'Sometimes it takes a natural disaster to reveal a social disaster'[1]

Faraday Papers

Natural Disasters and Human Responsibility

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Summary

So-called 'natural disasters' such as floods, earthquakes and volcanic eruptions affect huge numbers of people every year. Yet these very processes make the Earth a fertile, habitable place. It is almost always human actions, or lack of action, that turn natural hazards into disasters. Those in low-income countries, the poor and the marginalised, suffer most and are the least able to rebuild after disasters. A Christian perspective recognises the reality of the brokenness of this world caused by human sinfulness, coupled with the certain hope of a new creation where there will be no more disasters and where all creation will reflect God's glory.

A 24/7 globally connected world thrusts disasters in our faces as never before. Some are evidently caused directly by humans, either accidentally or intentionally: bridges and buildings fall down; fires consume buildings along with many of their inhabitants; dams collapse; road accidents kill around 1.35 million people every year with another 20–50 million injured or disabled;[2] and acts of terrorism and warfare inflict death, disfigurement and terrible suffering on combatants and bystanders alike. Yet other disasters appear to arise from natural causes: earthquakes, volcanic eruptions, heat waves, hurricanes, floods, wildfires, droughts, and pandemics caused by highly infectious diseases such as Covid-19. So-called 'natural disasters' killed an average of over 50,000 people per year and affected 175 million people per year in the decade from 2010[3] (this excludes the many millions of deaths from Covid-19 from 2020 onwards).[4] In this paper I focus mainly on the failures of humans, both in their relationships with others and in creation care, to ameliorate or prevent many of the contemporary disasters globally. It is not my purpose here to unwrap the extensive literature on Christian thinking about evil and theodicy but rather to concentrate on human factors in disasters.[5]

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I draw on evidence both from scientific research and from biblical writers to discuss disasters in a Christian context. People in the Middle East, where the biblical narrative unfolds, have always experienced disasters, including famines, floods, earthquakes and volcanic eruptions, on top of conflict, enemy invasions and warfare. So the Bible provides a rich source of how Christians might understand and respond to such disasters.

In short, the message of this paper is that what we call 'natural' disasters – such as floods, volcanic eruptions and earthquakes − are the very processes that make this world a fertile, habitable planet where humans can thrive. These generally

1 Quote from Jim Wallis in M. A. Fletcher, 'Katrina pushes issues of race and poverty at Bush', Washington Post. September 12, 2005:A02. Available at: www.washingtonpost.com/wp-dyn/content/article/2005/09/11/AR2005091101131.html (accessed 5 January 2022).

2 Global status report on road safety 2018. Geneva: World Health Organization; 2018, 404 pp.

3 Figures from The International Disaster Database, Centre for Research on the Epidemiology of Disasters – CRED, www.emdat.be

4 Reported deaths from Covid-19 were over 5 million by end 2021, but were probably double or quadruple that: see Adam, D. (2022) The effort to count the pandemic's global death toll, *Nature* 601, 312—315.

5 I discuss some of the theological issues around disasters in R. S. White (2014), *Who is to Blame? Nature, Disasters and Acts of God* (Oxford: Lion Hudson), 207 pp. ISBN 978-0-85721-4737. A concise summary of Christian thinking about evil is given by H. A. G. Blocher (2006) *Evil* in New Dictionary of Christian Apologetics (eds. C. Campbell-Jack & G. J. McGrath), Inter-Varsity Press, Leicester pp. 249-252, and the references therein.

beneficial, though often hazardous natural processes, may sometimes be turned into disasters by the actions, or inactions of humans. Indeed, some authors have gone so far as to claim that 'without people there are no disasters'.[6] Thus, we might term them 'unnatural disasters' rather than 'natural disasters' [7] particularly in our scientifically literate age where we have the capability to avoid or mitigate most of their effects.

The Good Earth

The biblical view of creation is that God made this world exactly the way he meant it to be. Six times in the first chapter of the Bible, after each creative day, God is reported as pronouncing what he had made as 'good'. Then after he had made humans, 'God saw all that he had made, and it was very good' (Genesis 1:31). There is not much mistaking the message of the goodness of creation in this seminal chapter.

