakes do not occur. Ministers De Korte (Economic Affairs) and Kroes (Infrastructure) again pointed to air vibrations as the likely source. Nevertheless, De Korte ordered the KNMI to install seismometers to monitor the earthquakes. The first seismometers were installed in Assen in 1989 and in Finsterwolde in 1992 (Kester, 2017, p. 18; OVV, 2015, pp. 37–38).[5]

In 1990, the province of Groningen commissioned studies from the Massachusetts Institute for Technology (MIT) and Delft University. Both studies concluded that it was very unlikely that "induced earthquakes" could occur in Groningen. Even if they did occur, the impact of these tremors could not exceed M3 and would thus not cause any damage (OVV, 2015, p. 38). Despite these reassuring findings, more and more earthquakes were registered, which fueled concerns among MPs (Tweede Kamer, 1990–1991).

In response, the Minister of Economic Affairs initiated a multidisciplinary investigation in 1991. Two years later, the investigation committee published its findings. For the first time it was acknowledged that the extraction of gas could cause earthquakes. However, these earthquakes could not exceed a magnitude of M3.3 and were not considered cause for concern (OVV, 2015, p. 39). The NAM endorsed the findings but refused to compensate any damages to buildings (Van der Voort & Vanclay, 2015, p. 6).

More studies were initiated. Research conducted by the KNMI corroborated the findings of the 1993 study that established the link between earthquakes and gas extraction (OVV, 2015, p. 40). Meanwhile, the Groningen province started to receive damage reports from citizens. In 1995, the Groningen provincial government informed its residents that earthquakes could strike in extraction areas with a possibility of minor damage. Citizens were informed how they could claim compensation for damages (OVV, 2015, pp. 40–41).

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[5] Not much later, the first earthquakes were also registered in the Groningen area and it is very likely that earthquakes already struck Groningen before the earthquakes were monitored (Staatstoezicht op de Mijnen [SodM], 2013, pp. 10–11).

In 1997, an M3.4 earthquake struck the town of Roswinckel in Drenthe. This was the biggest earthquake thus far. More research was conducted, and the maximum potential magnitude was increased to M3.8. The new report predicted that the situation would not deteriorate (OVV, 2015, pp. 41–41; Van der Voort & Vanclay, 2015, p. 6).

In 2000, gas production from the smaller fields peaked. To compensate for the decreasing production from the smaller fields, extraction from the larger Groningen field increased (OVV, 2015, p. 22). At the same time, the earthquakes started to become a bigger problem in the Groningen province. In 2003, for instance, three earthquakes struck the village of Loppersum (OVV, 2015, p. 45). The maximum possible magnitude was increased again to M3.9 (OVV, 2015, pp. 46: 82).

In 2006, an M3.5 quake struck the Groningen villages of Westeremden and Middelstum. In the aftermath of this earthquake, an expert from the Dutch Organization for Applied Scientific Research (TNO) stated in the media that the earthquakes would not increase in magnitude. This assertion did not reassure local residents, however, who remained concerned about the increasing magnitude of the earthquakes, the possible damage that these earthquakes could cause, and the increasingly rapid extraction of gas (OVV, 2015, p. 47). Local citizens began to lose their confidence in the NAM. This was caused by the gradual increase of expected magnitude (from M3.0 in 1990 to M3.9 in 2003). Additionally, citizens were concerned that the earthquakes could cause damage to their houses, which the NAM had long denied (OVV, 2015, p. 48).

In 2007, the NAM presented a new extraction plan for the Slochteren field. Despite the earthquakes in the area, the planned period for extractions was extended from 2040 to 2068. The Minister of Economic Affairs accepted the plan. The possibility was noted that induced earthquakes could cause damage to houses, but it was also noted that damages could simply be compensated (OVV, 2015, pp. 47–48).

The relatively few people who had suffered damage to their houses were upset about the treatment they received from the NAM. They felt that the NAM did not take them seriously. The NAM continued to contest that earthquakes had caused the damages. In response, residents established an advocacy group, the Groninger Ground Movement (*Groninger Bodem Beweging* (GBB)) in 2009 (OVV, 2015, p. 49). The GBB would come to play an important role in putting the earthquakes on the political agenda. However, they were only capable of doing this after they were able to demonstrate that the earthquakes increased and

intensified, causing negative social effects. National newspapers thus far had shown very little interest in the risks related to gas extraction. All this changed in 2012, which delivered a so-called trigger event (Kester, 2017; Opperhuizen, Schouten, & Klijn, 2019, pp. 724–725).

9.2.3   A Trigger Event: Arrival on the Political Agenda

On 16 August 2012, an M3.6 earthquake struck the village of Huizinge. This was the most powerful and long-lasting earthquake to hit in the province of Groningen. Residents fled their residences and local buildings. Regional television had a live broadcast of the event. The earthquake caused considerable damage: residents filed about 2500 damage claims (Tweede Kamer, 2012–2013a, p. 1).

The State Supervision of Mines (Staatstoezicht op de Mijnen (SodM)) initiated a study after the Huizinge earthquake and confirmed that earthquakes had become more frequent and intense, and, importantly, that these developments were connected to the extraction of gas. The SodM also concluded that it was impossible to estimate the maximum magnitude of future earthquakes (SodM, 2013, pp. 10–11; 23). In January 2013, the KNMI confirmed the findings of the SodM study (OVV, 2015, p. 53). These reports garnered considerable media attention and put the issue of extraction-related earthquakes squarely on the national political agenda (Schmidt et al., 2018, p. 517). Later that month, the SodM advised the Minister of Economic Affairs to reduce the extraction as soon as possible to minimize the risks of more, and more severe, earthquakes (OVV, 2015, p. 53).

