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## An Honest Look at Flood Mythology Leaves Biblical Literalists all at Sea

Gary Hill



I made my song a coat  
Covered with embroideries  
Out of old mythologies  
From heel to throat.  
But the fools caught it  
Wore it in the world's eye  
As though they'd wrought it.  
Song, let them take it  
For there's more enterprise  
In walking naked.

In other essays I have discussed the misleading and dishonest claims and highly simplistic analyses made by fundamentalist Christians and young earth creationists. See, for example, the erroneous use of mathematics in **'The Generation Game: No Prizes For Young Earth Creationists'**; the outright fabrication of a supposedly historical event in **'The St. Fagans Pterodactyl: Lies, Damned Lies And Christian Fundamentalism'**; the blatant and comical misrepresentation of a whole body of scientific knowledge in **'Missing Universe Museum: The Monty Python School Of Evolution'**; and the deliberate misrepresentation of historical documents in **'The Myth that Darwin Influenced Hitler'**. Similar attempts at misinformation can be found in the evidence young earth creationists and Biblical literalists in general present for the historicity of the story of Noah's Ark. The Noah myth will be familiar, I'm sure, to the majority of people brought up in countries influenced by any of the three Abrahamic religions, but for those who aren't here is a brief synopsis, taken from Genesis 6:1-9:17 in the Old Testament:

God is dissatisfied with human beings because they have become sinful and offended him (women were even copulating with fallen angels!). He therefore decides, as any loving parent would, that mass genocide of all human beings is the answer. One man, Noah, is considered by God to be leading a relatively clean and sinless life and so God decides to spare him and his immediate family. God informs Noah of his plans and commands him to build a boat, the 'ark', large enough to carry eight humans (Noah and his wife and his three sons and their wives) and seven of every kind of 'clean' animal on Earth and two of every 'unclean' animal (cleanliness being defined according to preordained dietary rules). Taking a hundred years to do so, Noah builds the ark and boards the animals. When he has finished, God himself closes the door. It rains for 40 days and 40 nights and for 150 days water covers the entire planet, submerging even the highest mountains. The ark eventually settles on Mount Ararat. According to James Ussher, the Anglican Archbishop of Armagh in 1654 and the first person to calculate the age of the Earth using Biblical dating, the ark landed there on Wednesday May 5, 2349 BC. The accuracy of his dating remains suspect; he also calculated that the world would end on October 23rd 1997. All told, Noah and his entourage remain in the ark for just over a year and he releases birds in an effort to ascertain whether dry land exists. Eventually a dove flies back with an olive branch. They all disembark and repopulate the Earth.

All humans currently living are therefore claimed to be descendants of Noah and his family. In one particularly strict literal Christian view, the different races resulted from the descendants of Noah's sons. According to the 'grandfather of creation science' Henry Morris (1978) the descendants of Japheth became the white Aryan race which eventually settled in Europe. The descendants of Shem settled to the north of the Persian Gulf and westward into toward the Indian Ocean, eventually becoming the Jewish and oriental peoples and the descendants of the son cursed by God, Ham (who saw his drunken father naked, and told Shem and Japheth about it), moved south west into North Africa and then southward into the rest of the continent, becoming the African peoples. The origin of people unknown to the ancient Hebrews, such as the Australian aborigines or the South American Indians is, of course, not mentioned in Genesis.

The story of the curse put upon Ham, his son Canaan and their descendants played a pivotal role in Christian objections to the abolition of slavery during the 19th century. The descendants of Ham were considered by some Biblical literalists to be have been divinely selected as slaves to the 'higher' races:

*"Cursed be Canaan! The lowest of slaves will he be to his brothers". (Genesis 9:25).*

One book on the subject by the Presbyterian minister Josiah Priest, 'Bible Defence Of Slavery: On The Origin, History And Fortunes Of The Negro Race', proved so popular it was reprinted eight times in the first five years after it's publication in 1843. Another highly influential work taking a literal Biblical view, as well as a pseudoscientific approach, was 'Essai Sur l'inégalité des Races Humaines' or 'Inequality of the Human Races' by Arthur de Gobineau, first published in French in 1853. The following passage from de Gobineau succinctly demonstrates the extreme nature of the wholly unscientific views a literal interpretation of the Bible has taken us:

*".....there is nothing to show that, in the view of the first compilers of the Adamite genealogies, those outside the white race were counted as part of the species at all".*

It surprises many Christians today to learn that ideas such as these were considered mainstream, particularly by some Protestant sects, in the years before Darwin's findings suggested that all humans, regardless of their 'race', have a common evolutionary

origin. It may also surprise some Christians today also that these ideas are still taught as part of the curriculum in some Christian schools in the USA. Indeed, as recently as 2005 the influential creationist website Answers in Genesis included an article entitled 'A Wakeup Call to Christians' arguing the "seriousness of the threat of the theory of Evolution to the Christian Faith". They lamented changes that had occurred in the South African education system as the result of the dismantling of the apartheid system. Under apartheid, all state schools followed the Christian National Education curriculum, in which teaching of the theory of evolution pertaining to hominids was banned because it directly undermined the Biblical notion that the 'races' were separate creations arranged in a divine hierarchy. The ban was rescinded in 1994. As an example of the dangers of "evolutionary indoctrination" the author, Joshua Gilbert, cites and links to a paper in the South African Archaeological Bulletin (Esterhuysen & Smith, 1998) which states:

*"Christian National Policy stated, amongst other things, that white children should "receive a separate education from black children to prepare them for their respective superior and inferior positions in South African social and economic life, and all education should be based on Christian National principles.....Pupils were indoctrinated by the CN [Christian National] world-view through the formal curriculum, which omitted "anti-biblical" concepts such as evolution, made Bible education compulsory and presented a version of history that..."omitted, distorted or vilified the role of blacks, 'coloureds' and Asians in the country's past."*

Not surprisingly, both the original article and the link to the paper cited have since been removed from the Answers in Genesis website though not, of course, from internet archiving sites.

Nevertheless, despite fanciful claims from fundamentalist Christian groups there is no evidence outside the literary sphere that Noah ever existed and I can't even begin to list the multitude of logical, historical and scientific errors inherent in his story. Indeed, I have never had a conversation with anyone who believes the Noah story to be literally true, without them having to resort, eventually, to supernatural explanatory mechanisms. It is interesting to note that current Christian fundamentalist trends to Biblical literacy were not necessarily shared by the descendants of the people who wrote the Genesis story. For example, the Jewish philosopher Philo of Alexandria (c. 20 BC - 50 AD) consistently argued against a literal view while the noted Jewish rabbi and philosopher Moses Maimonides (1135-1204) stated that Genesis need not be taken literally if the text clashed with newly acquired knowledge.

Using the Bible's own historical narrative as a referent, we are able to place the alleged flood to about 1,300 years before Solomon built the first temple. Archaeological sources have dated this event to approximately 950 BC (at about the time the stories in Genesis are thought to have been first written down, though some authors date them as late as 540 BC). This suggests that the alleged worldwide flood occurred at around 2250 BC, a date roughly in keeping with most young Earth creationist literature. Henry Morris, writing again in 1974, used the year 2026 BC to calculate that the present population of the world could have been achieved in 4000 years starting with a mere eight people (see my essay **'The Generation Game: No Prizes For Young Earth Creationists'** for a detailed discussion of why his figures don't add up). Certainly the majority of Biblical literalists accept a date somewhere in the region of 2200-2400 BC.

This date range places the Noah myth firmly within the Bronze Age, which commenced around 3500-3000 BC, probably in the Middle East, and lasted until approximately 1200 BC when some human societies entered the Iron Age. The Bronze Age coincides with another milestone in human achievement, that of the development of writing and the subsequent keeping of both historical and mundane written records. Postulating such a relatively recent date for a worldwide flood therefore proves highly problematical for young earth creationists. Although archaeological evidence has shown that the ancient societies of Ur, Kish, Lagash, Shuruppak and Nineveh all experienced flood events, they occurred at different times. Most notably, Israel itself shows no geological evidence of ever having been flooded. A number of written records from the neighbouring Egyptian 'Old Kingdom' which existed from 2800-2175 BC are available to us from this time and none of them make any mention of a flood. Indeed, the Great Pyramid of Cheops was built approximately 2589-2566 BC yet shows no sign of silt deposits or any other evidence of having been immersed in water. The Djoser Step Pyramid at Saqqara, built about 2630 BC, similarly shows no evidence whatsoever of water damage. Further, independently calibrated radiocarbon readings from charcoal extracted from intact bakeries discovered in 1991 near to the Giza pyramids have been dated between 2700-2500 BC. All this has led the Egyptologist Peter A. Clayton (1994) to state:

*"The absence of the mention of such a flood in Egyptian records and annals, from the same general Middle-Eastern area where can be found 'the mountains of Ararat,' combined with the archaeological evidence from the Pharaohs' tombs, created before*

*the 2348 BCE flood occurred, reveal that the tale of Noah's flood is a myth."*

There are several other ancient societies with unbroken written records from this time that also make no mention of a flood. Apparently all of these civilisations had failed to notice their complete destruction. For example, the Minoan civilisation based on nearby Crete was highly advanced at this time. They had their own written language, based on an alphabet rather than Egyptian-style hieroglyphics. Their records provide us with no evidence of a flood. Similarly, by 2500 BC the Indus valley civilisation had established two major cities, Mohendaro and Harrapa, both of which rivalled the Egyptians and Minoans in population and technological achievement. They left a comprehensive, unbroken written history dating between 3100-1500 BC. None mention a civilisation-destroying flood. Further east, China's written historical record can be traced back to about 3000 BC. Between 2400-2200 BC, during the Yaou Dynasty, the 'Shu King' text indicates that China was undergoing a particularly prosperous period, something which has been verified by archaeological evidence. Again, although there are a number of references to localised flooding, no mention is made of any cataclysmic flood affecting the whole empire. It is simply not plausible to argue, as some Biblical literalists have, that these advanced civilisations had actually been destroyed by the flood, but within a relatively short timescale had managed to be repopulated from the descendants of Noah's family. Did they then just happen to have conveniently recreated an emulation of the very same culture, technology and infrastructures as existed before the flood? Or even the same culture in a debilitated state? Some creationists think so. As veterinarian and pet-food manufacturer R L Wysong (1976) explains:

*"Primitive civilizations are simply wreckages of more highly-developed societies forced through various circumstances to lead a much simpler, less-developed life."*

The Qur'an offers a far more realistic view of the Noah story. Noah (Arabic: Nur) is mentioned throughout the Qur'an and has a whole chapter devoted to him. The Qur'an states that the flood was localised to the region occupied by Noah and his tribe. There was no ark of Biblical proportions but only a large flat raft made of logs, tied together with rope, and wide enough only to carry Noah's family and some of his farm animals. Discussion of this alternative version of the Noah myth is conspicuously absent from most fundamentalist literature. Which is surprising because, as we shall see, young earth creationists are not shy of claiming that flood myths from cultures existing much farther away and whose own flood stories often converge with the Biblical version in only the very flimsiest of ways, are actually disguised histories of the Biblical story of Noah.

There is a mountain of geological evidence disputing a worldwide flood event too, such as evidence from ice-cores extracted in Greenland which have been dated to > 40,000 years. These samples demonstrate no sediment layer, nor are there any changes in salinity and oxygen isotope ratios, fractures from buoyancy and thermal stresses, or a hiatus in trapped air bubbles, all of which would be expected if the Earth had been covered with flowing water at some point within this time-frame. Indeed, the volume and force of water considered by young earth creationists to have gouged out the Grand Canyon would have provided more than enough buoyancy to break up and float the entire Arctic ice cap away. The Greenland ice cap would have been unable to regrow to its present coverage within 4,000 years, even though it has retreated considerably in recent decades due to atmospheric warming.

Undaunted by such strong refutation from diverse sources, young earth creationists soldier on in their belief in a worldwide flood. As the Institute for Creation Research website affirms, "*The divine inspiration of the Bible would demand that the Genesis account is the correct version*". Indeed, unlike any scientific society, this organisation, not unlike other creationist clubs, requires members to sign a statement of belief (or tenets of creationism) in the inerrancy of the Bible, which must be adhered to regardless of evidence to the contrary. Such a-priori justification seemingly permeates everything published by fundamentalist organisations. One of their key claims, apart from "*the Bible must be true because the Bible says it is true*", is that a literal interpretation of the Noah story is warranted because flood myths are ubiquitous and can be found in cultures throughout the world. They point to numerous narrative elements held in common, in particular, a displeased deity, the availability of a warning, the prior construction of a boat, the inclusion of animals as well as humans on the boat, the grounding of the boat on a mountain peak and the release of birds to determine if the water level had subsided. Creationist author James Perloff (1999) claimed the following:

*"In 95 percent of the more than two hundred flood legends, the flood was worldwide; in 88 percent, a certain family was favored; in 70 percent, survival was by means of a boat; in 67 percent, animals were also saved; in 66 percent, the flood was due to the wickedness of man; in 66 percent, the survivors had been forewarned; in 57 percent, they ended up on a mountain; in 35 percent, birds were sent out from the boat; and in 9 percent, exactly eight people were spared"*

As there are more than 500 widely-divergent myths known to us that portray a flood in some way, in order to achieve such impressive statistics one can only presume that Perloff has been highly selective in the sample he has analysed. Another quote, this

time from the website of the Northwest Creation Network:

*“Old world missionaries reported their amazement at finding remote tribes already possessing legends with tremendous similarities to the Bible's accounts of the worldwide flood..... The overwhelming consistency among flood legends found in distant parts of the globe indicates they were derived from the same origin (the Bible's record), but oral transcription has changed the details through time”.*

There are real doubts that statements like this are actually true. It is also a disingenuous approach to history in light of Christian fundamentalist belief in Biblical inerrancy. On the one hand we are led to believe that a lack of eyewitness reports for the many incredulous events attributed to Jesus is not a problem. We must assume the accuracy of the Gospel stories. This, despite a plethora of historical and experimental evidence demonstrating the rapid decay of orally transmitted cultural information. Consider the life story of Saint Genevieve, written in 520 AD by an anonymous monk only a decade after her death. She was apparently responsible for many miracles, including successfully praying for eleven capsized ships (on one of which she was a passenger) to be made upright during a storm, ordering a cursed tree to be chopped down, resulting in the release of foul smelling monsters, caused water and oil to be created ex nihilo, as well as several people who had stolen from her becoming blind (for an English translation see McNamara, Halborg & Whatley, 1992). Either the monk was outright lying or he had believed things he had been told by others who were either lying themselves or whose information had decayed to the point of absurdity.

Interpersonal communication is necessarily a constructive process derived from inferences made. It is not amenable to high fidelity copying of information. Even the most efficient form of social learning, i.e., imitation, produces considerable variation over time. Biblical literalists sidestep the issue in a less than parsimonious way. They claim that the stories have not been altered by the passage of years between event and author because God has personally guided the hand of the authors. However, tenuous similarities between the story of Noah and flood stories told in diverse cultures are also considered to be infallible evidence for historicity! It appears that young earth creationists are suffering from a particularly chronic case of having ample supplies of cake and eating too much of it.

If the Noah myth is historically true, then none of the authors of any of the flood myths in any other culture have experienced any global flood event themselves (just as none of the authors of the Gospels had actually witnessed any of the alleged events in the life of Jesus). Yet, the importance of having eyewitness testimony to historical events is acknowledged by fundamentalist flood researchers such as Lightner et al (2011):

*“.....a Christian should recognize that reliable eyewitnesses are invaluable for establishing historical facts”.*

If Christians really believed this, of course, they should become Mormons, for there are three men, Oliver Cowdery, Martin Harris and David Whitmer, all of whom signed eyewitness statements claiming that an angel had shown them the golden plates and they had heard God's voice proclaim that they were divinely inspired. Eight others claimed to have handled the plates. The signed statements, along with the birth and death certificates of all three men are available for examination. Biblical literalists claim to be able to go one better, however. There can never be such a thing as a lack of eyewitness testimony when it comes to matters Noah because, as Lightner et al (2011) go on to explain:

*“Clearly, in the first few chapters of Genesis, we have a historical account of the creation of the world and life on it from the most reliable eyewitness, God himself”.*

Eyewitness testimony, even when properly documented is notoriously unreliable, however. Consider this variant of what has become a standard teaching technique in many undergraduate psychology courses: The day after the Space Shuttle Challenger disaster in January 1986, psychologist Ulrich Neisser had students at Emory University fill in a questionnaire with details of what they were doing at the exact time they heard about the event, including the time of day, who they were with, their emotional reaction etc. Two and a half years later Neisser asked the same students the same set of questions in addition to asking how confident they were about their answers, then compared the two descriptions (Neisser & Harsch, 1992). There were three important findings. First, the student's memories were unreliable. As Neisser wrote:

*“.....twenty-five percent of the students' subsequent accounts were strikingly different from their original journal entries. More than half the people had lesser degrees of error, and less than ten percent had all the details correct.”*

Second, people were unaware that their memories were unreliable and tended to express confidence in the accuracy of their later accounts. Third, even when told of the discrepancies between their two accounts, students often insisted that the later memory was the more correct version. Related research demonstrates that when misinformation is corrected it often fails to reduce people's misperceptions. Indeed, there is often a 'backfire effect', in which corrections actually act to increase misperceptions. This latter finding is not surprising. Our overwhelming familiarity with our own minds and subjective experience clouds our judgment in almost every sphere of knowledge acquisition and social interaction. Studies such as this, along with research demonstrating similar fragility of even direct eyewitness memories have been replicated many times. And remember, the majority of these studies have used the more cognitively adept members of society to obtain these results. Yet what we are being asked to believe are the alleged experiences of eight people, written in the third person and transmitted across hundreds of years at least as high fidelity copies of the original event. Indeed, this is just what is supposed to have happened in the time between Noah and Moses according to the Institute for Creation Research website:

*"The Genesis account was kept pure and accurate throughout the centuries by the providence of God until it was finally compiled, edited, and written down by Moses".*

If this is the case, why hasn't the "providence of God" acted to preserve the story of Noah during transmission to other cultures? After all, he did it for Moses. The time gap between Moses receiving God's commandments and the first written records of the event are in the order of 300 years, or about twelve to fifteen generations of oral transmission, supposedly unaltered in not so much as a word. This is despite the fact that much research also demonstrates that people not only subtly change storylines from speaker to speaker but often use metaphors, both learned and novel, at a rate of several per minute of speech. For instance, we "save time" and "spend time" as if it were a physical thing such as money and we "walk someone through a problem". Furthermore, even when events are actually experienced by the original narrator, the quality of recall from memory is subject to a number of cognitive and emotional variables. This has been well established by research into eyewitness testimony and the 'Rashomon' effect, in which several people witness the same event yet describe it later in mutually contradictory ways.

The earliest written accounts of the life of Jesus appeared some 40-70 years after the time of his death, again, we are led to believe, the details were transmitted orally and in their entirety for up to three generations and then translated into Greek and Latin, apparently without any deprecation in meaning (note, however, the apparent deliberate harmonisation between authors in several books of the New Testament, including the Gospels, and between Ephesians and Colossians). So if oral transmission is as accurate as Biblical literalists claim, why are there now myriad flood myths involving hundreds of different characters in hundreds of different plots? There simply shouldn't be any other flood myths. Surely what should be most striking to Biblical literalists is not any perceived similarities between diverse flood myths but the fact that there are so many differences.

The art of doublethink has been honed to a fine art by young earth creationists in other ways. For example, Genesis states clearly that Noah was commanded by God to take every kind of land animal onto the ark. Nevertheless, prominent young earth creationists, such as John Whitcombe and Henry Morris (1961) appear happy to use the flood to explain the unavoidable fact of the extinction of many land animals. This, despite the very first line of their work boldly stating "*the Bible is the infallible Word of God*". Similarly John Woodmorappe (1996) suggests (pages 34-35) that earthworms provided the means for decomposing and handling solid waste on the ark. Then, only twenty-five pages later, in response to earlier arguments put forward by Glenn Morton (1995) he comments "*After raising some transparently absurd problems of snails and earthworms (animals not on the Ark) migrating to the Ark, Morton.....*" Digging himself even deeper, forty pages further into the book he claims that snails provided food for the animals on the ark, directly contradicting Genesis 1:30 and 9:3 which state that there were no carnivores on the ark as all living things were vegetarian until after the flood.

On their website Northwest Creation Network have produced a table listing 35 flood myths collected from around the world that they have scored according to their inclusion of six criteria that characterise the Noah myth. They claim that a "*number of outstanding similarities are found that leave no doubt these stories are rooted in the same event or oral tradition*". I have chosen this particular collection of myths because the table has been widely reprinted in creationist literature for several years, including for example, CreationWiki, and most recently in Charles L Sanders' book 'Did Jesus Believe Genesis?' published by Holy Fire Press in 2012 (the answer of course is, yes he did). Let's dissect their data:

The criteria they list are (i) destruction by water; (ii) divine causation; (iii) the giving of a warning; (iv) sparing of human life; (v) sparing of animal life; and (vi) use of a boat/vessel of some type. They report that 35/35 (100%) depict destruction by water,

18/35 (51%) mention divine causation; 17/35 (49%) note the giving of a warning; 35/35 (100%) mention sparing of human life; 24/35 (69%) mention sparing of animal life; and 32/35 (91%) tell of the use of a vessel of some kind.

