The End of the World

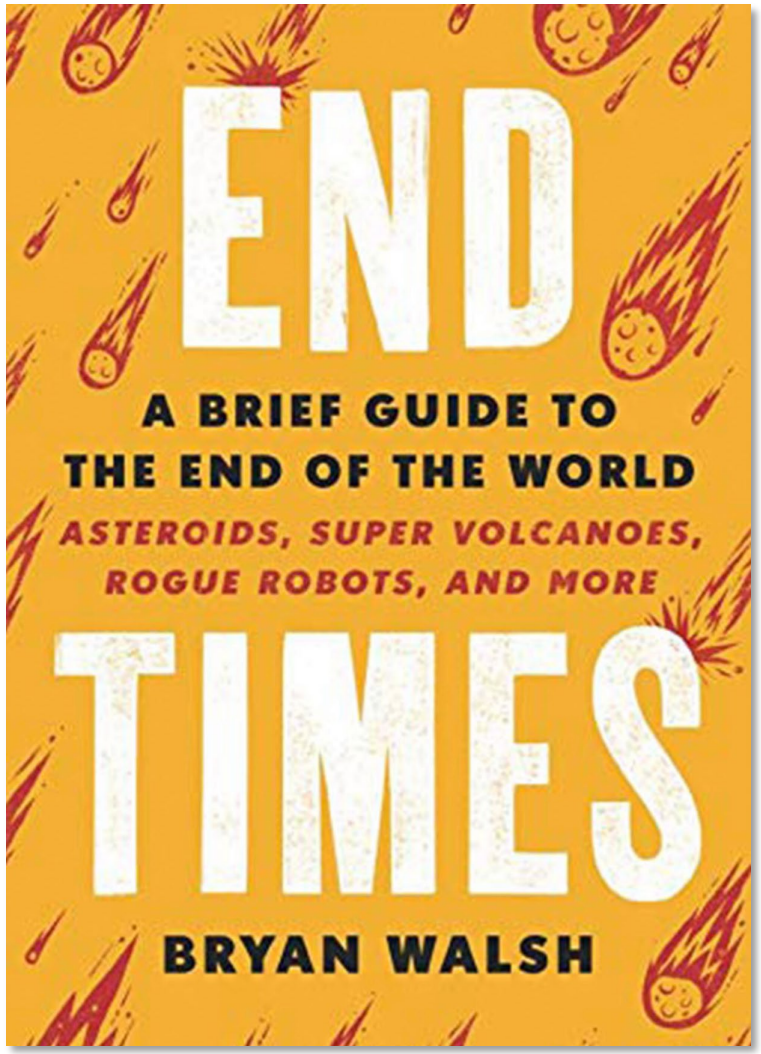
Survival, Disaster Utopias, and The End

Week 16 Lecture | Professor Crews
Religious Studies 357 W

In *End Times: A Brief Guide to the End of the World*, author Bryan Walsh takes us through a wide range of possible end of the world scenarios, from asteroids and super volcanoes to killer robots and climate apocalypse.

Walsh explores many common end times scientific worries and asks how realistic these threats are and what we can do to address them. As he noted in the introduction:

"If we don't appreciate the present, it's in part because we don't fully understand the past— even as we make the mistake of assuming the future will be like the present... Risks that are most available to the mind are the ones that we care about, which is why so much of our regulation is driven by crisis, rather than by reason."



Congratulations, we've reached the final part of Bryan Walsh's *End Times* book, where Walsh reflects on the various existential threats we face as a species, in the process revisiting the many end of the world themes we have explored in recent months—from world shattering asteroids and supervolcanoes to run away climate change and killer AI robots. As Walsh reminds us, "Existential risk is a game played with permanent stakes…We need not just prevention in the face of the worst to come, but resilience."

As we explored earlier in the semester, one major response by some Americans to existential risk is to turn to individual risk management strategies, from investing in bunkers to prepping and personal security. But the problem with such privatized and individualist strategies, besides their tendency to promote lone wolf survivalist and conspiratorial mindsets, is that they fail as a collective action strategy. You can't survive a truly existential risk by prepping, yet millions of Americans—more than 3 million according to a 2017 survey—are doing just that. As one National Geographic survey found, 40% of Americans thought investing in a backyard bomb shelter was a better investment than a 401(k) plan.