In reaction to these reports, Minister Kamp (Economic Affairs) reassured citizens that victims would be compensated and proposed measures to prevent and mitigate damages caused by future earthquakes (Tweede Kamer, 2012–2013a).[6] However, Kamp did not reduce the gas production. Households and businesses in the Netherlands, Germany, Belgium, and France depended on the Groningen gas field. It was simply not possible to replace the Groningen gas with gas from other sources, at least not in the short term.[7] In addition, reducing the gas production

[6] To prevent damages, the NAM would assess constructions and, if necessary, reinforce constructions (the so-called strengthening operation).

[7] There was insufficient capacity to treat high calorific gas with nitrogen to make the high calorific gas compatible with the gas infrastructure that was designed for the low calorific Groningen gas (see footnote 3).

would have negative consequences for the government budget. Instead, Kamp initiated 14 investigations so he could take an informed decision about the future of gas extraction in the Netherlands.

In a subsequent parliamentary debate (Tweede Kamer, 2012–2013b), a majority stressed that the safety of the residents should be prioritized above economic interests. A majority also agreed that compensation by itself was not an adequate response to the earthquakes. Instead, the production should be reduced to safe levels, or it should be stopped altogether. The minister refused to take a decision because he wanted to await the results of the additional investigations. Minister Kamp did admit that the Huizinge earthquake had generated a new sense of urgency among politicians and experts. He argued that reducing production would not substantially reduce the safety risks. According to the minister, a 20% reduction would decrease the probability of an M3.9 earthquake in the next 14 years from 7% to 5.6%. While the expected safety benefits were marginal, reduction of production would have severe consequences for businesses and households, in the Netherlands and abroad. Additionally, this would also substantially deplete the national budget amid an economic recession. After this debate, and with the announcement of 14 new studies, the earthquakes disappeared from the agenda (Schmidt et al., 2018, p. 519).

The provincial government of Groningen was not satisfied with the minister's response and initiated its own research committee: the so-called Meijer Committee (2013). In November 2013, the committee published its report, which put the earthquakes back on the political agenda (Schmidt et al., 2018, p. 519). The committee observed an imbalance in the costs and benefits from gas extraction; it also noted a growing resistance against the national government and the NAM. The province of Groningen received about 1% of the national income generated by gas production, but it suffered the bulk of the negative effects. Moreover, the report argued that NAM did not communicate with the victims while the authorities denied real estate value losses because of the earthquakes.

Residents were upset with the NAM's damage settlement procedure, too. They perceived the damage settlement procedure as nonresponsive, unwilling, and random (Postmes et al., 2018). Damages were repaired, but only after a long procedure (after each earthquake, people had to go through the demanding procedure again). The slow and uncertain damage settlement procedure and the strengthening operation made it difficult, if not impossible, for a substantial number of people to live a normal life (Postmes et al., 2018; Stroebe et al., 2019).

This widespread feeling of injustice was strengthened by the refusal of the NAM and the national government to cut gas production, as the SodM had advised. Shortly after the Meijer Committee released its report, it became known that a record amount of gas was being extracted from the Groningen field (OVV, 2015, p. 55). One could forgive the citizens of Groningen province for thinking that the Minister of Economic Affairs had initiated the 14 studies merely to delay a decision on the reduction of gas extraction (Bakema et al., 2018, p. 10).

The government tried to address the loss of trust by promising an investment of 1.2 billion EUR in the regional economy (OVV, 2015, p. 55). Additionally, a "dialogue table" was initiated, which aimed to build consensus between the gas industry, local actors, and citizens (Bakema et al., 2018, p. 11). The dialogue table quickly proved unsuccessful, however, as it reproduced existing power hierarchies and did not strengthen the representation of local actors in the decision-making process. It was disbanded at the end of 2015 (Bakema et al., 2018, p. 11).

Minister Kamp approved a new extraction plan in 2014. This led to another backlash. Even though the SodM advised the minister not to approve an earlier version of the plan in 2013, the plan was accepted. The only concession in the plan was a minor reduction in the extraction; no other substantive policy changes were made (OVV, 2015, p. 54; Schmidt et al., 2018, p. 522). Another problem with this new plan was that local stakeholders had not been involved in the decision-making process. Subsequently, the media and local policymakers framed the approval of this plan as a one-sided and unilateral decision (Schmidt et al., 2018, p. 522).

The position of residents was strengthened vis-à-vis the NAM and the government when in 2015 the Dutch Safety Board published its report on safety in Groningen. This body concluded that authorities had ignored the risks related to the gas extraction before the 2012 Huizinge earthquake (OVV, 2015).

Until 2015, the NAM was responsible for both the damage assessment and for the compensation of victims. Both the NAM and the Ministry of Economic Affairs no longer considered this situation appropriate. In 2015, the Ministry of Economic Affairs therefore founded the Centre for Safe Living (Bakema et al., 2018, p. 10). The new center was tasked with assessment, financial pay outs, and repair of damages. This was not an immediate solution for the problem, because it further complicated the already complex damage settlement procedure. This complexity

discouraged citizens to report damages (Kuipers & Tjepkema, 2017; Mulder & Perey, 2018; Stroebe et al., 2019). It was not until the 2018 Zeerijp earthquake that a new process was established (Bal, Smyrou, & Bulder, 2019, p. 3).

Citizens continued to mobilize against gas production via the GBB advocacy group and other local interest groups (Mulder & Perey, 2018, p. 9). They succeeded in generating substantial attention in the national media. A public broadcaster aired (during prime time) a documentary about the damage settlement procedure. Attention in the newspapers for the problem increased dramatically between 2013 and 2015 (Opperhuizen et al., 2019). Meanwhile, the NAM and the government limited their participation in the public debate. This caused a further backlash for the NAM because discussion of the earthquake risks was dominated by worst-case scenarios. In these scenarios, an M5 earthquake would strike the region. The scenarios fueled feelings of insecurity among residents (Sintubin, 2018, p. 2005; Vlek, 2019, p. 1073). In hindsight, we can see that this was the period during which the NAM slowly began to lose its "social license"—or legitimacy—to drill. It became increasingly difficult for political parties to support gas extraction in the northern provinces (Van den Beukel & Van Geuns, 2019, p. 21).

