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SOUTH FIRST AVENUE

Introduction

Private Arks of the Underground

The immediate cause of World War III is the preparation for it.
C. Wright Mills, The Causes of World War Three, *1958*[1]

For a decade I've been carrying around a small stack of empty notebooks pilfered from the library of the Central Government War Headquarters, a thirty-five-acre Cold War bunker buried deep under the English countryside just outside the city of Bath. The books are pulpy and sallow, and their spines have two spots of radiating discolouration from where the staples holding them together have bled rust into the paper. Each is emblazoned with the royal emblem of Queen Elizabeth II: the letters 'ER', separated by a crown.

Each book is also stamped 'S.O. Book 111'. I've always assumed the 'S.O.' stood for 'Special Operations' and that 111 must be a government code for the type of notebook it is: forty-eight ruled pages. I was later told, by a former government official, that the 'S.O.' actually stood for 'Stationary Office', but I could never confirm this, because the internet provided no answers as to their production or provenance. What I can tell you is that if, during the Cold War years, World War Three had unfurled and London had been obliterated by a nuclear strike, the thoughts of the survivors might have been recorded in those pages. I often wonder about the words that might have been written in them, and I ponder that if those words *had* been written, I might not be alive to read them.

The bunker itself is larger than twenty-five football fields combined, but this didn't make getting into it any easier. The early dusk of winter provided cover for a dozen of us, dressed in black, to squeeze

through a long-broken iron gate and descend some twenty metres down a ramp into a pitch-black underground Bath Stone quarry, which on our tattered map was labelled simply 'Box Mine'. Each of us – all seasoned urban explorers – had long relished the opportunity to investigate what we colloquially knew as the Burlington Bunker. None of us anticipated the scale of what awaited us on the other side of the massive red blast doors we wrenched open with rods ferried from the broken iron gate.

This massive subterranean space could be 'buttoned up' to seal off and shelter 4,000 people for months. Almost 100 kilometres of roads, strung with 100,000 lights, interconnected an industrial kitchen, sleeping quarters, a bomb-proof radio broadcasting station, laundries, a drinking water reservoir and, of course, the government library where I pocketed the book. As we drove hot-wired electric buggies through the complex, it was possible to imagine a small, elite tribe enduring here in the first months of a post-apocalyptic period. What those residents would find when they finally opened the blast doors and walked back up the ramp was more difficult to envisage.

I'd seen astonishing places with that crew of urban explorers – and spent some time in court and jail as a result – but nothing rivalled finding a subterranean city. For a decade after visiting the Burlington Bunker, I kept the notebooks with me, still unfilled, waiting for a story worthy of them. I finally saw my chance in 2016, when the secret city was put on the market for £1.5 million.

One of the prospective buyers was an American called Robert Vicino. Founder and CEO of the Vivos Group, Vicino was a property developer with a difference: his pitch was both doomsayer and saviour. Convinced that the collapse of civilization was imminent, he was all over the internet, speaking in a booming register of pandemics, floods, riots and war; the end of the world as we know it. He lambasted sceptical journalists who sought to interview him for their naivety and unpreparedness, and suggested the government would leave us behind to fend for ourselves when things began to fall apart.

In the face of this catastrophe, the Vivos Group offered buyers a chance at survival: a 'life assurance solution', as Vicino described it, a way to cross through those hazardous troughs. In Burlington, he saw an opportunity: a perfect venue for constructing a private

bolthole to ferry a small percentage of the world's population through that collapse. Imagining the bunker filled with paying clients, rather than government officials, was the beginning of my descent into prepper culture. As I would find over the next few years, there were many like Vicino with similar visions: a group of doomsday capitalists I came to call the dread merchants.

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For much of my life, the word 'bunker' conjured up a mental image of a crumbling concrete Second World War monolith, a pillbox on a beach somewhere in Europe, slumped in the sand, covered in graffiti. Or I would envisage a windowless room under a German city, with a map table and a red telephone, curling cigarette smoke emanating from a huddled group debating taking action with serious consequences. In other words, I imagined bunkers as a generic government-built military redoubt. There's no doubt that during the twentieth century the bunker became a ubiquitous form of architecture in response to the threat of air power. Its precedents, however, have deep roots in human history.