As Walsh reminds us, "There are real fears at play in these [end of the word] trends…But instead of rolling up our sleeves and tackling the collective challenge of existential risks, we seem to prefer indulging in individualist survivalist measures…A survival plan that focuses solely on individuals and families, however, won't be sufficient in the face of an existential catastrophe."

Unlike earlier generations that used the danger of a potential nuclear conflict to galvanize broad social changes, the current social mood in America has become one of largely ignoring risks—as we have seen with the twin global challenges of climate change and the coronavirus pandemic.

Yet denying risk provides us with no solutions, only more problems. So, what do potential resilience strategies that take these end of the world risks seriously look like? Walsh provides a few examples that focus on how managing our food needs in a post-catastrophic situation, such as a nuclear winter where the sun is no longer a reliable resource for agricultural production. Some of these food options include:

- Mushrooms
- Rats
- Insects
- Bacteria

In addition to food, Walsh explores the important of creating some type of subterranean human refugia, a place where the human population could live through a global-scale disaster. This might be an underground facility holding hundreds of people or even involve space colonization, although escaping to space will not be a viable strategy anytime soon. We have a version of this with seeds in Svalbard, Norway, home to the Global Seed Vault ('Doomsday Vault'), which stores close to 1 million seeds.

While there is talk about space colonization as one way to avoid existential risks facing planet Earth, the reality of space travel is still a long ways off, and such efforts remain dominated by Silicon Valley techno-libertarian elites.

- Amazon CEO Jeff Bezos founded Blue Origin in 2000, a private space exploration company, with estimated that he dumbs in $1 billion a year from Amazon stocks to fund research and development.

- Tesla CEO Elon Musk founded SpaceX in 2002, another private space exploration company, which has already been working with NASA to fly missions to the ISS and other locations, including launching a Tesla roadster towards Mars in 2018. It October of 2020 it was within 5 million miles of Mars.

Live View of Starman (2/6/2018)

Studies on population dynamics suggest that to work, these human refugia would need to have at least 80-100 people minimum, and more realistically 5,000 people, if humanity wanted to have a real chance to recover from a global catastrophe. Anything less and the human species would die from a lack of genetic diversity. So, who should be those lucky human survivors?

As Walsh noted, certainly not the rich and powerful, who possess no useful survival skills. "The best option might be subsistence farmers and actual hunter-gatherers, human beings who would already be familiar with the basic lifestyle that would now be necessary, once modernity had been swept away."

We would also need a way to preserve and pass on our current knowledge, what Walsh referred to as a "start-up manual for civilization…an actual how-to book for the practical knowledge needed to help a broken society pick up its pieces. Think engineering, farming, and basic medicine…" One such solution offered by British researcher Lewis Dartnell was for an apocalypse-proof and unhackable Kindle that could hold this startup manual, rather than paper books, which Dartnell felt were too precarious.

No offense to Dartnell, but that is a horrible idea. Think about it. You're trying to rebuild a post-industrial civilization that has collapsed and has lost much (maybe all) of its former technology, and you want to entrust the survival of humanity to an electronic device with a battery life of a few years? We have 5,000 years old clay tablets and 4,500 years old paper documents. Sticking to analog storage is a no brainer!

More importantly, if there was a truly global catastrophe that caused industrial civilization to collapse, there would be no rebuilding it. As Walsh suggests, but in my opinion significantly understates, it is impossible to replicate the industrial revolution of the 18-19th centuries. The coal, oil, and natural gas resources that made the industrial revolution possible are gone and can never be replaced.

In addition, our current hi-tech green energy solutions—from solar power and wind turbines to hydropower—all require significant amounts of fossil fuels, rare earth elements, and other resources to produce and build—none of which would be available in a post-industrial world without the advanced technologies to recover, refine, and process raw materials into usable technologies. If (or when) our modern industrial civilization suffers a catastrophic disaster, we need to accept the fact that our future will be very similar to what our ancestors called daily life for tens of thousands of years, one defined entirely by human and animal power and built around non-industrial technologies.