Around 2015, politicians started to change their positions, increasingly emphasizing safety and environmental concerns over economic considerations. Several political and judicial decisions were announced that favored local residents and put more demands on the NAM and the state (Van den Beukel & Van Geuns, 2019). First, Minister Kamp decided in 2015 that citizens in Groningen should not be exposed to more safety risks than other Dutch citizens were (Tweede Kamer, 2015–2016). To comply with this safety norm, more buildings had to be reinforced (Tweede Kamer, 2015–2016; Stroebe et al., 2019, p. 29). In the same year, the Council of State (the highest administrative court) ruled that gas production should be reduced to limit the risks for inhabitants. Following this verdict, the Dutch government capped the production of gas to a minimum (Raad van State, 2015). In 2016, a new mining law was adopted, which reversed the burden of proof in Groningen: the NAM had to prove that damages were not caused by the earthquakes (Van den Beukel & Van Geuns, 2019, p. 15). In 2017, two judicial verdicts hampered the extraction even further. An ordinary court ruled that the NAM is responsible for psychological damage caused by earthquakes. The Council of State decided that the Ministry of Economic Affairs should reconsider the extraction plan (Postmes et al., 2018, p. 28).

The drastic change of attention and response was facilitated by an important development: gas production was rapidly becoming economically unviable. By the end of 2017, the NAM had to pay about 1.2 billion EUR in compensations (Van den Beukel & Van Geuns, 2019, pp. 15–16); it had to pay about 1 billion EUR to compensate for the depreciation of the real estate in the region. Additionally, an enormous project to strengthen about 22,000 buildings in the area came with a price tag of about 10 billion EUR (Van den Beukel & Van Geuns, 2019, pp. 15–16). The costs of extracting gas thus increased substantially. The Groningen gas field was no longer the financial asset it had been for so long.

In January 2018, an M3.4 earthquake struck Zeerijp. The Minister of Economic Affairs decided, finally, that the extraction of gas would have to be terminated to ensure the safety of the region (Tweede Kamer, 2017–2018a).

The Zeerijp earthquake was a tipping point (see also Tweede Kamer, 2017–2018b). The damage settlement procedure also changed after the Zeerijp event. The Temporal Committee Mining Damage Groningen was established (since July 2020 the Institute for Mining Damage Groningen) and functions independently from the NAM (Bal et al., 2019). This new committee seems to be a success: residents have become more likely to report their damages, and compensations are paid relatively quickly (Jach, 2019).

Even though production was cut back, earthquakes have not stopped. In May 2019, another strong earthquake hit the area, causing damage in the city of Groningen (the capital of Groningen province) (Bal et al., 2019). Not much later, the minister announced that the production would be terminated even earlier than planned (Tweede Kamer, 2018–2019a). The production is scheduled to stop in 2022; the field should be closed in 2026.

9.3   Conclusion: A Crisis that Kept on Creeping

Over the years, the small earthquakes that periodically hit the citizens of the Groningen province attracted little public or political attention. The citizens who saw their houses damaged or depreciated could only turn to the company that had caused the damage. The NAM consortium long denied the problem and made the damage pay-out process a frustrating one. It took decades before this creeping crisis was finally recognized as a real crisis for those living through it. By then, the crisis had also become an institutional crisis as the trustworthiness of the national government suffered a severe blow (Schmidt et al., 2018).

The question, then, is: how is it possible that a persistent and clearly visible creeping crisis is not recognized as such? Our chapter identifies two closely related factors that together help to formulate an answer to that question, and enlighten our understanding of creeping crises more generally.

The first factor is *societal dependency*. Politicians had very little incentive to recognize, let alone address, the problem. Even a small reduction of earthquake risk would have serious consequences for the national budget. In addition, there was no short-term replacement for the gas on which Dutch, Belgian, German, and French households relied. According to Minister Wiebes, terminating the extraction of Groningen gas was never seriously considered before 2018 (Tweede Kamer, 2018–2019b). The social dependency ended only after a series of decisions that widened the responsibility of the government and the operation of the field became economically non-viable. In addition, alternatives for the Groningen gas had to be developed (the construction of a nitrogen factory in Zuidbroek and the expansion of a nitrogen factory in Wieringermeer) and foreign contracts had to expire, to lower dependency on gas and enable the government to end the extractions.

The second factor is *active suppression*. The main actors (NAM and the Ministry of Economic Affairs) had no interest in the safety of citizens. For a long time, their sole interest was to maximize profits. These organizations did not look for crises to manage—they tried to actively prevent a crisis from attracting attention.

It was long believed that compensations and strengthening buildings could mitigate what was a clear creeping crisis. Instead, these management strategies became part of the problem. It was not recognized that a few cracks in the wall could cause severe problems for residents. Meanwhile, the number of earthquakes and their intensity increased, which overburdened the already deficient compensation mechanisms and overdue repair and strengthening operation. This made it very difficult for victims to live a normal life. Because these problems were not addressed, and the government and the NAM did not limit the production of gas, local residents believed that they were not taken seriously by the state and the NAM. The earthquakes did not just damage buildings, but they also damaged the legitimacy of the gas extraction and trust in the (central) state.