The 'goodness' of creation as described in Genesis denotes a fitness for purpose. The created order fulfils, or begins to fulfil, God's intentions.[8] But the world God made wasn't some kind of pleasure park or a themed Disneyland where people could sit back, do nothing and soak up the ambience. Rather, there were jobs to do: they had to have dominion (or 'stewardship') over all living things (Genesis 1:28); they had to till the ground and take care of it (Genesis 2:15). Life was never intended to be one of hedonistic indulgence and idleness. God had entrusted care of the earth to humans, who were made in His image. In other words, God placed upon humans a serious responsibility for the kind of rule they are mandated to exercise over creation, a point too often overlooked in discussions about 'natural' disasters. He also gave humankind the capability to understand the world through the orderliness and consistency of its physical processes, knowledge which more recently has been systematised in what we now call the scientific method.

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Scientifically, one of the most familiar and almost mundane disasters is that of flooding, which claims many lives annually. Yet floods distribute soil eroded off mountains and deposit it in river valleys, where it can be used for growing crops and livestock. For millennia, it was the annual flood of the Nile that enabled Egypt to prosper. When the Nile failed to flood, as for example it did in 1784, one sixth of the population died.[9]

Another natural hazard, volcanic eruptions, is crucial to the fertility of the Earth. Volcanoes continually cycle to the surface huge volumes of minerals essential for life. Many volcanic islands such as Hawaii support lush growth of plants and animals, and as a consequence are some of the most biodiverse areas on earth. Volcanoes also provide a geological source of carbon dioxide in the atmosphere. Without that, the planet would probably have been frozen for most of its history.[10] This would have prevented the existence of most, and maybe all of life, including humans. Yet volcanic eruptions may be explosively fatal to those caught up in them.

Considering earthquakes as the last of this trilogy, they occur with a suddenness that is frequently catastrophic, especially if they are near major cities. Yet earthquakes on this dynamic earth are a consequence of plate tectonics, without which there would be no mountain ranges and few volcanic eruptions. The continual building and erosion of mountains and the eruption of molten rock as part of the plate tectonic cycle provides a steady supply of nutrients which allows life to thrive. So earthquakes represent another aspect of God's good creation.

Similar arguments apply to other natural hazards that we may tend to dismiss as contrary to God's good creation. For example, naturally occurring wildfires are crucial for some ecosystems to thrive, including both plants and animals,[11] and are often beneficial to humans.[12] Yet in the past two decades almost 85% of wildfires in the US which damage property, and sometimes cause deaths, are the direct result of human carelessness or deliberate acts like arson, and these are clearly not good.[13]

Even viruses have their uses when they are in their natural place: some animals use them to help prevent bacterial infections. Retroviral inserts in mammals, including humans, are essential to the development and functioning of placentas.[14]

Currently, rapid climate change caused by humans is likely to be the biggest driver of increased natural hazards in the coming decades due to storms, droughts, heat-waves and rising sea levels.[15] The rate of change is faster than human

6 P. O'Keefe, K. Westgate and B. Wisner (1976), Taking the naturalness out of natural disasters. *Nature* 260, 566-567.

7 A campaign group is seeking to spread the message that 'there is no such thing as a natural disaster', not least because it misleads people to thinking that the devastating results are inevitable, whereas in reality much can be done to reduce the vulnerability of communities to natural hazards. See www.nonaturaldisasters.com (accessed 21 June 2021).

8 J. A. Moo and R. S. White (2013) *Hope in an Age of Despair: The Gospel and the Future of Life on Earth,* Inter-Varsity Press: Leicester, 224 pp., ISBN: 978-1844748778

9 M. C-F. Volney, T*ravels through Syria and Egypt: in the years 1783, 1784, and 1785. Containing the present natural and political state of those countries,* translated from French (London: printed for G. G. J. and J. Robinson, 1787). He reported that 'the Nile again did not rise to the favourable height, and the dearth immediately became excessive. Soon after the end of November, the famine carried off, at Cairo, nearly as many as the plague'.

10 The average surface temperature in the absence of greenhouse gases such as carbon dioxide in the atmosphere would be about -6°C or lower (John Houghton, *Global Warming: The Complete Briefing,* Cambridge: Cambridge University Press, 5th Edition, 2015), 396 pp.