Though the word 'bunker' originates from the Old Swedish word *bunke* – originally meaning 'boards used to protect the cargo of a ship' – the earliest examples of bunkered space long predate the term. In Cappadocia, in the Central Anatolia region of what is now Turkey, the Hittites began carving into its soft volcanic tuff as their empire was fragmenting, around 1,200 BCE. They hollowed out spaces for living, storage and industry inside subterranean systems that were only accessible through small entrances sealed with weighty metre-high millstones. The design allowed for the stones to be rolled open and closed only from inside the bunker.

There are twenty-two known large-scale ancient subterranean cities in the region. Many still exist. The most sprawling is Kaymakli, a network of hundreds of constructed tunnels connecting areas for earthenware jar storage, kitchens, public space and stables. Archaeologists believe that an eight-kilometre-long passageway links Kaymakli to Derinkuyu, the deepest of the twenty-two cities, which at some points reaches sixty metres below the surface. Derinkuyu sheltered as many as 20,000 people, along with their livestock and

food stores, and consisted of more than eighteen floors of bedrooms, halls, churches, armouries, storage chambers, wells and toilets. As a matter of necessity, the Derinkuyu network is punctuated by more than fifty vertical ventilation chimneys – snorkels to Earth's surface.[2]

These bunkers appear to have been used throughout history for extended periods during wars, raids, massacres and times of social unrest. In 370 BCE the Greek scholar Xenophon wrote about the underground cities of Central Anatolia – over 800 years after they were first carved out.[3] In the first century of the Common Era, persecuted Christians hid from Romans in these subterranean cities. It's possible, I would suggest, that the story of Jesus's resurrection in the New Testament, in which the rock was rolled from the cave at Calvary, was based on experiences of rolling the millstones from the Cappadocia bunkers, or spaces like them.

Meanwhile, the persecutors were also building secure spaces. In the Roman city of Pompeii, one resident named Quintus Poppeus, a wealthy in-law of Emperor Nero, had constructed, under his block-sized villa, a hidden chamber with thickened walls and secured subterranean access chambers. The only reason we know about it is because it was preserved by the eruption of Mt Vesuvius in 79 CE.[4] The notion of a Roman bunker seems odd, but that's precisely what it was.

As an architectural space, the bunker developed in tandem with sedentism. To remain in one place, sustained by collected resources necessary for survival, is to make oneself into a target, to invite disaster or social conflict, making defence necessary. It was in this context that the bunker came into being: first adapted from caves whose entrances were blocked up, and later as human excavations.[5] There can't be an accidental bunker. Constructing one requires an awareness of the future and of our own mortality. Just as a hole in the ground isn't a cave unless it's large enough to be entered by humans, an underground space doesn't become a bunker until it's transformed into one through our intervention.[6]

Bunkers have always been existential places: earthly wombs from which to be reborn. When resurrection becomes impossible, bunkers become tombs.[7] Safe crossing through periods of danger and instability requires having a destination plotted in the future and making it

to that destination by weathering the psychological and social hurdles of lockdown. Although you aren't guaranteed resurrection if you build and stock a bunker, you're seriously diminishing your chances of making it through these periods of turmoil if you don't.[8]

Just as bunkers are older than we often imagine, their function and form have changed much over time. In recent years, bunkers have become not just spaces for human bodies but spaces from which to revive the things we care about. Part of what makes our species unique is our desire to transmit culture – ideas, beliefs, symbols and artefacts – from one generation to the next. The bunker, those 'boards used to protect the cargo', is where we now store what we most cherish as a species.[9] The more we have to protect, the greater the urge to 'bunker up'. It's no wonder we now keep all of our virtual data on servers in bunkered sites. The US Library of Congress, for instance, has adapted a massive bunker in Virginia and filled it with all of the library's movie, television and sound collections. The goal is to prevent another catastrophic loss of human knowledge like the torching of the Great Library of Alexandria 2,000 years ago.

There's more. Twenty-first-century experiments in bunkered living involve melding the body and data in the form of DNA and cryonics storage facilities. If death can potentially be forestalled by building a bunker, why not also use it to store biological data – or, even better, the heads and bodies of the dead, who may have hope of being reanimated at some point in the future?