The efforts to keep this creeping crisis out of the limelight planted the seeds for its rise on the public and political agenda. The actions taken by the authorities to mitigate the effects of the earthquakes gradually

undermined the legitimacy of gas production and the state. The state was ultimately forced to terminate the gas production almost 50 years before the gas field would have been emptied. In this rare case of a creeping crisis eventually acted upon, and ostensibly solved, these dynamics shine light on the potential pathways through which other creeping crises described in this book might be resolved.

References

Bakema, M., Parra, C., & McCann, P. (2018). Analyzing the social lead-up to a human-induced disaster: The gas extraction-earthquake nexus in Groningen, the Netherlands. *Sustainability, 10*(10), 3621.

Bal, I., Smyrou, E., & Bulder, E. (2019). Liability and damage claim issues in induced earthquakes: Case of Groningen. Paper presented at SECED—UK National Conference on Earthquake Engineering. Greenwich, London, United Kingdom (9–10 September).

Commissie Meijer. (2013). *Vertrouwen in een duurzame toekomst: een stevig perspectief voor Noord-Oost Groningen.* Groningen: Commissie Duurzame Toekomst Noord-Oost Groningen.

Jach, S. (2019, November 20). Analyse: Schadeloket gaat gebukt onder eigen succes. *RTV Noord.* Retrieved December 5, 2019, from https://www.rtvnoord. nl/nieuws/215839/Analyse-Schadeloket-gaat-gebukt-onder-eigen-succes

Kester, J. (2017). Energy security and human security in a Dutch gasquake context: A case of localized performative politics. *Energy Research & Social Science, 24,* 12–20.

Kuipers, G., & Tjepkema, M. (2017). 'Publieke regie' in Groningen: Publiekrechtelijke schadeafhandeling en het vertrouwen in de overheid. *Nederlands Juristenblad, 29*(1576), 2058–2067.

Mulder, M., & Perey, P. (2018). *Gas production and earthquakes in Groningen: Reflection on economic and social consequences.* Groningen: University of Groningen (CEER Policy Papers no. 3).

Opperhuizen, A., Schouten, K., & Klijn, E. (2019). Framing a conflict! How media report on earthquake risks caused by gas drilling. *Journalism Studies, 20*(5), 714–734.

OVV [Onderzoeksraad voor Veiligheid]. (2015). *Aardbevingsrisico's in Groningen: Onderzoek naar de rol van veiligheid van burgers in de besluitvorming over de gaswinning (1959–2014).* Den Haag: Onderzoeksraad voor Veiligheid.

Postmes, T., Stroebe, K., Richardson, J., LeKander, B., Greven, F., & Broer, J. (2018). *Gevolgen van bodembeweging voor Groningers: Ervaren veiligheid, gezondheid en toekomstperspectief 2016–2017.* Groningen: Heymans Institute, University of Groningen.

Raad van State. (2015, November 18). *ECLI:NL:RVS:2015:3578*.

Schmidt, A., Boersma, K., & Groenewegen, P. (2018). Management strategies in response to an institutional crisis: The case of earthquakes in the Netherlands. *Public Administration, 96*(3), 513–527.

Scholtens, B. (2018). The Janus face of natural gas resources in the Netherlands. In M. Mulder & P. Perey (Eds.), *Gas production and earthquakes in Groningen: Reflection on economic and social consequences* (pp. 25–40). Groningen: University of Groningen (CEER Policy Papers no. 3).

Sintubin, M. (2018). The Groningen case: When science becomes part of the problem, not the solution. *Seismological Research Letters, 89*(6), 2001–2007.

SodM [Staatstoezicht op de Mijnen]. (2013). *Reassessment of the probability of higher magnitude earthquakes in the Groningen gas field*. Den Haag: SodM.

Stroebe, K., Postmes, T., Boendermaker, M., Kanis, B., Richardson, J., Bobenhoff, M., … Greven, F. (2019). *Gaswinning en versterking: De sociale impact voor Groningers*. Groningen: Gronings Perspectief.

Tweede Kamer (1988–1989). *Bodemverzakking en aardbevingen in het noorden van Nederland*. (TK 21108, nr. 1). Den Haag: Tweede Kamer der Staten-Generaal.

Tweede Kamer (1990–1991). *Aanhangsel van de Handelingen*. (TK 597). Den Haag: Tweede Kamer der Staten-Generaal.

Tweede Kamer (2012–2013a). *Gaswinning Groningen-veld*. (TK 33529, nr. 1). Den Haag: Tweede Kamer der Staten-Generaal.

Tweede Kamer (2012–2013b). *Gaswinning Groningen-veld*. (TK 33529, nr. 18). Den Haag: Tweede Kamer der Staten-Generaal.

Tweede Kamer (2015–2016). *Gaswinning Groningen-veld*. (TK 33529, nr. 205). Den Haag: Tweede Kamer der Staten-Generaal.

Tweede Kamer (2017–2018a). *Gaswinning*. (TK 33529, nr. 457). Den Haag: Tweede Kamer der Staten-Generaal.

Tweede Kamer (2017–2018b). *Wijziging van de Gaswet en van de Mijnbouwwet betreffende het minimaliseren van de gaswinning uit het Groningenveld*. (TK 34957, nr. 3). Den Haag: Tweede Kamer der Staten-Generaal.

Tweede Kamer (2018–2019a). *Gaswinning*. (TK 33529, nr. 678). Den Haag: Tweede Kamer der Staten-Generaal.

Tweede Kamer (2018–2019b). *Gaswinning*. (TK 33529, nr. 693). Den Haag: Tweede Kamer der Staten-Generaal.

Van den Beukel, J., & Van Geuns, L. (2019). *Groningen gas: The loss of a social license to operate*. The Hague: The Hague Centre for Strategic Studies.

Van der Voort, N., & Vanclay, F. (2015). Social impacts of earthquakes caused by gas extraction in the Province of Groningen, The Netherlands. *Environmental Impact Assessment Review, 50*, 1–15.