11 See for example www.nationalgeographic.org/article/ecological-benefits-fire/ (accessed 23 June 2021)

12 Juli G. Pausas & Jon E. Keeley (2019), Wildfires as an ecosystem service, *Frontiers in Ecology and the Environment,* 17(5), 289-295, doi:10.1002/fee.2044

13 Jennifer K. Balch, Bethany A. Bradley, John T. Abatzoglou, R. Chelsea Nagy, Emily J. Fusco, Adam L. Mahood (2017), Human expansion of the fire niche, *Proceedings of the National Academy of Sciences* 114, 2946-2951; doi: 10.1073/pnas.1617394114

14 E. B. Chuong (2018), The placenta goes viral: Retroviruses control gene expression in pregnancy. PLoS Biol 16(10), e3000028. https://doi.org/10.1371/journal.pbio.3000028

15 IPCC (2012), *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation.* A Special Report of Working Groups I and II of the Intergovernmental Panel on Climate Change [eds. C. B. Field, V. Barros, T. F. Stocker and others]. Cambridge University Press, 582 pp.

populations can easily adapt to, and so may lead to widespread disruption and even loss of life.

Disasters from Natural Hazards

A critical factor in the vulnerability of people to natural hazards is poverty: high-income nations and rich people can generally buy themselves out of trouble, either by building safe homes in regions known to be prone to floods or earthquakes, or by rebuilding afterwards. Poverty makes that much more difficult, though not impossible. The lowest-income countries bear the greatest relative costs of disasters. Human fatalities and asset losses relative to gross domestic product are higher in the countries with the least capacity to prepare and respond to disasters.[16]

Nevertheless, it is not always the case that technologically advanced, high-income countries deal with disasters better than low-income countries. When people live in cities (as the majority of the global population now do), and are divorced from the natural world, they sometimes don't recognise the warning signs of hazards. Culturally embedded indigenous knowledge from previous generations who have faced similar hazards has huge value.[17] For example, during the 2004 tsunami which killed over 230,000 in Indonesia, people living close to the epicentre on Simeulue island off the Sumatran coast, and the Moken people living in the Surin Islands off the coast of Thailand and Myanmar, used knowledge passed on orally from their elders from a 1907 earthquake to survive it. They knew that when the sea retreated suddenly, especially when it followed a period of sustained earthquake shaking, then they should run immediately to high land.[18] That folk knowledge saved numerous lives, while foreign tourists died in their tens of thousands on the beaches of Indonesia.

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Earthquakes

Earthquakes cannot be predicted, but buildings and infrastructure in areas of known earthquake risk can be built to be resilient against earthquakes, and to protect people. During the 2011 Tōhoku magnitude 9.1 earthquake in Japan, despite it being far larger than the maximum expected, no-one in Tokyo was killed by the earthquake because buildings did not fall down. Early warning systems that automatically detected the earthquake 12−15 seconds before the damaging surface seismic waves arrived applied emergency brakes that stopped 33 bullet trains travelling at average speeds of 300 km/hr.[19] Sadly some 23,000 people died from the associated tsunami flooding: ironically, some people lost their lives, despite there being adequate warnings, because they trusted too much in their tsunami protection walls, so either did not try to escape to higher ground, or did not climb sufficiently high.

The likelihood of dying in an earthquake depends primarily on your poverty level or that of your country: connected to that is often poor or even corrupt governance, a lack of education, and weak healthcare provision. A stark example is that the magnitude 7 earthquake in the low-income country of Haiti in January 2010 killed over 230,000, despite having 1,000 times less energy than the 2011 Tōhoku earthquake. The deaths were caused primarily by poorly built buildings collapsing on top of people. It wasn't that the Haitians didn't know how to build earthquake-resistant buildings, as was demonstrated graphically by the fact that a 13-storey plate-glass windowed skyscraper owned by the Digicel telecommunications company in Port-au-Prince survived without a single window being broken, whilst the newly built adjacent four-storey Turgeau hospital collapsed on top of many patients and medical workers.[20]

Volcanoes

Volcanoes usually give warning signs before eruption which allow people to evacuate. However, those warnings are sometimes purposely ignored, in which case there is no doubt that there is human culpability in the resultant deaths and injuries. An estimated 26,000–36,000 people died when Mont Pelée in Martinique erupted violently on 8 May 1902.[21] All but one person died in St Pierre, the largest city of Martinique, only 6 km from the foot of the volcano. Yet there had been ample warning: the volcano had been spewing out ash and mud flows, with numerous earthquakes, for over two weeks. The city was chaotic, with water and food supplies failing, civil unrest, an outbreak of fever and an influx of people from surrounding rural areas. Yet the Governor actively prevented people leaving, even stationing soldiers to stop them walking the 11 mile (18 km) trail to the safety of the nearby commercial capital of Fort-de-France.