Back in the nineteenth century, the Russian philosopher Nikolai Fedorov was convinced that through science we'd one day learn how to resurrect the dead.[10] Today, the thinking among some in Silicon Valley is that death is a disease that can be cured. Among them is PayPal founder Peter Thiel, who has become convinced that computation will soon be brought to bear on death, eventually reducing it from a mystery to a solvable problem.[11] He's invested in a company called Unity Biotechnology that's working to slow, halt or reverse ageing. These experiments in transhumanism, or the belief that science and technology can assist us in evolving beyond our current physical and mental limitations, often take place in bunkers: spaces of protection for the fragile human body; spaces to sequester information; subterranean time ships.

The southwestern United States, where I was raised, seems to be the epicentre of such plans. Perhaps this is because private bunker-building and bug-out activities have historical precedents in a place whose indigenous cultures have long sought *terra subterranea* to shelter from extreme environmental forces and social conflict. As a result, these underground spaces became places of power and transformation. The Native American tradition of retreating into the underground *kiva*, cliff-dwellings and caves, sites where ancestral forces emerge from the earth rather than descending from the stars, is part of the character of the Southwest, which blends survivalist and apocalyptic beliefs, often to weird effect. One of those effects is the emergence of a subculture of preppers like Robert Vicino, people who are building bunkers underground to survive every eventuality.

As a teenager who grew up on the eastern edge of Los Angeles, I would regularly pack a four-wheel-drive with supplies and head into the Mojave Desert looking for prehistoric remains, foreshadowing an eventual first career as an archaeologist with the United States Bureau of Land Management (BLM). In Colorado, I once hiked for three days into a ravine, over flint-knapped glass and potsherds, until I found myself standing at the rim of a thousand-year-old *kiva*, a stacked-stone structure dug into the ground. Though it was long abandoned, it was easy to imagine descending into it down a ladder in the roof, and then through a hatchway in the floor called a '*sipapu*', a Hopi word meaning humanity's emergence place. Having grown up surrounded by such 'underland' sanctuaries, when I first encountered people burying spaces in the ground for ostensibly very different reasons, it was obvious to me that they weren't just functional, they were hallowed spaces. As I researched this book, I wandered through many places west of the Mississippi, from California to South Dakota to Texas. In each, I dipped into people's underworld dwellings, seeing in them reflections of our past.

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It didn't take long before I was seeing bunkers everywhere: in Europe, Canada, the Korean Peninsula, Thailand and Australia. Today, like many of the technologies we use, the bunker has achieved escape

velocity from its origins. The 'hardened architecture' of the bunker now takes physical form in the infrastructure of our everyday lives – in malls, airports, gated communities, 'shooter-proof' schools, even the vehicles we drive.[12] Each of these is an element of an architecture of dread, a conflict mentality transposed on to everyday life. In this respect, the bunker is a metaphorical space as much as an architectural one: an expression of our twenty-first-century anxieties and insecurities, a reflection of the way we see the world and each other.

The withdrawal of the rich and powerful into fortified and hidden bunker-enclaves – whether for individuals, families, or communities – is the logical end point of the atomization of social life, one in which we build armoured redoubts to keep wealth and possessions inside and potentially hostile forces out. Hollywood and Wall Street are filled with wealthy preppers hedging against collapse by buying space in private bunkers.[13] Their actions, as those historical precedents make clear, herald the end of an era of abundance and the beginning of an age of austerity, rationing and retreat. In the process, the social inequality we experience on the level of the everyday takes on existential significance.[14]

As I wrote this book, there was a swirl of rumour about the Silicon Valley elite burying bunkers on ranches in New Zealand, wealthy Russian oligarchs buying whole Pacific islands to bug out to and bunkers being contracted by the wealthy (notable examples including Bill Gates, Kim Kardashian and Shaquille O'Neal). According to a *Wired* magazine article from 2007, Tom Cruise poured $10 million into building a bunker under his 298-acre ranch in Telluride, Colorado.[15] Ten years later, Reddit CEO Steve Huffman made it clear in a *New Yorker* interview that he felt contemporary life was founded on a fragile consensus that was crumbling, and that he was ready to escape at any moment when it all kicked off.[16] In Los Angeles, a porn production studio even decided to build their new headquarters in an underground bomb shelter – you know, just in case.[17]

Meanwhile, Donald Trump spent much of his time during his presidency at his Florida resort of Mar-a-Lago. The golf course there is undergirded by a bunker built in the early 1950s by breakfast cereal magnate Marjorie Merriweather Post. Back in 2004 Trump told a journalist for *Esquire Magazine* that he'd spent $100,000 'fixing up'

the bunker. He explained that in the event of a nuclear, chemical or climactic calamity, Mar-a-Lago is where he'd want to be. 'We did tests, and the foundation is anchored into the coral reef with steel and concrete,' Trump crowed. 'That sucker's going nowhere.'[18] It was from his private bunker in Mar-a-Lago that Trump made the decision with his top foreign policy advisers to assassinate Qasem Soleimani, one of Iran's top military commanders, in a January 2020 drone strike.