Vlek, C. (2019). The Groningen gasquakes: Foreseeable surprises, complications of hard science, and the search for effective risk communication. *Seismological Research Letters, 90*(3), 1071–1077.

Understanding Creeping Crises: Revisiting the Puzzle

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Abstract This chapter returns to the research question that animated the case studies and summarizes the findings of the chapters in this book. It offers provisional answers to our research question and formulates an agenda for future research. Much of the chapter is devoted to thinking through the implications of the creeping crisis perspective for the practitioner community. We build on our research findings to argue that the time for action is now and formulate a set of recommendations that can help jumpstart this agenda.

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10.1   Introduction

This book pivots around the assumption that the world is facing threats to the survival of the planet. The security and prosperity of mankind is at stake because of climate change, forced migration, terrorism, pandemics, cyber breakdowns, the erosion of privacy and growing inequality. The puzzle is simple: why are governments not prioritizing these threats and treating them as the large-scale crises that so many experts argue they are?

The book demonstrates that knowledge about causes and effects of these threats is not the real problem. The knowledge base is solid, available, and steadily growing. Experts seem to have little doubt what the facts are. Advocacy groups regularly warn of impending problems if greater action is not taken. Yet governmental efforts to prevent and manage these threats do not stand in proportion to their almost existential magnitude.

In this book, we outline a perspective that helps to explain why the discrepancy between our understanding and handling of these threats is so large. The concept of creeping crisis brings together what are really two sides of the same coin: the objective analysis of threat potential and the subjective definition and understanding of what should be considered a threat and how it can be met. We make a distinction between objective facts regarding how these threats *incubate, evolve, and signal their existence* and the subjective processes through which these threats are seen to undermine *shared societal values* and whether they are given *political and societal attention*.

This perspective has served us well in this book. It steered our empirical investigation of creeping crises in fields ranging from antimicrobial resistance (AMR) to climate change, from returning foreign fighters to energy extraction. A few intriguing insights are worth repeating here:

- Few threats seem so well-documented and so immediate as AMR (Chap. 2), but the apparent blessings of immediate cures and economic gains prevent political leaders from addressing the longer-term threat that results from this neglect.
- The WannaCry cyber crisis (Chap. 3) was waiting to happen since the U.S. National Security Agency kept secret a major vulnerability in computer operating systems. That move gave rise to a series of

interconnected developments and precursor events that led to WannaCry—with more serious attacks likely in the future.

- The study of foreign fighters (Chap. 4) suggests that the risks of radicalization and terrorist attacks will increase if they are not allowed to return home from the refugee camps where they remain in limbo.
- Climate change induces migration, but it remains hard to estimate the number of people potentially displaced. This pervasive uncertainty, along with competing agendas, paralyzes government action (Chap. 8).
- Many people may feel uneasy about the rise of Big Data, but it is not easy for governments to act forcefully if that means undermining new technologies, which many believe we depend on for future prosperity (Chap. 5).
- Deep-seated ideological debates created blind spots that prevented the Swedish government from making a realistic assessment of the 2015 migration crisis (Chap. 6).
- Respected experts in the Netherlands and Sweden, sticking with the scientific state of the art, slowed down their governments' reaction to the well-documented emerging threat that we now refer to as Covid-19 (Chap. 7)
- The marriage between commercial and political interests led to an organized effort to suppress attention for damaging earthquakes that were the result of the profitable exploitation of the Dutch natural gas fields. A national response was long avoided, despite the many precursor events of minor quakes and tremors (Chap. 9).

In each case we had no problem identifying an epistemological network of experts who seem to understand the nature and consequences of the threat that is either coming or already with us. These networks are well-established, well-funded and operate across borders. They are frequently linked to international institutions. Whether we talk about climate change, AMR, Big Data, or foreign fighters, the research done is typically world-class.

The chapters together reinforce the importance of the main puzzle animating our approach: it appears that these creeping crises are far from "unknown"—they do not belong to the category of the proverbial "Black Swan" (Taleb, 2010). These are not long-tail events that we discount because we don't understand or don't know about them. These are all thoroughly studied and well-documented threats that draw the constant attention of what we might call a "warning community."

10.2   Understanding the Problem: Generating Attention for the Seemingly Obvious

The key challenge, as this book makes clear, is not one of understanding. It is the challenge of generating political and societal attention that might lead to meaningful action. Experts suggest solutions, but politicians seem unconvinced that the public will support a radical shift in policy. We know from the work of policy scholars that the attention of politicians and policymakers is somewhat of a scarce commodity (scholars say that policy agendas have a limited "carrying capacity"). But policy scholars typically consider crises to be precisely those "focusing events" that should generate attention (Birkland, 2006; Kingdon, 1984).

Why is that not happening in these cases? Why do politicians and the public at large systematically ignore what appears to be written on the wall? Our case studies highlight several types of factors at play, which we briefly summarize below.

10.2.1   The Complexity of Incubation

There is no shortage of experts casting this or that threat into their analytical spotlight. Whether we are talking about biological processes (AMR) or technological developments (Big Data), we can find a handful experts who seem to know nearly everything about the threat at hand. But somehow, this expert knowledge does not escape from the academic confines in which that knowledge is accumulated, honed, and tested. The general public and politicians seem to have only a very rudimentary knowledge base, which does not even come close to the actual state of the art. In fact, it may well be dangerously simplified or outright wrong. It is easy to see, then, how politicians and citizens can misunderstand the real danger of a seemingly new development.

