

The Blessings of Disaster: The Lessons That Catastrophes Teach Us and Why Our Future Depends on It

Michel Bruneau. Essex, CT: Prometheus Books, 2022 (ISBN 978-1-63388-823-4, cloth; ISBN 978-1-63388-824-1, eBook).

Michel Bruneau is a bit of a character. I imagine his lectures on earthquake engineering, on which he is a specialist, must have

been fun. He writes as most of us speak, with fluency and engagement. He is happy to quip, just to be sure the reader has not fallen asleep. Indeed, he even surmises that the inattentive reader will have survived the disasters about which he writes, for what he writes is very pertinent, especially for those who do not feel disasters are likely to befall them. There is much to his text. He writes, with lots of examples, about why we live in disaster zones, why we learn from why we remain in such locales if we survive the hazards, and why we still perish even though we are supposed to be learning creatures.

He covers the gamut of natural disasters with examples of the big hits from all over the world. Earthquakes, floods, hurricanes, tornadoes, and volcanoes are all explored with loads of stunning photographs. They reveal both the triumph of good anticipatory engineering, and the disaster of corrupt or non-existent building codes that make pots of money for venal developers and property designers, but tombs for unsuspecting residents, such as took place in Turkey and Syria in the fearsome earthquakes of February 2023, with catastrophic destruction of lives and property.

Given the devastation of the February 2023 Turkish earthquake, which killed over 50,000 in Turkey and, even more tragically, over 10,000 in war-torn neighbouring Syria, let us look at why so many buildings collapsed as if into a pile of pancakes.

Natural disasters are almost always indicative of poor governance and exuberant memories and false anticipations. Bruneau examines the seemingly perverse human

psychology of not anticipating extreme danger, which is all but impossible to predict, especially earthquakes and volcanic eruptions, and where the human mind is not geared to long-range threat.

Much more interesting are his observations on the failures of both design and regulation to ward off avoidable damage and destruction, even where the little pigs (which appear throughout his narrative) are blowing the straw house down. Earthquakes do not happen very frequently, so with the rubble removed, memories fade. Long-established habits of deliberately shoddy building return. Here is an example of why earthquakes kill so unnecessarily.

After the Izmit earthquake in 1999, we were inspecting a factory. You build a strong building with reinforced concrete, which is the standard building material the world over. You have rebar, steel rods inside the columns and beams. You ensure their strength and density at any corners, any junctions, because that's where the earthquake stress is going to be concentrated. Inside this failed manufacturing plant, I could see there was a big crack at one of these joints—big enough that I could get my hand in to see how many reinforcing rods were in there. I put my hand in, and I pulled out a hunk of Styrofoam. The world would be a safer place if concrete were translucent. This is the problem: It's too easy to cheat.¹

Bruneau canvasses why planners do not ensure safeguards, even though experienced hazard engineers like himself give sound predictions. So much of death and damage is political, is lobbying fodder, and reflects the failure of the insurance industry to provide the muscle of refusing cover when standards of safety are ignored. What he exposes in considerable detail, but with delightfully lucid prose and plenty of twinkle in his eyes, are the ever-present failures of learning and unlearning. What is desperately tragic is that the poor and the unseen only emerge in the detritus of devastation. They are often forced by penury to occupy the least protected dwellings, they are uninsured, and they are politically unsupported. The sight of dying and unknown residents in the aftermath of hurricane Katrina, which crashed into New Orleans in August 2005, haunts the mind even today.

There will always be disaster. And in many cases, we are getting it right. Building codes in California, New Zealand, and Japan are strictly enforced, with severe prison sentences for miscreants. But these are the exceptions. All too often, what has happened with great

personal and economic tragedy in Italy, Syria, the Philippines, and Turkey continues to take place. This is not a consequence of psychological misunderstanding or miscalculation. It is a failure of governance conducted at the expense of the innocent and trusting.

Bruneau goes on to include other hazards, covering accidents in the air or on the road and nuclear war and power stations. Once again, his detailed explanation of how much is being achieved to ensure safety is compelling and reassuring. Air travel remains one of the safest ways of transport even in this time of terrorism. But cyberwarfare, cybercrime, and illegal trafficking of people, especially children, carries on apace despite the huge investment in prevention.

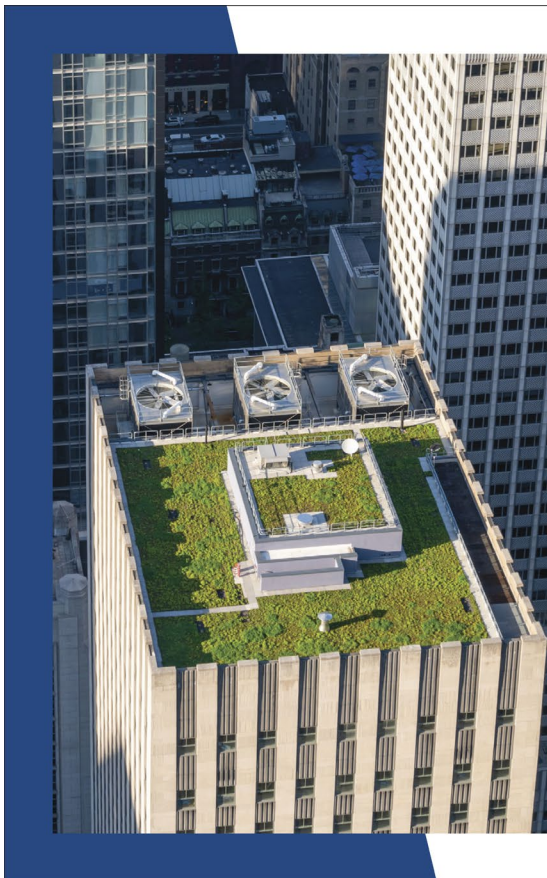
Altogether, this is a treatise on triumph and tragedy. It is a great read, and dear reader you should remain awake and free of danger throughout your enjoyment of it. But you will learn a lot about yourself and your fellow humans in the process.

Tim O’Riordan

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NOTE

1. Andrea Thompson, “Why the Earthquake in Turkey Was So Damaging and Deadly,” *Scientific American*, February 6, 2023.



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