In the spring of 2020, public frustration over police brutality led to civil unrest in cities across the United States, including Washington DC. At one point, President Trump hid in a bunker underneath the White House as protesters clashed with police and Secret Service agents outside. In addition to Mar-a-Lago and the bunkers that come with the job of president, Trump has bragged about having bunkers under his property in Westchester, New York, and under his International Golf Club in suburban West Palm Beach.[19] He isn't the first president to have built his own personal bolthole: John F. Kennedy also had a bunker near his Florida vacation home, not far from Mar-a-Lago, on Peanut Island, a tiny plot made of spoils from a dredging project. His bunker was a more modest affair, however: built over seven days in 1961, it was lined with lead and buried under twelve feet of dirt.[20] Unlike Trump, however, Kennedy built the bunker for one key reason: to survive a nuclear attack.

Today's bunkers are built not so much in response to a single imminent catastrophe, but out of a more general sense of disquiet, in response to a greater variety of threats. These range from temporary civil unrest to 'grid-down' scenarios to an extinction level event (or ELE, in prepper lingo). This gamut of anxieties also reflects how widespread the idea of prepping has become. It has recently been estimated that 3.7 million Americans are prepping on some scale. It's now a multi-billion-dollar-a-year industry and a practice that's quickly being exported around the world as the burden of personal protection shifts to the private sector in many places.[21] Prepping isn't just a result of contemporary conditions of social life, but a lens through which to perceive and understand those conditions.[22]

As an ethnographer, a cultural storyteller, preppers and their practices fascinate me because they make the time to look beyond the

present, and then act on their imaginings about what the future might hold. I wanted to meet preppers, to spend time with them, and to figure out what the motivating forces were behind the construction of spaces built (or adapted) to weather the end times. I wanted to know whether it was paranoia or practicality that was driving them. I was also acting on my own impulses to burrow, to disappear, to feel sheltered from the modern world's invasive din.

I left the United States, and my previous career as an archaeologist, over a decade ago. Since that time, I've travelled to over forty countries and worked in four. My previous ethnographic research in social geography, which involved trespassing with fellow urban explorers into off-limits locations like abandoned buildings, tunnel systems and skyscrapers (as well as government bunkers), took me to some of the most awe-inspiring places humans have created. That project also led to my undertaking research and journalism for some of the world's most venerable institutions. My adult life has been a blur of international flights, research projects, conferences, public lectures and long days in libraries. And the more time I spend thinking about the *geo*, and our place in it, the more I end up realizing that my work as a geographer has been about exploring human limits as much as new places. I find myself circling around one conclusion: the way we've been living up until now can't continue.

This was made painfully obvious during the 2020 COVID-19 pandemic that originated in central China – from Wuhan, the capital of Hubei province – and quickly spread around the globe. As the virus spread, supply lines, international travel and trade routes, economic systems and social norms collapsed over a matter of weeks. The pandemic was precisely the kind of breakdown preppers had awaited. While most people panic-shopped for toilet paper, the preppers closed their blast doors and watched the chaos unfold from a safe distance with wry amusement.

For this project – which involved hanging out with preppers in the spaces they were constructing in half-a-dozen countries over three years – I was determined to saturate myself in disaster, roaming our damaged planet to collect stories from those who felt that humans have reached the end of a terminal phase. Many people I met are convinced something disastrous is coming down the line, and they're

determined to protect themselves from it and to survive it – whatever 'it' may be. Wherever I travelled, I found prepping communities filled with dread about nuclear war and waste, a collapsing ecosystem, runaway technology, pandemics, natural disasters, economic meltdown and violence. Most of all, people decried the deterioration of political discourse, cooperation and civility, the very things needed to address these problems.