Why was the Governor so keen to prevent people evacuating St. Pierre, against all common sense? The reason was that elections were due a few days later on 11 May, and the new socialist party which spoke primarily for the island's black and mixed-race majority looked set to wrest power

16 As of 2020, economic losses due to natural disasters amount to about US$270 billion per year (www.statista.com), of which 40% are due to flooding; see also United Nations Office for Disaster Risk Reduction (UNDRR) (2019), *Global Assessment Report on Disaster Risk Reduction,* 425pp., available for download from https://gar.unisdr.org ; and World Meteorological Organization (2021), *WMO Atlas of Mortality and Economic Losses from Weather, Climate and Water Extremes (1970–2019),* WMO Publication no. 1267.

17 J. Mercer, J. C. Gaillard and others (2012) Culture and disaster risk reduction: Lessons and opportunities, *Environmental Hazards,* 11, 74-95, doi: 10.1080/17477891.2011.609876 ; I. Kelmen, J. Mercer and J. C. Gaillard (2012), Indigenous knowledge and disaster risk reduction, *Geography,* 97(1).

18 B. G. McAdoo, L. Dengler, G. Prasetya & V. Titovd (2006), Smong: how an oral history saved thousands on Indonesia's Simeulue Island during the December 2004 and March 2005 tsunamis, *Earthquake Spectra,* vol. 22, No. S3, p. S661-S669.

19 How Japan's rail network survived the earthquake, *Railway Technology,* www.railway-technology.com/features/feature122751/ accessed 7 January 2022.

20 Reginald DesRoches and others (2011) Overview of the 2010 Haiti Earthquake, doi: 10.1193/1.3630129; see also R. P. Abbott and R. S. White (2019) *Narratives of Faith from the Haiti Earthquake: Religion, Natural Hazards and Disaster Response* (Routledge Focus on Religion), 136pp., ISBN: 978-0367134068

21 G. Thomas & M. Morgan-Witts, *The Day Their World Ended* (London: Souvenir Press, 1969).

from the conservative elite of whites and French expatriates. A large majority of the conservative voters lived in St. Pierre. The minister of colonies in France may even have ordered the Governor to keep St. Pierre's voters in town until the election was over.[22] It was an avoidable tragedy.

Floods

On 12 November 1970 half a million people died in a single night from a flood in East Pakistan when Cyclone Bhola hit the coast. Numerous other examples occur every week, right down to the deaths of one or a few people when rivers burst their banks. Floods disproportionately affect low-income countries and poor people, because high-income countries can protect themselves more effectively. Following tidal surges in 1953 which inundated large areas of eastern England and the Netherlands, killing 2,190 people, both the British and the Dutch spent billions of dollars to build sea defences. But 30 million people living within one metre of sea level in Bangladesh simply don't have the financial resources to build such barriers, even if it were technically feasible in a delta. Present rising sea levels and increasing intensity of storms are caused mainly by global climate change resulting from the burning of fossil fuels.

The way in which floods affect poor people most severely is also apparent when disaster strikes high-income, technologically advanced nations. In the New Orleans floods caused by Hurricane Katrina in 2005, about 1,500 people died – disproportionately the infirm, the elderly, the poor and the marginalised, who could not leave the city as the storm approached.[23] Evacuation plans called for people to use their cars to drive away from the coastal areas at risk of flooding. That worked well for 80–90% of the residents of New Orleans. But 112,000 people without access to personal vehicles were stranded.[24] A report by the University of Louisiana into the causes of more than 50 levee breaches concluded that 'failure of the NOFDS [New Orleans Flood Defense System] was a predictable, predicted, and preventable catastrophe'. It continued: 'this catastrophe did not result from an act of 'God'. It resulted from acts of 'People.'[25] Yet again, we see the same problem of human actions causing a preventable catastrophe.

