

Address

You are probably aware that flood myths occur in the literature of many different religions, and often follow the same sort of narrative as that of Noah's Ark:

A flood will sweep over the cult centres; to destroy the seed of mankind... it is the decision, the word of the assembly of the gods That's from the Sumerian Epic of Atrahasis.

In the Babylonian flood story, reworked in the poem the Epic of Gilgamesh, the gods first create the human race to be their slave, and then when they find them to be too noisy and troublesome they decide to get rid of them, firstly partially by a plague, and then by a flood. As in the Noah's Ark story, only one family manages to survive, and they take the Earth's creatures on their boat. Greeks, Mayans, Chinese, North American tribes and the Hindu flood legends of Manu are other examples of such mytha.

To quote Steve Jones:

In the fourth century BC, the Greek philosopher Euhemerus came up with an explanation of what lay behind them. Myths of divine displeasure were not evidence of supernatural intervention but were embellished accounts of real occurrences. He was right, and his idea has become a profession. Geomythology ties legend to science and asks how, why, where, and when the incidents recalled took place. Ancient fable and modern technology each have lessons for the future.

Earthquakes, tsunamis and meteor strikes have also been subject of study for geomythologists.

The ancient Egyptians' religious explanation for the Nile rising every Autumn was that the goddess Isis was crying tears for her husband Osiris. However, they were practical enough to measure the Nile's flow for five thousand years, the longest-running set of scientific data ever gathered. They had warning stations all up the river which enabled them to plan how and when to harvest their crops.

The book of Genesis tells us that the Pharaoh was baffled by a recurring dream that he had of seven lean and seven fat cows. Joseph was able to interpret his dream as warning of seven years of plenty followed by seven years of famine, and he warned the Pharaoh that as an insurance policy he must store up a fifth of the harvest during the years of plenty. A statistical filter applied to the Nile records from AD 622 to 1922 points at a seven year cycle of drought and heavy flow, with longer patterns also observed which may be linked to solar cycles.

Many examples of widespread floods in ancient times could have been the one which inspired the story of Noah's Ark. You probably won't be surprised to learn that scientists or pseudo-scientists, known as Arkeologists (with a k instead of a ch) have also been intrigued to know whether the vessel which floated on it could possibly have existed, where exactly it made land, and which animals would have been able to hitch a lift on it.

There are such things as natural arks in the form of large areas of floating vegetation which can drift across oceans for thousands of miles and populate new areas with the life they carry. New Zealand has plants in it that must have floated across the Tasman Sea from Australia 1500km away. Chameleons are very hardy travellers, who have made it across from mainland Africa at least three times and given rise to three distinct groups of the reptiles. Whether they floated on rafts of vegetation or swam, I am not sure. It's probably not

very fruitful to speculate on how 'all creatures that walk on the ground', as Genesis puts it, could possibly have found a place.

Many replica Noah's arks have been made since Old Testament times, for various purposes. In 2007 Greenpeace assembled a replica high up on Mount Ararat, to publicise their concerns about sea level rises. In Kentucky in the USA, there is a \$100 million Ark Encounter attraction, built in 2016 not far from the Creation Museum, both by the creationist Christian organisation 'Answers in Genesis'. They got tax incentives from the Kentucky Tourist Board, which were controversial, not least because employees have to sign a statement of faith in creationist and other fundamentalist Christian beliefs as a condition of their employment. The organisation 'Americans United for the Separation of Church and State', which has members from the Christian and many other religions, as well as non-religious people, raised objections to this, but lost their court case. Inside this replica there are models of creatures which were supposedly on Noah's Ark and which gave rise to modern day animals. They include a dinosaur and a unicorn.

Genesis says the ark rested 'in the seventh month, on the seventeenth day of the month, upon the mountains of Ararat'. Ararat was a general term for an area in what we now call Armenia, rather than a specific peak, but Mount Ararat, in the extreme east of Turkey near the Iranian border, has been widely accepted by many Christians as the resting place of Noah's Ark. It is a volcanic peak, standing at nearly 17,000 feet, and first climbed in 1829. It has a large summit ice cap, but this has been shrinking since 1957. Around 200 people from 20 different countries claim to have seen bits of the Ark on the mountain, and there is some wood purporting to be a fragment of it on display in Armenia's main cathedral. The Armenian coat of arms clearly shows the enormous ark balancing on top of the mountain. Whether or not any of this is true, Mount Ararat itself has an interesting geological history. It sits on the edge of two continental plates in an active volcanic zone. The volcano from which it was formed has been dormant for thousands of years, but the plates beneath it have moved more recently, causing a serious landslide in 1840, and the Armenian earthquake of 1988, each of which killed many thousands of people.