Their fears are hardly surprising. Let's consider the nuclear threat. Today, nine countries on earth – France, China, the USA, the UK, India, Pakistan, Israel, North Korea and Russia – wield almost 14,000 nuclear weapons. North Korea's missile tests are ongoing, while Iran's nuclear programme has restarted following Trump's reimposition of economic sanctions on the country. With America's power waning under the influence of isolationist policies, in 2019 Australia began seriously debating whether to start its own nuclear 'deterrence' programmes. Meanwhile, some Scandinavian countries have begun reactivating their Cold War bunkers. The window in the late twentieth century when denuclearization seemed possible now seems to have closed.

In 2018, a year into writing this book, the Doomsday Clock was advanced to two minutes to midnight. The clock, created by a team of atomic scientists in 1947, represents the likelihood of a human-induced global catastrophe. It had not been at two minutes to midnight since 1953, after Russia and the United States tested their first 400-kiloton and 500-kiloton hydrogen bombs, respectively. In 2019, the board of atomic scientists kept the clock hands where they were, signifying what they called the 'new abnormal'. Early in 2020, prior even to the COVID-19 outbreak, the scientists set the hands at 100 seconds to midnight, the closest the clock has ever been to symbolic doom.

But the scientists' decision wasn't solely based on the threat of nuclear war. Another, overwhelming, factor they cited was the fast-developing climate crisis. The 2018 report observed that the world is in 'a state as worrisome as the most dangerous times of the Cold War, a state that features an unpredictable and shifting landscape of simmering disputes that multiply the chances for major military conflict to erupt [and] to halt the worst effects of climate change, the

countries of the world must cut net worldwide carbon dioxide emissions to zero by well before the end of the century. '[23] These grim tidings have been reasserted, and elevated, by scientists ad nauseam. Despite this, little action has been taken by countries to roll back emissions. In fact, worldwide carbon dioxide emissions reached record highs in 2019, just as they did in 2018.

A 2012 UN Intergovernmental Panel on Climate Change (IPCC) report suggested that in the next twenty years the temperature increase will almost certainly cause widespread global flooding, wildfires, infrastructural collapse, crop failure, species extinction and mass migration. Former Vice President Al Gore has described the future we're swerving into as 'a nature hike through the Book of Revelation', the apocalyptic final section of the Christian New Testament. We're already seeing many of these effects: sea levels are submerging Pacific Islands, wildfires rage in drought-stricken Southern California and Australia for months on end, and species of plant, insect, bird and mammal are going extinct a thousand times the 'normal' extinction rates.[24] In Norway, the Svalbard Global Seed Vault, colloquially known as the 'Doomsday vault', which contains almost a million packets of seeds from all over the world, was flooded when the permafrost that was supposed to protect the seeds for eternity rapidly melted.[25] As a response to all the damage we have inflicted on the world, the world, it seems, is now trying to eject us from it.

According to James Lovelock, the English scientist who invented 'Gaia theory' – the idea that the earth is one giant living organism – by 2040 Florida will be sea-floor, much of Europe will be Saharan, and large parts of London will be under water. By 2100, he suggests, 80 per cent of the world's population will be wiped out. His advice in the meantime: enjoy life while you can.[26] A number of scientists have agreed with Lovelock, coming to the conclusion that we are too late to stop this disaster from unfolding. The philosopher Glenn Albrecht, an honorary fellow of the School of Geosciences at the University of Sydney, where I was based as I wrote this book, coined the term 'solastalgia' to describe the sense of grief and existential dread caused by rapid environmental change. It's like nostalgia without geographic distance, mourning for a place we still call home.[27]

Many preppers believe – not unlike many of the geoscientists who work across the corridor from me – that we're already acting too late to avert widespread catastrophe and that, because of the interconnectivity and interdependence created by globalization, incremental breakdown will eventually lead to chaos that could domino us back to the technological middle ages.