Pandemics

Pandemics such as Covid-19 are undeniably spread by human contact, with a global reach at the speed of a passenger airline. It seems likely that the Covid-19 pandemic started when the SARS-Cov-2 virus jumped from a wild animal population, where it was tolerated by the hosts, to humans where it had disastrous consequences. The proximity of wild animals to people is a consequence of humans squeezing animals into ever smaller areas and in some cases in wild meat markets bringing species together which would never normally be in close proximity.[26] Interestingly, some of the countries which fared worse in the Covid-19 pandemic were high-income countries with their dense interconnected populations and lack of experience with such diseases, whereas lower income countries and those who had experienced previous infections from SARS, MERS and Ebola responded better to the Covid-19 pandemic. There may also be political and cultural overtones at play, since highly individualised cultures such as the UK and USA, with their emphases on protecting individual freedoms, fared much worse than those societies driven by a strong sense of the importance of community wellbeing.

Climate change

Climate change amplifies risk and makes hitherto rare extreme events more common. It exacerbates many of the natural hazards we face: floods and droughts; high temperature extremes that cause sickness and even death for the very young and very old; rising sea levels as glaciers and ice caps melt, causing increased likelihood of flooding in coastal areas and low-lying islands; declining and uncertain crop yields as weather patterns change and become more volatile; increased intensity of storms and hurricanes as the water vapour content of the atmosphere increases.

The present climate change is happening at a rate unprecedented in human history. Carbon dioxide levels in the atmosphere are higher than they have ever been since humans first walked on earth. The influential IPCC 6th Assessment Report on the physical science of climate change, written by 234 authors from 66 countries and summarising the work of many thousands of the world's best climate scientists, reported that 'it is unequivocal that human influence has warmed the atmosphere, ocean and land'.[27] It also found that the frequency and intensity of climate hazards are increasing due to anthropogenic climate change. There is an obvious moral issue: people in high-income countries have largely caused the climate changes by their burning of coal and hydrocarbons as a source of cheap energy, while those in low-income countries disproportionately suffer the consequences. There are many ways to mitigate the risks of climate change, not only by reducing our burning of hydrocarbons and conserving energy or using it more efficiently, but also by developing drought-resistant crops, ways of farming that waste less water, eating less meat and more vegetable protein, developing better flood warning systems, and so on. These are responses within the power of humans that will reduce or prevent disasters rather than sustaining the idea of 'natural disasters' against which we are powerless.

We cannot say 'nature caused that disaster' as if neither God nor humans had any part in it.

Theological Reflections

The Bible is suffused with descriptions of God not only as the creator, but also as the sustainer of the entire cosmos, of both inanimate and living things: planets and stars and galaxies as well as quarks and photons; plants and animals as well as humans. We cannot say 'nature caused that disaster' as if neither God nor humans had any part in it.[28] Natural processes occur under the overarching sovereignty of God, and so too must natural disasters, despite the undoubted contributions

22 S. Contour, *Saint-Pierre, Martinique, Vol. 2, La Catastrophe et ses suites,* Paris: Editions Caribéennes, 1989.

23 T. Waltham (2005), The flooding of New Orleans, *Geology Today,* 21, 225-231.

24 B. Wolshon (2006), Evacuation Planning and Engineering for Hurricane Katrina, *The Bridge,* 36, 27-34.

25 Team Louisiana, *The Failure of the New Orleans Levee System during Hurricane Katrina,* Baton Rouge: Louisiana Department of Transportation and Development, Appendix VI, 2006.

26 R. Abbott and R. White (2020), *What Good is God? Crises, Faith, and Resilience* (Oxford: Lion Hudson).

27 *AR6 Climate Change 2021: The Physical Science Basis,* www.ipcc.ch/report/ar6/wg1/

28 John Wesley (1755), *Serious thoughts occasioned by the late earthquake in Lisbon:* Wesley wrote "What is nature itself, but the art of God, or God's method of acting in the material world?" A similar idea was expressed over a millennium earlier by Augustine of Hippo (AD 354-430) when he wrote in *De Genesi ad Litteram* that nature is what God has made.

of human action or inaction. The failure of humans to care for creation properly despite the considerable scientific and technological understanding now available means that we must carry responsibility for disasters that we cause or make worse. As Jesus said 'from everyone who has been given much, much will be demanded' (Luke 12:48).