What Walsh describes as the existential hope of "a human civilization that endures for millions, even billions of years, growing powerful and energy-rich enough to support trillions of human beings, all able to live lives of unimaginable material and intellectual plenty," is nothing more than a techno-delusion, fueled by our hopes that the dream of unlimited growth and progress will persist no matter what. Such belies raise a fundamental question about our relationship with technology, ethics, and the future.

Walsh asked a key question worth revisiting here, and which has been a theme in many of the end of the world scenarios we have considered: "is it easier to change people or technology?"

Ultimately, this is a question of ethics and human morality. We saw this with the dual-use dilemma of biotechnology and synthetic biology, as well as with the risks from nuclear weapons and AI. As Oxford philosopher Julian Savulescu describes it, the human quest to develop new technologies simply because we can will inevitably lead to the "Ultimate Harm"—the end of the world—unless we develop ethical guidelines and frameworks to help us manage these new and emerging risks (climate, biotech, AI, etc.).

"No one wants to acknowledge the elephant in the room, and that is that human beings may be the problem, not the political solution…From what I have observed, most of us speak as if we believe it is people who can be changed, but behave as if technology will keep us ahead. We embrace a rhetoric of political change and personal responsibility, but the lives we actually live depend on technology and economic growth, whatever the consequences."

It seems the end of the world might come down to how we answer these two challenges:

- How to address the calculated risks we already know about, such as climate change and nuclear war.
- How to prepare for unknown existential risks, such as a robot apocalypse or unstoppable pandemic.

LAST WEEK TONIGHT

WITH JOHN OLIVER

Our exploration of the end of the world is nearing its finale. In this final segment, I want to take a few minutes to reflect on the larger arc of our class and some key ideas about the end of the world.

If you recall all the way back to the first class, we discussed the religious roots of the end of the world and apocalyptic beliefs in early Judaism and Christianity. Early apocalyptic visions were most famously depicted by John of Patmos in the book of Revelation, but predictions about the end of the world are common throughout the ages and still today, perhaps most famously with modern doomsday cults.

We also considered how the popular view of apocalypse, as signifying a form of hidden or secret knowledge that is only reveled to a select few, has played a role in promoting conspiratorial ideas more broadly, and not just in religious communities. If you recall from discussions about prepping and fear in America, conspiratorial thinking goes hand in hand with certain religious and ideological groups.

Over the past few months, we've seen numerous examples of these conspiratorial beliefs in action, from people denying the risk of a deadly global coronavirus pandemic to claims that a secret cabal of "deep state" globalists and "radical leftists" rigged the 2020 election and stole it from Trump.

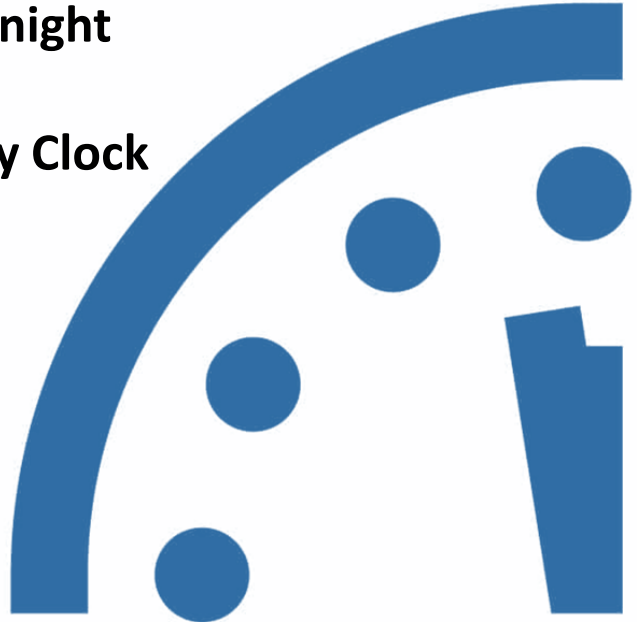
Conspiratorial politics like this are one part of the broader secular apocalypse landscape, the other major apocalyptic framework, and arguably the most popular, as embodied in the pop culture obsession with a zombie apocalypse. With another year of record weather, we're also hearing new and alarming reports about the continued decline of our planet, fanning fears of a secular climate change apocalypse.