And then there are the not-so-incremental natural disaster wildcards that loom large in the mental landscapes and everyday chatter of the prepping community: pandemics, volcanic eruptions, a rogue asteroid colliding with Earth, or even the possibility of artificial intelligence achieving 'escape velocity' and outflanking us. None of these disasters is mutually exclusive. Of the five great extinctions in the history of the Earth (generally defined as the loss of more than 70 per cent of species) – though they had different triggers – all, eventually, were caused by climate change. For instance, the Chicxulub asteroid that slammed into Earth 65 million years ago near the Yucatan Peninsula in Mexico sent the heavy metal iridium into the atmosphere and essentially choked the planet, killing the dinosaurs that had existed for 180 million years. Even further back, during the End-Permian mass extinction 252 million years ago, colloquially known as the Great Dying, 97 per cent of life on Earth was wiped out by the planet's warming by 5 degrees Fahrenheit over roughly 100,000 years. The cause? Mega-volcanoes erupting in Siberia, which slowly poisoned the atmosphere.[28] The temperature of the planet is now rising at a much faster rate, having spiked at 1.8 °F (1°C) above pre-industrial levels only a few hundred years ago. A single catastrophe, like a large-scale volcanic eruption, could accelerate this situation exponentially.

One of the creatures that survived the Great Dying was the Lystrosaurus, a pig-sized mammal-like reptile that burrowed underground and possessed lungs capable of filtering oxygen out of contaminated air.[29] For humans now facing disaster who similarly want to escape underground, the construction of such spaces can only be achieved with extensive resources. Yet what I found in my journeys was that there's a surplus of such places, mostly remainders of the Cold War, around which there now flourishes a vigorous private market, enriched by the public spending of the past.

At the same time, the state's role in subterranean expansion continues apace. In 2019, I attended a lecture in Singapore by Dr Zhao Zhiye, the director of the Nanyang Centre for Underground Space. With a growing population, and limited land at its disposal, Singapore is being forced to find innovative ways to expand. Terraforming – building new land – is taking place, but rising sea levels may reclaim whatever is built. The other option is to dig. Zhao, who is working on a 'subterranean master plan' for the city-state, told the audience that his team thought that the future of Singapore lay in only one direction: down.

Singapore is now burying infrastructure, retail shops, pedestrian walkways, highways, storage, homes and offices deep below ground. The underground city that Zhao imagines is one that will be planned, rational, calculable and subject to constant surveillance: a new kind of underground space.[30] Just as the skyscraper might be considered the architectural form that defined the twentieth century, its foil, the geoscraper, a resilient structure built for density and control, might come to define the coming age of turmoil.

In contrast to Zhao's bracingly optimistic vision, I met many people who were unnerved by the speed of culture and technology, and who saw the underground instead as an effective space for severing connection and facilitating concealment. Some suggested to me that building a bunker was an act of civil disobedience in an age of mass surveillance. It can also be a place to hide from out-of-control innovation. Suspicion amongst preppers is levelled at experiments taking place in the Large Hadron Collider at CERN in Switzerland, which smashes together high-energy particle beams travelling at close to the speed of light; or with respect to CRISPR gene-editing technology, which is making many wary about the potential for creating 'designer babies' that taint our gene pool or render our own reproductive functions irrelevant. Perhaps because of our nuclear legacies, many preppers feel the scientists working at the new edges of research are unsympathetic to consequences of their choices, or indeed that a single scientist might have the potential to become a rogue agent who decides, on behalf of all of us, to hit the 'reset button' themselves. The underground is seen as a place to hide from the relentless march of science.

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Many of the preppers I've met exhibit a clear sense of dread with respect to our collective trajectory as a species. Dread differs from fear: both because it's about the future rather than the present and also because it stems from a danger not immediately present or even discernible. In other words, fear has an object. Dread does not. Whereas we fear people, objects, events and things, dread is an ontological orientation we find ourselves in which can't be attached to something specific. And it is, I believe, the dominant affect of our era.

In 'The Call of Cthulhu', H. P. Lovecraft's immensely influential 1920s tale about the subterranean terror that might be unleashed by human curiosity, the narrator considers: 'The most merciful thing in the world, I think, is the inability of the human mind to correlate all its contents. We live on a placid island of ignorance in the midst of black seas of infinity, and it was not meant that we should voyage far. The sciences, each straining in its own direction, have hitherto harmed us little; but some day the piecing together of dissociated knowledge will open up such terrifying vistas of reality, and of our frightful position therein, that we shall either go mad from the revelation or flee from the deadly light into the peace and safety of a new dark age.'[31]

This new dark age may be just over the horizon.[32] In order to support an unsustainable and voracious human population, we have constructed intricate systems that demand an increasing amount of energy, attention and care. Failure to tend to them leads to disaster. We're left weary, staring into those 'terrifying vistas' of 'deadly light'. All it takes is for one person amongst billions to hit the wrong switch, drop a vial or neglect some routine maintenance, and suddenly disaster is at the door. It's not something we can control.