It does not help that expert assessments of a threat are often cast in the language of risk management. Experts want to be helpful: they try to estimate the likelihood of some event occurring and the damage it may cause. The chapter on the Groningen earthquakes provides an illuminating example. Experts assessed the chances of an earthquake of a certain magnitude and they then tried to predict how much damage would be likely. In making such assessments and predictions, they are held to the maxims of science. One of those maxims instructs them to be transparent about the range of uncertainty in which they operate. Predicting future events is,

by definition, a rather imprecise and uncertain endeavor. It should not surprise anyone that experts tend to be rather cautious in their predictions, which may thus fail to rally citizen or politicians toward a response. It is not that they underestimate creeping crises; they just can't say much with a high degree of certainty. So, they do not.

What makes the task even more difficult is that, regarding creeping crises, scientists are not dealing with linear processes that allow for predictions of critical thresholds. These are non-linear processes, marked by long periods of simmering and sudden punctuations or "tipping points." And these punctuations are incredibly hard to predict, as complexity scholars tell us. That's why policymakers and politicians are surprised time and again by crises that seem long in the making but suddenly explode into view.

10.2.2   The Distraction of Precursor Events

Creeping crises tend to produce precursor events. If understood correctly, these precursor events are treated like dire warnings of impending doom. They would be the canary in the coal mine, a signal that things are about to fall apart. But in many cases, these precursor events are classified as minor incidents that can be easily managed. They are treated in isolation from the undercurrent that produces the incident. The focus is on the immediate cause, not the systemic processes that give rise to that cause. AMR, for instance, is often analyzed as a series of unfortunate incidents in impoverished countries, not as an accumulation of multiple dynamics that may cause global mayhem. People on the run from war are treated as unwanted refugees, not as an indicator of sweeping climate change.

Precursor events tend to be manageable (as they are mere incidents). But their manageability provides cover for the underlying crisis. As the incident is managed, the attention for the incident disappears. We might say that the incident absorbs all the attention, providing a false sense of closure. It is like the "near miss" at a busy airport: quickly and thoroughly investigated, but soon forgotten. Immediate causes will be addressed (the inattentive controller) but the real story—too many planes using the airport—disappears from view.

There is an unrecognized force that prevents us from seeing the connection between precursor event and the underlying crisis development. We may refer to this as the *dynamics of impatience*. In modern society, we are all in a rush to move on after an incident has caused a snag in the

fast-flowing processes that facilitate if not propel our endless haste. The relentless pursuit of efficiency cannot be interrupted by deep exploration of underlying forces. We have lost the patience to interrogate an incident and divine its causes and drivers. A precursor event is yesterday's news before we know what actually happened.

In other cases, the response to a precursor event comes rapidly and forcefully but ends up fueling the underlying crisis. This happens when the response to a precursor event is considered a failure. The failure becomes the object of attention. Concern lingers on the symptom rather than the cause. Processes of politicization and media amplification isolate the failure from the importance of the mission.

The chapter on the WannaCry crisis is suggestive in this regard. The security threat was created by national security officials themselves. The capacity to trigger crises for their enemies backfired when their new cyber weapons suddenly caused a crisis for friendly nations. The obvious need to investigate national officials distracted attention from the "real" crisis: critical industries everywhere could be rendered dysfunctional from one moment to the next. In the case of foreign fighters, the immediate response included labeling individuals as domestic security threats and barring their return. The lesson: unintended consequences of the focus on symptoms (rather than underlying causes) may be more diffuse, global threats down the road.

10.2.3   *The Dynamics of Crisis Framing*

The case studies in this book bring home a well-known truth among students of policy agendas and even marketing: there is no such thing as an objective definition of truth. A powerful problem definition or "frame" helps to define a threat in such a way that few or many people recognize that threat (Schön & Rein, 1994). And there are many ways to frame a problem.

The case studies strongly suggest that it is hard to formulate a crisis frame that convinces enough people to move the dial on the opinion barometer. We seem to lack the language to capture the immensity of a threat that has not occurred yet (Ghosh, 2017). Whether we talk about the scary possibility of untreatable germs or the idea that climate change may soon make our planet uninhabitable, we seem at a loss for words to hammer that message into the collective conscience and onto the political agenda. It is easier to worry about relatively small threats (airplane crashes) or threats directly in front of our face (Covid-19).

Governments appear at times reluctant to frame something as an impending crisis. Perhaps this is because a crisis frame runs counter to the political paradigm of the moment (migrants in Sweden), or it may be because a crisis frame implies responsibility (the Groningen earthquakes). Interestingly, the international community (the amalgam of NGOs, international organizations and think tanks) appears to have few qualms in framing this or that development as a creeping crisis. But such frames invite limited action if the frame does not gain any traction at the national level.

10.2.4   Societal Dependence

One rather simple but powerful explanation of the limited attention that creeping crises sometimes receive is the societal dependence on the conditions that spawn these threats. The Dutch government was less than eager to recognize gas-induced earthquakes since the sale of that gas filled the coffers of the Dutch government. Information technology security requires a degree of decoupling from our cherished computers, mobile phones and the Internet. How can we recognize climate change as an urgent crisis if the solution would require a total revamp of the economic drivers that provide our prosperity?

The threat of antimicrobials is illustrative. It may kill us in the future, but there is precious little attention given to this broadening threat. The chapter in this volume describes how human practices, e.g., prophylactic use, create the conditions for its spread in time and space. It demonstrates how the addressing of the conditions at one level feed the threat in another system. But it also makes clear that many, many people—especially those with low incomes—depend on the cheap medicine that lies at the heart of the problem. It is easy to understand why people who cannot afford even the most basic preventive facilities, such as clean water, will not forego an affordable medicine that can keep them healthy today (even if it may kill them in the future).