Straightaway we can see how Northwest Creation Network have simply padded the data to suit conclusions arrived at a-priori. Two of these criteria are wholly redundant and one is highly questionable as a criterion for similarity. First, all original human settlements necessarily occurred near either sea, lake or river, a pattern repeated by European colonists in recent centuries. Thus it is not the flood myths themselves that are supposedly universal, it is a fact that most people who live next to watercourses experience floods at some time and often on a regular basis. This is still happening. For example, in 1931 in China the Yellow River, then the Yangtze and Huai rivers flooded their banks. At least one million people are estimated to have drowned, and a further three million died from disease and famine in the aftermath of the flood. The fatality rate of this localised flood alone would have represented about 20% of the entire world population in 2200BC. Forty-four years earlier a further two million (10% of the world's population in 2200BC) are estimated to have died when the Yellow River breached it's banks.

It is obvious that localised flooding with potentially devastating effects has occurred throughout history. It is surely not surprising that such events would have been recorded in any society's oral and written history. In the case of Northwest Creation Network's dataset, destruction by water is a given in any major flood event so it's not surprising that it is reported in 100% of cases. Second, the 100% of myths depicting the sparing of human life also tells us nothing. If all lives were lost then there would be no-one left to tell the tale. It would be absurd for a story to tell how every human without exception died in a flood. Third, the 91% of myths that depict the survivors having used a waterborne vessel is also hardly surprising. Those with access to a boat or raft would have a distinct advantage over those without. In a few tales in the sample, survivors climb onto higher ground or even tree tops – it is disingenuous of creationists to include these narratives as 'similar' flood myths – the apparently inerrant Biblical account clearly states this did not happen.

We are left, then, with only three criteria for Biblical similarity; divine causation, the giving of a warning and the sparing of animals. It is surprising that only 51% of the myths tell of a divine causation. In Bronze Age (and less advanced) societies it was commonplace for natural events such as thunder, storms, the rising sun or a successful harvest to be directly attributed to supernatural beings, often via the respectful or disrespectful actions of mortals. They still are today by the woefully ignorant. Witness Pat Robertson's invidious pontification on Hurricane Katrina. The fact that 4000 years ago catastrophic floods were sometimes deemed to be due to supernatural causation should come as no surprise to anyone. That leaves Northwest Creation Network with two valid criteria out of the original six, one of which (a warning) is found in only half of the cases cited. Evidence of this quality might be considered acceptable for publishers of Christian home schooling textbooks but shouldn't cut the mustard elsewhere.

Having lived the bulk of my life in two countries, Australia and Wales, I was interested to see that Northwest Creation Network's sample included both a Welsh and a native Australian flood myth. The Welsh myth they cite describes a lake-dwelling monster named Afanc (or Addanc), who supposedly lived in Llyn Llion (thought to be the modern-day Llyn Tegid, near the town of Bala). Afanc was reputed to be an angry beast and to attack and devour anyone who entered the lake and one day, in a fit of rage, he thrashed around so much that all the water from the lake spilled out and caused a great flood. Everyone in Prydain (the ancient Welsh name for Britain) drowned except Dwyfan and Dwyfach who managed to survive in a mastless boat. They then built a huge ark named 'Nefyd Naw Neifion' ('Work of Neptune') in which they carried two of every living thing and repopulated Prydain. As told here, this myth appears to meet four of Northwest Creation Network's six Biblical criteria for a valid flood myth; destruction by water, humans spared, animals spared, and a vessel used for safety.