Some Christian authors suggest that physical processes on earth changed in a major way after humans rebelled against God in the Garden of Eden, writing that "earthquakes, volcanoes, floods and hurricanes were unknown before sin entered the world".[29] But geological observations show that there have been floods and tsunamis, earthquakes and volcanic eruptions since long before humans were present. Indeed, as already discussed, the very richness and fertility of this world is dependent on those same natural processes.

But the Bible writers do maintain that humankind's rebellion against God, portrayed in the first chapters of Genesis as the sin of Adam, has continued down throughout human history and in every person since then. That failure of the proper relationship between the creator God and ourselves also resulted in a breakdown of the relationship between ourselves and the rest of God's creation. So growing food became a struggle and toil (Genesis 3:17–19). And the rest of creation was "subjected to frustration" as the Apostle Paul wrote in Roman 8:20. Human selfishness prevented the non-human creation playing its proper role of giving glory to God.

The failure of the proper relationship between the creator God and ourselves also resulted in a breakdown of the relationship between ourselves and the rest of God's creation.

What went wrong, the Bible maintains, was that humans were not content to rule the world on behalf of God, as Genesis 1:28 mandated. Instead, they wanted to rule the world, whether their own tiny patch, or with bigger ambitions, for their own selfish ends. The irony is that Adam and Eve already had everything possible for fulfilled lives, for living in harmony with both God and the rest of creation. But all the relationships between God, humankind and the non-human creation were affected by sin in the Genesis account. Humans lost their immediate access to God, and the rightness and orderliness of life in the Garden of Eden. Their relationships with other people were spoilt, soon resulting in murder (Genesis 4:8) and fear of others, and spoiling the relationship between men and women (Genesis 3:16). That loss of requisite wisdom, and selfishness in the way humans often use creation for their own purposes, are the root causes of why natural processes often turn into disasters.

The way we ought to rule over creation was modelled by Jesus. He rules as a pastor-king; as a shepherd who is in charge of and cares for his flock; a rule that is devoted to the good of others and the glorification of God the Father rather than serving his own ends. For humankind, this rule pre-echoes the new creation, where redeemed people will reign with Christ (2 Timothy 2:12; Revelation 5:9–10; 22:5). That is also why, although all of creation is presently groaning "as if in the pangs of childbirth", it is waiting "with eager longing for the revealing of the children of God", when it will be "set free from its bondage to decay" (Romans 8:19, 21). The new creation will then be able to fulfil the *telos* of creation, of giving glory to God in all its fullness.

Amongst many disasters recorded in the Bible, it is worth mentioning three episodes that draw out some principles as to how we might view them. The first is the seven-year famine in Egypt, recorded in Genesis. Joseph was sold by his brothers into slavery as a result of their jealousy. Eventually, his God-given foresight and administrative abilities enabled him to stockpile grain against a forthcoming 7-year famine. Many people from countries surrounding Egypt came to him for food, including those same brothers who had wronged him and had been minded to kill him (Genesis 37:18). When Joseph eventually revealed himself to them, he affirmed that these events were all in God's providential oversight and intention. Three times over (in Genesis 45:5−8) Joseph tells his brothers that 'God sent me before you to preserve life', eventually culminating in Genesis 50:19−20: 'As for you, *you meant evil against me* [my italics], but God meant it for good, to bring it about that many people should be kept alive, as they are today'. This neatly encapsulates the Bible's acceptance of both the freewill of humans and the sovereignty of God in all things, including disasters. It also highlights the way that God can use the evil actions of others, even sinful and rebellious people, to work out His purposes.

A second Biblical example is Job. He was a righteous worshipper of God and a wealthy man, who lost his livelihood, his wealth, his family and even his health due to a series of disasters. Some of these were apparently due to natural causes, such as a house collapsing in a storm killing all ten children, while others were due to raiders who killed his retainers and stole his livestock (Job 1:13−19). We know from the prologue of the book that God allowed the Satan to test Job – a righteous man who worshipped God – in this way. All Job wanted in the midst of his woes was for God to explain himself, a very human response by almost everyone caught up in a disaster: 'why me, O Lord?'.