No solution, no problem—this is how Aaron Wildavsky famously explained the lack of attention for seemingly pressing issues.[1] In other words, if our dependency on a technology or a way of life prevents us from considering alternatives, we don't really have to pay much attention to a

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[1] The provenance of the expression is not clear. An Internet search suggests that the Dalai Lama also used this quote.

potential threat that plays out over the long time. If major sacrifices are politically infeasible, we should not expect much attention to the threat that would demand them. Put in yet another way, well-functioning societies may place the discussion of prosperity-generating technologies and practices outside of reform discussions. Creeping crises derive much of their energy from such taboos.

10.2.5   *Failure of Imagination*

In many of our chapters, national officials perceived emerging crises as "only external" and thus as not of immediate concern or within their mandate to solve. The idea that threats might soon crawl across time and space did not fit their mental maps. The migration crisis of 2015 was notable for the lack of "we-feeling" amongst EU member states; instead, states followed their own routines and impulses even when fellow member states issued warnings. Similarly, the case of foreign fighters shows how the issue is treated primarily from a national perspective, without concern for broader global threats thus created. Perspectives may even be shaped in finer ways: based on a certain agency perspective or epistemological lens. This may blind decision-makers to creeping crises, especially those with a transboundary character.

Not everything can be boiled down to probability and numbers. In the case of Covid-19, experts on infectious disease modeling lamented that "The speed of development surprised us...we thought: this looks like a measurement error" (Engström, Luesink, & Boin, 2021). Estimates by migration experts on the likely pace and spatial dimension of traveling migrants in 2015 were incorrect. Internet security breaches, such as WannaCry, can hit at any time with little warning. Recognizing these threats "bubbling under" requires a different approach than a typical risk approach. Experts that rely on quantitative thinking and shun intuitive understandings of emerging crises may find themselves at a disadvantage when trying to imagine what future adversity may look like.

Even with clear warning signs, creeping crises forebode a future that policymakers may not be willing or able to contemplate. The classic case of a failure of imagination were the 9/11 terror attacks in the US. The plot was long in the making and there were clues floating around. But analysts did not grasp the importance of the clues; they did not "put the pieces of the puzzle together" as the saying goes. It is hard to imagine what you don't know (Kahneman, 2011).

The national experts had all the international information on the spread of Covid-19 they needed to take early decisions but seem to have hesitated because they had no personal experience of an outbreak—they could not feel it like their Italian colleagues who were living through the pandemic. Cognitive understanding was simply not enough to generate sufficient action. As the Dutch medical professor put it after having analyzed the many facts and images from China and Italy, "You see it, but you do not feel it. Only when you feel it, you are aware of it" (Engström et al., 2021).

Creeping crises place a premium on politicians' abilities not just to crunch numbers, but also to imagine future ramifications of accepted practices to recognize the crisis that is right in front of you. Below we discuss research paths that may lead to a less abstract, more practice-oriented, and temporally informed understanding of the creeping crisis.

10.3   Recommendations for Practice: Time to Start Organizing

Creeping crises present practitioners—even those who want to see them and do something about them—with hard challenges. Some creeping crises just go away, some keep eroding; only a few will materialize and cause real damage. How do we know which emergent threat should be addressed? Why act if the chance of an actual crisis is low and the cost of the only available solution is high? What could possibly trigger a meaningful political response?

Our starting point in answering these questions is simple: the risks of these creeping crises are too large to ignore. The unprecedented complexity and cross-border integration of the systems that we collectively and unthinkingly rely on should justify an effort to understand and address these risks. In our view, this is a leadership responsibility. We formulate a set of basic principles that should provide the building blocks for the effective and legitimate management of creeping crises.

Embrace the creeping crisis. Modern society is besieged by creeping crises. Denial may be tempting and even rewarding in the short run. But the threat is real. There is an even better reason for taking creeping crises seriously: they point to deep underlying causes of future dislocations. Creeping crises are portents of invisible shifts that may have all sorts of consequences. The concept is not just relevant for crisis managers, but also for those who seek to predict critical developments. Leaders can create a much better view of the future by embracing the concept and perspective of creeping crises.

Organize the radar. As we have seen, creeping crises are not easy to recognize (even if they develop right before our eyes). A sustained effort must be made to identify this type of threats. They must be actively defined. The signals must be pursued, often across boundaries into unfamiliar or unfriendly domains. This type of effort will require an amalgam of risk analysts, intelligence experts, complexity specialists, and political networkers. Such collections of talent are probably easier found in the world of hedge funds than in government circles. It will take quite an effort to build such teams.

Learn to capture attention. Even the direst threats generate only fleeting attraction. After the first Covid-19 wave crested, societies everywhere moved back to normality with remarkable speed. We now know that Covid-19 had temporarily returned to creeping crisis status, only to reemerge with a vengeance months later. It is hard to capture attention. It is much harder to maintain it. Leaders will have to learn how to keep the creeping crisis in focus without succumbing to the negative questioning that (social) media, opposition forces and concerned citizens are sure to produce.

Invest in quick and massive intervention capacity. Actively collecting signals of a creeping crisis is a good start, but it is hardly enough. A targeted intervention, preferably quick and massive, is necessary to terminate these threats. The problem is that the lack of public and political recognition may undermine such interventions, especially if these interventions touch upon perceived entitlements. What is needed is legally sanctioned intervention capacity. Leaders need the room to act forcefully, but these prerogatives need to be controlled by democratically sanctioned institutions. This brings us to the realm of discretionary powers, which are usually reserved for massive disasters, war, or large-scale crisis events. There is a need to explore how these powers can be employed to battle creeping crises, without eroding democratic checks and balances. Intriguingly, creeping crises offer more opportunities for action. It is easier to create specific capacities if threats are slowly evolving, long-term, and well-known.