The problem of comprehending issues that seem to exceed our grasp isn't a new one: humans have always been tortured by speculation.[33] As early as the seventeenth century, advances in medicine and science caused the English polymath Sir Thomas Browne to declare that 'the world itself seems in the wane . . . since a greater part of Time is spun than is to come . . . '[34] In 1704, Sir Isaac Newtown used the Book of Daniel from the Old Testament to calculate 2060 as the date for the Apocalypse. 'It may end later, but I see no reason for its ending sooner,' Newton optimistically wrote.[35] More

recently, in one of his last interviews, the University of Cambridge theoretical physicist Stephen Hawking said that it was 'almost inevitable that either a nuclear confrontation or environmental catastrophe will cripple the Earth at some point in the next 1,000 years.'[36]

Grappling with what is unknowable through cognition may not be unique to humans, but our capacity to dread the unknowable almost certainly is. Whether the ability to know what we can't know is a blessing or a curse often seems to depend on whether we feel capable of responding to it. In order to do so, we must first try and render boundaries around the incomprehensible. That's why preppers do what they do, whether it be stockpiling food or building a bunker: action provides solace.

Most of the preppers I met would consider themselves realists, not doomsayers. Their dread stems from the knowledge that we're a Janus-faced species, constantly working for and against our own interests, but few are fatalistic. Often, I came away from my encounters with doomsday preppers, survivalists, scholars, bunker builders and the devoutly religious with a sense of latent hope – hope of rebirth from disaster. All prepping is about hope for a better future, even if that hope casts a dark shadow.

It's in this context that prepping can be considered a 'millenarian movement'. According to John R. Hall, a sociologist of culture and religion at the University of California, Davis, these movements always posit a '(typically traumatic) end of one era, promising relief from the sufferings of this world and its present age, and purporting to give rise to salvation in a new "golden age," "heaven on earth," or realized utopian social order.'[37] But who is to say that this new order need necessarily be about preserving life as we know it?

It's in the interests of the dread merchants to raise the spectre of Lovecraft's 'black seas of infinity', so that people are more likely to buy the 'life assurance solution' they offer. It's the same business model used to keep eyes glued to screens in the United States. It came as little surprise to me when I found that right-wing US media darlings – including Glenn Beck, Sean Hannity and Alex Jones – all advocate doomsday prepping to their audience – and market products to meet those needs.[38] Networks like Fox News are bolstered by the fear-mongering; the grimmer the news gets, the more people can't stop

watching it. The narratives these networks spin effectively work to undermine public institutions until they falter, vindicating the 'foresight' of doomsday shock-jocks.

The televangelist Jim Bakker has built an empire selling 'survival food' for the apocalypse. Bakker, who was once married to the Christian singer Tammy Faye Mesner, came out of a prison stint for fraud and conspiracy dirt-poor and obsessed with prepping for the 'rapture'. He rebuilt some of his lost fortune selling five-gallon buckets of sodium-saturated dehydrated food on his TV show, which consisted of a weekly outpouring of apocalyptic rhetoric.[39] In his provocative sermons, full of pregnant pauses, Bakker touts the flexibility of these buckets, reimagining them as table supports, Bible storage and 'port-a-johns'.

The place where the show itself is filmed, Morningside, is itself a budding apocalyptic commune tucked into the Ozark Mountains in Missouri, where – I discovered – one can rent a reasonably priced cabin and run into other doomsdayers while shopping at the general store. The wares here are generally not as reasonably priced as the accommodations: six 28-ounce 'Extreme Survival Water Bottles' that they claim can filter radiological and biological contamination sell for $150.

Rating-boosting hyperbole doesn't solely flow from conservative outlets. On both sides of the political spectrum, the media propagates constant dread-saturated assessments of uncontrolled migration, fraught foreign relations, economic instability, endless natural disasters and security risks to a wide and receptive audience.[40] This isn't to say, however, that the media is solely driving the desire to prep. Even the US Department of Homeland Security advises citizens to store 'at least a three-day supply of non-perishable food' in every household, continuing a process that began in the Cold War of putting the burden of disaster preparation on private citizens.