When God finally answered Job, He didn't give some tidy reasons that explained why disasters happen. Instead, God gave a magnificent review of his creation and of his sovereignty and care over the whole cosmos: from bringing into being the universe itself with its multitude of stars (Job 38:31–33), through the physical structure of the Earth (Job 38:4–18), its weather (38:22–30, 34–38), and the animals and birds (38:39–39.30), right down to care for what individual creatures eat (Job 38:39–41). God is sovereign over the most scary, untameable parts of his creation, and over evil itself. Job finally understood both that God's purposes cannot be thwarted and that God's knowledge and wisdom is far beyond anything to which Job could aspire. The lesson for us is that we can, and should, hold on to God's faithfulness and goodness as Job did, however dire our circumstances and in the midst of disaster. And that holds true even, or perhaps especially, when the immediate cause of the disaster can be traced to human actions.

This story is a reminder, too, that lament to God is a proper response to suffering and to a deep sense that the world is not how it ought to be. Lament forces us back to reliance on God and paradoxically can give a sense of hope.[30]

As a third Biblical example, Jesus responded to questions about disasters when he was asked why 18 people had died when a tower in Siloam collapsed on them. Jesus used the

29 J. Blanchard, *Where was God on September 11?* Darlington: Evangelical Press, 2002, p. 17.

30 C. Ross (2021) Hope is tough: reflections in a time of COVID-19, *Practical Theology,* 14:1-2, 86-97, DOI: 10.1080/1756073X.2020.1845932

disaster to teach again what we saw with Job, that there is no necessary connection between particular individual sinfulness and suffering. Jesus asked the rhetorical question: "do you think that they were worse offenders than all the others who lived in Jerusalem?", and then answered: "No, I tell you" (Luke 13:4). Then in his characteristic way, Jesus went on to point beyond the immediate question that his hearers wanted answering to a much more important truth: "unless you repent, you too will all perish" (Luke 13:5). He reminds us of the reality of our need for God's mercy. It is striking that Jesus made exactly the same comment when told about the death of Galileans at Pilate's orders (Luke 13:1–3).

Throughout all these examples we see God's sovereignty over both His creation and over His people, even when people have acted in rebellion against him, and even when by their actions people have caused disasters that hurt both others and themselves. But the last word is not with what goes wrong in this world: rather it is with the good news that Jesus brings which gives real hope for the future, with its restoration of right relationships between God the creator, His creation, and His people. Even if there are volcanoes and earthquakes in the new creation, we can assume that they won't hurt anyone, but just be part of a creation that all can enjoy as it glorifies God the creator. It is that forward look to the new creation that led the Apostle Paul to write that 'I consider that our present sufferings are not worth comparing with the glory that will be revealed in us' (Romans 8:18). This is a striking comment considering the many natural disasters Paul had been through, including being shipwrecked three times, of knowing hunger and thirst and often going without food, of being in danger from rivers and at sea (2 Corinthians 11), and living through an earthquake while in prison (Acts 16).

Hope for the future

The Christian gospel is woven through with hope not just for the present but also for the new creation when Jesus returns. This provides a radically different perspective from what the secular world can offer to the problem of disasters: it can only shake its head and say "we must do better next time". That is not much comfort to the bereaved and the suffering.

Jesus is not being insensitive or making light of the very real suffering caused by famines and shortage of food when he tells us not to worry about what we will eat (Luke 12:22). But he does throw us back on dependence on God rather than thinking we can rule the world, or even rule our own little domains ourselves, however we please: practical experience over millennia shows that we cannot do that in a just and equitable way with our sinful natures. Instead Christians should strive to become more Christ-like in the way we live in this world.

The Christian perspective sees the reality of the brokenness of this world, and the sinfulness of people in it, but also the truth of God's sovereignty over it and of his ultimate plans for a new creation. That does not mean that we need not strive to improve things now. Rather it points in the opposite direction, that we should work for better scientific understanding of disasters, that we should enable communities to build resilience against them, and that we should strive to remove the unjust disparities in wealth and resources that mean it is so often the poor who are most vulnerable and who suffer most. Even though we may not be able to prevent every casualty of the next disaster, there is an enormous amount we can do even from our present understanding of natural processes to reduce hugely the likelihood and the impact of disasters. Doing so requires social, financial and political commitment, actions in which we can all engage. This is surely what Jesus would want us to do, using our understanding of His creation for the good of others, and working to enable His creation to reflect his glory as He intended it to.

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