

Q&A: Coming soon? A brief guide to 21st-century megadisasters

July 15 2020, by Kevin Krajick



Credit: Pixabay/CC0 Public Domain

When it comes to calamities, Jeffrey Schlegelmilch thinks big. In his upcoming book, "[Rethinking Readiness: A Brief Guide to Twenty-First-Century Megadisasters](#)," he explores menaces that potentially could

change not just lives or communities, but entire societies. He groups these into five categories: climate change; cyber threats; nuclear war; failures of critical infrastructure such as electric grids; and biological perils including pandemics.

Schlegelmilch, director of Columbia University's National Center for Disaster Preparedness, has devoted his career to thinking about catastrophe. Trained in business and [public health](#), he worked previously, among other things, as an epidemiologist and emergency planner. Schlegelmilch wrote the book before the coronavirus emerged. We spoke with him in light of what has since happened.

Will the disasters of the 21st century be different from those of the past?

The disasters we are seeing are already different than in the past. We can see this through more and more billion-dollar weather events, more spending on [disaster response](#) and recovery, more lives disrupted. This is because human activity is contributing to both the underlying threats, and our vulnerability to them. Climate change is one example. We are pumping pollutants into the atmosphere at unprecedented rates, leading to more extreme weather events. At the same time, we are building in flood zones and other hazard-prone areas. This dynamic is not unique to [climate change](#). Other disasters, like pandemics, have components where societal development is increasing both the threat and our vulnerability.

What distinguishes a megadisaster from a plain old catastrophe?

This is one of those terms with fuzzy edges that is used a lot in disaster management. In broad strokes, I think of megadisasters as those that are so large, they disrupt the very systems that are designed to respond to

disasters. The book amplifies this concept a little further, defining them as disasters with society-altering potential. This can be along the lines of the Black Death in Europe, the Great Potato Famine in Ireland. These disasters do more than impact society for a while; they permanently alter the course of history.

When all is said and done, do you think the coronavirus will qualify as a megadisaster?

As COVID-19 was starting to circle the globe, I was reviewing the proofs for the book. It was eerie reading the section on pandemics, because the research and the quotes from experts I interviewed could easily have been part of a postmortem for why COVID-19 got so out of control so quickly. But while COVID-19 will certainly have a major impact on our society and the global community, in some ways it could be much worse. The Black Death in the 14th century and the 1918 influenza killed greater numbers. This is a horrible pandemic to be sure, and it will leave scars on our society for generations. But we still have it within our power to mitigate the impacts, and build more resilient systems for future pandemics. The scale of disaster that COVID-19 becomes in the history books is still being determined by the choices we make today. So I am reluctant to put it in the same category as these others. We still time to reduce the impacts, if we are holistic in our perspective, and collaborative in our approaches.



Credit: Pixabay/CC0 Public Domain

Many people would probably argue that climate change is the overarching megadisaster of coming decades, casting its shadow on all others. Would you agree?

I'll answer this in a roundabout way. Scenario-based planning is very popular among the public and elected officials—that is, the kind of planning where you game out a scenario, like an earthquake, a hurricane, or Godzilla coming out of the river to destroy the town. This helps create a story that can be built out at different angles with different requirements. However, most emergency planners prefer to start instead with a functional approach: to establish the building blocks that you would use in any scenario, such as communications, logistics or public information. Then you start to run scenarios to test these overarching issues under different stressors.

My book takes the functional approach in reverse: It lays out five broad megadisaster scenarios in order to frame the overarching issues. I sincerely believe that potential megadisasters are all products of an unsustainable development trajectory, where growth is prioritized over resilience, and where we demand simplicity in an increasingly complex and interdependent world. You won't solve any of these scenarios by focusing on just one. And none of these scenarios occur in isolation from the others. We need to foster capabilities that apply to multiple scenarios, and that can respond to the uncertainty ahead of us.

Nuclear war has been out of vogue for a while as a big worry. Why bring it up now?

It is precisely because it is out of vogue that it is so important to talk about. There is this belief that the threat of nuclear annihilation went away with the collapse of the Soviet Union. But the threat just changed form. In fact, it created new rivalries among China, Russia and the U.S. The economic turmoil of Russia after the Cold War, and the emergence of additional nuclear powers, including rogue nations like North Korea, has increased the potential for smaller-scale nuclear conflict, and nuclear terrorism. The use of nuclear weapons may be more likely than ever

before, but it is also much more survivable than in the height of the Cold War. Rather than the vast global killing arsenals of past superpowers, the threats today are more nuanced. It is not a lost cause to think about life after a nuclear conflict, with the right kind of preparedness.

One disaster can magnify the effects of others, if they happen around the same time or same place. Can this kind of synergy be predicted, or are we dealing with wild cards?

The risk can be predicted, and there are patterns to be sure. But there is also a certain degree of randomness. The COVID-19 pandemic is illustrative. A pandemic was predicted by experts—just not this pandemic at this moment. Now, we are also staring down the barrel of hurricane season, which is forecast to be more active than normal, plus fire seasons in the western U.S. All in the context of many millions of people working from home, relying on our cyber infrastructure. I can't tell you what will happen when, but there is clearly an outside risk of COVID-19 transmission in shelters from storms and fires. And our cyber-dependence and vulnerability is greater than ever. However, we can still be ready. For instance, emergency managers around the county are reviewing and updating their sheltering plans, and companies are upgrading security for meeting software. Establishing the boundaries of uncertainty, then creating options for managing that uncertainty is vital.

Do you have a favorite disaster that you fantasize about, and how you and your loved ones would survive it?

I don't have a particular disaster that I focus on, but am fortunate to be surrounded by family and friends, as well as colleagues who are creative

and compassionate. Some people tell me my job must be depressing, because I have to think up so many horrible scenarios. But it does not take an overactive imagination to predict megadisasters. In fact, the scenarios I imagine are really just reflections on history, and on warning signs from smaller disasters. Imagination is an important asset for this work, to be sure. But an overactive imagination will pull you away from the tell-tale signs we already have before us.

Provided by State of the Planet

Citation: Q&A: Coming soon? A brief guide to 21st-century megadisasters (2020, July 15)
retrieved 11 May 2024 from <https://phys.org/news/2020-07-qa-21st-century-megadisasters.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.