In step with this news cycle, and with such government encouragement, is a political elite that increasingly sees crisis as an opportunity to solidify its own wealth and power, rather than as a challenge to be confronted. There's a certain amount of hubris involved in imagining that we are living on the edge of a great disaster, that this age in which we happen to be alive will be that significant. An even greater

degree of hubris is required to see the possibility as an opportunity, to imagine that we will ride out that disaster into a new phase of history, profiting handsomely in the meantime. Yet many in positions of power – including presidents, prime ministers, cabinet members, CEOs, oligarchs and plutocrats – seem to be willing to take that bet.

One of the unhappy ironies of prepping is that it becomes a self-fulfilling prophecy: the more bunkers that are built, the more convinced people become that the end is truly nigh. This, as we'll see, was the dangerous logic of the Cold War. The more secure government officials felt in their bunkers, the more likely they were to push the nuclear genocide button. With a plan in place to save themselves, they calculated casualties of everybody else as 'megabodies': a totally inhumane term that denoted 1 million dead citizens.[41]

Aware of government's willingness to abandon them to such a calamity, and mindful that threats have multiplied exponentially since the Cold War, people now want their own bunkers, a desire that has generated this surreal real-estate market. What the dread merchants sell is shelter from the cascade of existential horror we all seem to be waiting for.

The founder of philosophical pessimism, Arthur Schopenhauer, once described insurance as 'a public sacrifice made on the altar of anxiety'.[42] Today, preppers regard the construction of bunkers to ride out calamity as a spatial insurance policy, a hedge against the self-destructive tendencies of our species. For those who can afford it, a bunker might provide safe passage through the turmoil to come. Crisis offers an opportunity for hope, change, renewal – and profit.

Taken together, these ways of thinking and behaving comprise a disaster ideology unique to our age. It's an ideology that accepts the calamity – almost as necessity – but also seeks to convert it into a political will for rebirth, where we not only survive but re-emerge into a greatly enhanced personal and social milieu (or, as evangelical Christians – who make up a significant proportion of the prepping community – might put it, paradise). The underground is seen as a safe harbour from which to rehearse perpetual reincarnations; the bunker is a chrysalis, not just for survival but for transformation.

In building these spaces there's an implicit assumption that we have given up on fixing the world we broke. You might imagine (as I

did, often) that the time, resources and sheer energy invested in building these underground redoubts, stocking them and tweaking them for various 'events', might be time better spent in trying to address and mitigate, together as a society, the catalysts for disaster. Prepping is an extreme manifestation of dread, and is symptomatic of a wider sense that we've lost the ability to constrain or control those catalysts, that we've lost agency. Preppers build to regain it. This, more than any reason, is why we should pay attention to private bunkers: they're a reflection of how deeply our dread has saturated us.

Just as the preppers I met imagined multiple forms of threat, so, too, their ways of combating those threats were equally diverse. I found forms of corporate prepping, state prepping, religious prepping, lone-wolf prepping, 'naturalist' prepping, technological prepping, and prepping fuelled by class insecurities. All preppers, though, were driven by one common idea: an overwhelming anxiety about the future, and a desire to create secretive, defensive and resilient spaces that are ultimately dread-resistant.

While writing this book, a decade after our explorations in Burlington, I found myself in Australia, benefiting from the reassurance of a stable political system, a generous research fellowship, good public health care, and a quiver of astonishing technology that assisted my research. I also found myself unable to stop thinking about social, environmental and political breakdown. By the time I left Sydney, the country was in the midst of catastrophic wildfires. Tens of millions of acres had burned in every Australian state, along with thousands of people's homes. Dozens of people died and many more had to flee. A billion animals burned to death. In January 2020, the suburb of Penrith in Western Sydney reached 48.9 °C, making it the hottest place on Earth. The burning only ceased when severe floods caused by heavy rains put the fires out. In other words, humanity once again served at the pleasure of Mother Nature.

When I landed back home in California, the plane descended into a haze of smoke emanating from wildfires surrounding Los Angeles, blurring the distance across the Pacific. I'd returned with my partner to care for my mother, who needed spinal surgery, en route to Ireland where a faculty position at University College Dublin awaited. We just made it. My mother was discharged from surgery hastily, just as