Treat interventions as an experiment. Addressing a potential threat with sacrificial strategies is not just politically risky, but is also akin to improvising yourself out of a maze. It is an extreme form of crisis management without the rally-around-the-flag support that makes untried remedies more acceptable. More often than not, it will resemble an experiment. One might as well treat it as an experiment, then (Ansell & Boin, 2019). That means formulating a "null hypothesis," carefully monitoring for

intended and unintended results, modifying the intervention to optimize the result. Such an approach requires measured communications about the nature and effects of the intervention, in order to avoid the derailing effects of exaggerated expectations and subsequent disappointment.

Avoid a false sense of closure. We have noted how an effective response to precursor events can lead to a sense of closure. We recognized the threat and we dealt with it. We can move on; no need to look back. Closure is in order, however, only after the links between the event and underlying forces have been extensively probed. It has to be ascertained that the underlying cause has been removed. The treatment of mere symptoms may hide the real crisis from view, providing it with room and oxygen to grow and morph.

Explore connections with societal dependencies. It is critical that signals of creeping crisis are studied to see if and how they are rooted in societal dependencies. If it they are, the political challenge will be of gargantuan proportions. The task of organizing an intervention is also unexpectedly urgent, as the creeping crisis is likely targeting the pillars of future prosperity. This realization buys political and societal leaders time to imagine an alternative future that is both believable and attractive. If sacrifices are on the table, leaders must persuade voters that an alternative to today is not only necessary but also preferable.

Be transparent. It is tempting to address creeping crises without much fanfare. The successful prevention of a future crisis is, after all, not a vote generator. It even generates political risks. There's a paradox: when you do well, you may stand accused of crying "wolf." Better to work in the background, without rocking the boat too much. While understandable, that sort of thinking is not just a mistake. It is also a lost opportunity to prepare citizens for a new future. The public interrogation of creeping crises can kick-start a societal debate about the necessity and desirability of long-unquestioned practices. A creeping crisis can help to bring home the message that certain things are best changed before they wreak havoc.

10.4   Parting Thoughts: Why the Research Must Continue

If our recommendations for practice seem long on generics and short on specifics, it is because we still know so little about this phenomenon of the emerging-yet-still-to-fully-materialize crisis. In fact, we are still searching for a language that can help capture the type of threat we are facing. We

are building an analytical perspective to capture a specific phase of threat development. The perspective brings together the analysis of threat accumulation with the attention span of politicians, media, and citizens. Importantly, we have shown that these are all interrelated, creating what we may term the dynamics of crisis development.

We showed that there is no linear logic underlying these dynamics. There are long spells of stability or decline. There are different types of tipping points: in the accumulation of threat, attention, and response. We have shone a light on precursor events, which may trigger a response that feeds the underlying threat development. To really understand how these processes arise and interrelate, we need more study. We need to bring together risk experts and complexity researchers, political scientists, policy scholars and crisis management students. There is much work ahead, clearly.

There is a need for a process-oriented focus on the complexity of creeping crises, including their non-linear evolution and sudden manifestations. We recommend that researchers take a closer look at the human practices and the temporal dimensions behind the creeping crises. We are sympathetic to a pragmatist approach (Ansell & Boin, 2019; Dewey, 1930) and practice approach (Bourdieu, 1990; Ekengren, 2018) to help move the study of creeping crises forward.

It is important work. This book offers a clear and workable definition of creeping crisis because, without one, it is hard to garner attention for it (as our chapters on climate-induced migration gas-induced earthquakes make so clear). What can't be defined, one could say, can't be measured. We need to define indicators of accumulation, escalation, and tipping points. What can't be measured is easily disputed. There is a risk here, then, that the problem at hand becomes an object of increasingly abstract discussion. Real action requires sustained attention. That only happens when the creeping crisis can be convincingly related to cherished values, norms, and practices. Researchers have a short road to relevance before them, if they wish to see it.

The most pressing question, perhaps, relates to our capacity to live with the various creeping crises that may or may not materialize, sooner or later. There is a level of uncertainty that clashes with the modern aversion against unwanted and unscheduled events. The urge to control risks sits uneasily with the idea that we do not understand these risks. Research cannot answer these questions, but it can provide knowledge and insights that may shape an informed discussion. We will continue on our mission. We invite readers who feel inspired to join us.

References

Ansell, C., & Boin, A. (2019). Taming deep uncertainty: The potential of pragmatist principles for understanding and improving strategic crisis management. *Administration & Society, 51*(7), 1079–1112. https://doi.org/10.1177/0095399717747655

Birkland, T. A. (2006). *Lessons of disaster: Policy change after catastrophic events.* Washington, DC: Georgetown University Press.

Bourdieu, P. (1990). *The logic of practice.* Cambridge: Polity.

Dewey, J. (1930). *Democracy and education.* New York: Simon and Schuster.

Ekengren, M. (2018). *Explaining the European Union's foreign policy: A practice theory of translocal action.* Cambridge: Cambridge University Press. https://doi.org/10.1017/9781108381451

Engström, A., Luesink, M., & Boin, A. (2021). From creeping to full-blown crisis: Lessons from the Dutch and Swedish response to Covid-19. In *Hiding in plain sight: Understanding the creeping crisis.* London: Palgrave Macmillan.

Ghosh, A. (2017). *The great derangement: Climate change and the unthinkable.* Chicago: The University of Chicago Press.

Kahneman, D. (2011). *Thinking, fast and slow.* New York: Farrar Straus & Giroux.

Kingdon, J. W. (1984). *Agendas, alternatives, and public policies.* Harper Collins Publishers.

Schön, D. A., & Rein, M. (1994). *Frame reflection: Toward the resolution of intractable policy controversies.* New York: Basic Books.

Taleb, N. N. (2010). *The Black Swan: The impact of the highly improbable.* New York: Random House.

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[1] Note: Page numbers followed by 'n' refer to notes.