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Disaster preparedness: Risk, rout and ruination

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Anthony King navigates a show on catastrophe, from nuclear apocalypse to γ -ray bursts.

In Case of Emergency

Science Gallery Dublin. Until 11 February 2018.



Science Gallery Dublin

Antibiotic Resistance Quilt by Anna Dumitriu is impregnated with traces of drug-resistant bacteria.

Great stories demand grand finales. Most ancient civilizations collapsed; there have been at least five mass extinctions. Is our destiny different — or is it merely a matter of when and how? In *In Case of Emergency*, an exhibition at Science Gallery Dublin, probes our readiness for global catastrophe.

The aim is to provoke reflection, not to petrify. The 27 exhibits ruminates on nuclear apocalypse, pandemics, galactic death rays and environmental Armageddon. “How people perceive and prepare for risk was something we were interested in exploring,” notes gallery director Lynn Scarff.

In the Doomer Bar, we riffle through the *Manual for Civilization*, a collection of books aimed at rebooting culture. This is being compiled by the non-profit Long Now Foundation in San Francisco, California, and will eventually comprise 3,500 volumes. Next, we enter a circular Situation Room to face difficult choices, an immersive experience involving games, discussions and voting as aids to imagining the end of the world. “These challenges are not easy and scientists don’t have all the answers,” Scarff admits.

One such challenge is antibiotic resistance. A silk quilt on display looks cosy, but the vivid squares are patterned with drug-resistant strains of bacteria, such as MRSA, grown on agar containing multicoloured dye. Artist Anna Dumitriu's *Antibiotic Resistance Quilt* is also patched with *Escherichia coli* that no longer harbour drug resistance, thanks to gene editing using CRISPR. Collaborator John Paul, a public-health microbiologist, sees the piece as prompting “subliminal questions” by ambiguously meshing aesthetics and disease.

Artist Catherine Sarah Young plays with sensory pleasure of a different sort in *An Olfactory Portrait of the Amazon Rainforest*. Eight pungent perfumes guide us through the shrinking Amazon. Inspired by a stay in the jungle, Young created the scents — including 'Earth', 'Spices' and 'Lianas' — hoping to provoke an urge to conserve through this most visceral sense, bound tight to memories. She founded the interdisciplinary Apocalypse Project in 2013, to raise awareness on climate change through art–science works and collaborations. The original Greek meaning of 'apocalypse' is, she reminds, 'lifting of the veil'.

A Sputnik-like aluminium sphere holding a golden capsule is *M-Ark*. Artist and self-confessed aerospace nerd Byron Rich says that it's intended to evoke a vessel circling Earth with a living human microbiome, in the form of freeze-dried microbes, on board. Envisaged as a solution to a planet made inhospitable by climate change, the satellite would crash down to revitalize life on Earth. The piece was created with the Centre for Research in Medical Devices in Galway, Ireland.

So much for creeping catastrophes; what of instantaneous disaster? On the wall are 22 clock faces representing phases of the Doomsday Clock, run since 1947 by the Bulletin of the Atomic Scientists to represent our proximity to technological Armageddon. Set at 7 minutes to midnight just after the Second World War, it is now down to 2.5 minutes to midnight.

At the top of the stairs looms a data sculpture, the *GRB-Locator-Array*. More than 1 metre tall, it has six discs that point towards the latest γ -ray bursts using real-time data from three satellites — Integral, Fermi and Swift. “These are the most powerful explosions in the Universe,” says astrophysicist Antonio Martin-Carrillo, who worked on the project with Fiona McDonald, artist-in-residence at University College Dublin's High Energy Astrophysics Group. A γ -ray burst aimed at Earth could wipe out the planetary atmosphere and initiate global cooling from 2,000 parsecs away. Such an event is a prime suspect in the Ordovician/Silurian mass die-off of marine life 440 million years ago. Unlike the particles ejected by solar flares, γ -ray bursts travel at the speed of light, so we would have no forewarning.

A pair of voting booths probes how skilled visitors are at guessing the likelihood of different cataclysms, from viruses run amok to asteroids hitting Earth. Or we can cogitate on terrestrial ruin, while touching ash from the 2010 eruption of Eyjafjallajökull, the Icelandic volcano that grounded so many flights. Through the on-screen, interactive *Epidemic Event Horizon*, we can select locations for an outbreak of infectious disease and watch the most likely path of its spread by air travel. Physicist Dirk Brockmann, who created this exhibit, says that what matters is not geographic distance: it's the volume of people travelling between two places.

In Case of Emergency left me pondering our brittle existence, but not feeling hopeless. We can size up risks and take precautions; technology and research can lend assistance. Unfortunately, we often hesitate to act unless a threat touches us on an emotional level. Says Scarff: “Our thinking is that when risk is made specific and personal, perception of risk changes.” For relatively slow-burn disasters such as climate change, that has long been a hurdle: the imaginative, even playful approaches in this exhibition show how engagement could happen.

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