Responding to these dynamics, in 2020 the Bulletin of Atomic Scientists moved the infamous Doomsday Clock forward again, this time to 100 seconds to midnight. One can only wonder what 2021 will bring, since were much we're closer to midnight compared to December 2019. As the Bulletin noted in its 2020 Doomsday Clock Statement addressed to leaders and citizens of the world:

"Civilization-ending nuclear war—whether started by design, blunder, or simple miscommunication—is a genuine possibility. Climate change that could devastate the planet is undeniably happening. And for a variety of reasons that include a corrupted and manipulated media environment, democratic governments and other institutions that should be working to address these threats have failed to rise to the challenge."

Closer than ever: It is 100 seconds to midnight

2020 Doomsday Clock



Many prepper communities are also wrapped up with conspiratorial and apocalyptic beliefs of all kinds, as we saw in Bradley Garrett's exploration in his book *Bunker*. From Cold War era nuclear bunkers and the Federal Civil Defense Administration's Duck & Cover videos with Burt the Turtle to more modern survival condos and secretive billionaire bunkers deep inside abandoned missile silos, fears about the end of the world continue to be a powerful force in society and should not be so easily dismissed.

As we saw with many end of the world themes this semester, and with our deep dive into the Chapman University Survey of American Fears, the things that we fear have a profound impact on what we believe and how we act towards others. In other words, what we fear, and how we fear, has real political consequences. As the Chapman Survey showed, these fears can be helpful within reason, such as when they promote civic involvement. But when they get out of control, those same fears can drive us to manifest our worst selves—expressing hatred and distrustful for those not like us.

Our fears about the end of the world, whether rooted in the existential risk from a species-ending asteroid collision or concerns about a future dystopia where AI "slaughterbots" hunt down and kill free thinkers and political dissidents, provide important insights into the cultural zeitgeist that is America.

Yet these fears can be transformed, as Rebecca Solnit shows in her discussion of the 1906 San Francisco earthquake and fires in *A Paradise Built in Hell*. Despite widespread destruction across San Francisco, some of which was made worse by the actions of army officials like General Frederick Funston, people still came together and helped one another out, finding unexpected community, and a sense of shared humanity, amidst the ruins. Sometimes even disasters can show us a glimmer of hope, or what Solnit refers to as disaster utopias.

As she argued, "disaster throws us into the temporary utopia of a transformed human nature and society, one that is bolder, freer, less attached and divided than in ordinary times, not blank, but not tied down…Finding the balance between independence and fellowship is one of the ongoing utopian struggles."

Stories like those of Mrs. Anna Holshouser, who helped setup an early soup kitchen that evolved into the lively Mizpah Café in Golden Gate Park, offer examples of how ordinary people make the extraordinary possible even amidst disasters.

San Francisco Earthquake of 1906: Hot meal kitchen

What all these stories suggest—from the apocalyptic visions in the Book of Revelation to stories of everyday San Franciscans creating community amidst the aftermath of natural disaster—is that we simultaneously long for and dread the truths that an apocalypse can reveal.

We fear the end of the world precisely because it represents the ultimate unknown, where calculated risk slides into existential dread, and we are left to guess about our future. While there is a certain freedom in this uncertainty, precisely because anything is possible, many of us secretly fear the worst. This is precisely what John of Patmos shows us in his visions of the final Day of Judgement—the moment when the full measure of our life is placed before us and we are called to account for our actions.

Yet even this judgement may not be final, a point driven home by beliefs in a secular apocalypse. Maybe the world is not ending, but rather a world, a way of life that can no longer be sustained and must be replaced by something else, is ending. Such revelations require an apocalyptic rupture to be revealed.

Ultimately, how we relate to the end of the world depends on each of us and our own worldviews. Some may welcome the end, while others may strive to push it off, to resist it, perhaps even to deny it exists. Yet we know all things eventually come to an end, even this class. And so, I bid you all a fond adieu as we approach our own end times. With that in mind, I wish everyone a safe and merry end to 2020.

Weekly Assignment Reminder

- Remember to check our class Blackboard regularly for updates, announcements, and other related class information…
- Have you done the weekly readings and watched any associated videos? Weekly readings are listed on the Class Schedule page.
- Reminder that your final class project is due **Wed Dec 16** by end of the day.
- Complete the weekly discussion post response. Initial post due **Wed, Dec 9** by end of day, and peer response post due **Fri Dec 11** by end of the day.


I SURVIVED
2020