In a book called *The Constant fire; beyond the science versus religion debate* the author Adam Frank says the following:

Changes in climate and the corresponding dramatic variations in water levels and storm activity can occur on relatively short time scales (hundreds, thousands, or tens of thousands of years.) Our genus Homo has seen many of these cycles as glaciers advance and retreat and land bridges between continents emerge and then are resubmerged. Our own species Homo sapiens has certainly been around long enough to see some of these changes. Myth likely represents some cultural memory that remains of these experiences. The transformation of myth into sacred narrative endows memories with moral relevance in a context of broader, deeper themes. This is what makes flood myths so powerful. In the narrative of deluge we see experience of the natural world transformed directly into thematic, sacred stories.

And there are plenty of other sources of stories about climate change, other than the sacred. J G Ballard was a great science fiction writer, and water and floods are one of his preoccupations. His 1962 novel *The Drowned World* is set in 2145, and depicts a time in which global warming has caused most of the earth to become uninhabitable. Much of it is

set in a flooded, abandoned London. Hollywood has tackled similar themes, notably in the blockbuster film *The Day After Tomorrow*. A climatologist, played by Dennis Quaid attends a global climate conference and has his warnings regarding an imminent climate catastrophe ignored by the American vice president. Any similarities to present-day politicians are entirely deliberate. However, on the other side of this equation, the former US vice president Al Gore made an influential popular documentary on climate change *An Inconvenient Truth*, in which he repeats the phrase 'this is a moral issue' several times to hammer home our own responsibility, and this has echoes of the old flood myths which show the human race being punished by having to endure floods.

As we know, underwater earthquakes or volcanic eruptions can cause floods in the form of tsunamis, but devastating as they, are these are natural phenomena. I don't know if many people these days would see floods as 'acts of God'. In these secular times, the phrase has also disappeared from insurance policies, but it has been replaced by another one referring to the power of Nature, and still results in the insurers not having to pay out. As we all now know, human activity plays its part.

The history of climate change research began in the Cold War era in the 60s, in an American military base in Greenland. Scientists took ice core drillings which, using the study of oxygen isotopes and pollen spores within them resulting in a timeline of climate change to right back since the last ice age. It showed that Earth's climate could undergo changes on a much more rapid time scale than was thought hitherto. Shifts of 7 degrees up or down had occurred in the past over just 50 years, and comparable changes in the modern era could mean devastations of human civilisations. In the 1980s the term 'greenhouse effect' was coined, referring to the effect of a layer of gases in the atmosphere being able to form a blanket to trap heat. Carbon dioxide is the most powerful greenhouse gas, and an increase in it is linked to our own fossil fuel consumption. Natural processes recycle CO₂ by dissolving it back into the oceans, but we are over-burdening the system. By the end of the 1990s, the evidence that a man-made rise in CO₂ levels was contributing to global rises in temperature was robust.

It's not always easy to look on the bright side, is it? The enormous scale of human ingenuity has created an environment which for I would assert, has made life more comfortable for the majority of the human race. We can keep ourselves warm, we can keep ourselves cool, and we can produce all manner of devices which make our lives more convenient and enjoyable. But therein lies seeds of problems for ourselves and other living creatures, and the future of our planet, which no one could have foretold at the time of the Industrial Revolution which set it all in motion. On a purely personal level, I think I have adjusted the amount I use my car and try to use the cooker more sensibly. But recent news that solid fuel fires may in the near future be banned, due to contributing to air pollution, has left me rather crestfallen, as we love our wood and coal burning stove.

Those of us of a religious bent may ask: Is there a powerful and benevolent god who can help us work our way out of the perilous position we have got ourselves into? If so, why did he allow us to get into it in the first place? Let us hope that science can prevail, and find ways to get us back on track.

I will finish with some more quotes from Adam Frank's book:

Like scientific cosmology and the mythologies of cosmic genesis, climate science and flood myths represent paired, parallel responses to an elemental encounter with the world. The mythic response came first, embracing both observation of the world and emotive imagination. The scientific response has come only recently after the principles of scientific practise and proper mathematically- based inquiry had been worked out.....The stories that science tells elevate the individual into a collective with stewardship over the planet. A million years of evolution, with its gift of self-consciousness.. Place us in this strange position of cosmic teenagers. Where do we go from here? Do we make it to maturity, or do we destroy ourselves?

On the day I delivered this sermon I added a coda here:

I was heartened in the week just gone by that many school pupils had skipped school to attend rallies in support of action for saving the environment. Teachers were not officially meant to encourage pupils to do this, but a retired schoolteacher friend told me that if she had been working she would have said to her class that on that day they really needed to attend an important lesson she would be giving on the use of the semicolon (wink, wink)