Or does it? Unfortunately this myth is not all it seems. The Welsh myth was first published in two separate triads (a traditional Welsh literary style in which ideas or related narratives occur in threes) included in the medieval manuscripts collectively known as 'Trioedd Ynys Prydain' ('Triads of the Island of Britain'), which are believed to have been gathered together in the late 13th century. Original copies of the Triads are housed in the National Library of Wales in Aberystwyth. They certainly contain an ancient Welsh myth of a dangerous creature called Afanc living in Llyn Llion whose energetic writhing caused a great flood. However, the original story is devoid of two characters called Dwyfan and Dwyfach, and an ark. The version promoted by creationists was found in a cottage owned by the Welsh stonemason and antiquarian Iolo Morganwg, following his death in 1826. Although certainly considered an expert in Welsh mythology, Morganwg also had a reputation for forging large numbers of manuscripts. Written in his own hand, Morganwg's Welsh flood myth comprised part of an attempted modern 'reworking' of 'Trioedd Ynys Prydain' which remained unfinished. It is difficult to believe that young earth creationists have not become aware of this fact. They are showing blatant dishonesty by including this story.

The Australian myth cited by is that of the Kurnai (or Gunai) people who occupied most of the region known as Gippsland in the present day state of Victoria and much of the southern slopes of the Victorian Alps. Gippsland borders the sea to the south and the Victorian Alps to the north, which can experience considerable snowfall in the winter months. This always melts entirely in spring. So it is not surprising that floods were experienced by these people. Northwest Creation Network claim that the Kurnai myth meets four of their six Biblical criteria; destruction by water; sparing of human life; sparing of animal life; and use of a boat/vessel of some type. Here is the myth as reported in L. H. Gray and G. F. Moore (Eds.), *The Mythology of All Races* (13 volumes., 1916–33):

*“...all the country was under water, and all the black iciona(?). People were drowned except a man and two or three women, who took refuge in a mud island near Port Albert. The water was all round them. Just then the pelican, or Bunjil Borun, as the Kurnai call the bird, came sailing by in his canoe, and seeing the distress of the poor people he went to help them. One of the women was so beautiful that he fell in love with her. When she would have stepped into the canoe, he said, “Not now, next time”; so that after he had ferried all the rest, one by one, across to the mainland, she was left to the last. Afraid of being alone with the ferry- man, she did not wait his return on his last trip, but swam ashore and escaped. However, before quitting the island, she dressed up a log in her opossum rug and laid it beside the fire, so that it looked just like herself. When the pelican arrived to ferry her over, he called, “Come on, now.” The black and log made no reply, so the pelican flew into a passion, and he kicked it, which only hurt his foot and made him angrier. He began to paint himself white so that he might fight the woman’s husband. Another pelican came up when he was halfway through with these preparations, but not knowing what to make of the strange half black and half white creature, pecked him and killed him. That is why pelicans are now black and white”.*

Does this myth really show an uncanny similarity to the Biblical account of Noah? I think not, unless your threshold for evidence is ludicrously low. The similarities appear more accidental than related. The last line is the key to the meaning of the story. This stylistic method of storytelling, using a short final sentence to reiterate the reason for telling the story, is commonly used in both the oral and written versions of Australian aboriginal myths.

While we are in Australia I thought it might be informative to examine another aboriginal myth, a story from Western Australia telling of the ‘Ark Gumana’. This myth is cited by the Answers in Genesis website (and retold extensively throughout young earth creationist literature) as a prime example of a myth whose content coincides to a high degree with that of the story of Noah. The story comes from the normally arid Noonkanbah region which is nevertheless subject to occasional extensive flooding resulting from heavy seasonal rain which sometimes causes the Fitzroy River to burst it’s banks. Two especially devastating flood events occurred in 1949 and 1954, with the intervening years characterised by a severe drought. The ‘West Australian’ newspaper reported in 1954 that the swollen river caused some local roads to be covered by three metres of water and 400 sheep were drowned on one property alone. The story, as told by Answers In Genesis, goes like this:

*“During the Dreamtime flood, woramba, the Ark Gumana carrying Noah, Aborigines, and animals, drifted south and came to rest in the flood plain of Djilinbadu (about 70 km south of Noonkanbah Station, just south of the Barbwire Range and east of the Worral Range), where it can still be seen today. The white man’s claim that it landed in the Middle East was a lie to keep Aborigines in subservience”.*

Answers in Genesis are ecstatic at such a find proclaiming:

*“That story mentions both the Ark and Noah. Aren’t those similarities unlikely to be merely coincidence? Indeed it is not a coincidence!”.*

Answers In Genesis are being somewhat extravagant and premature in the value they place in this myth. The original publication of the story appears to be in a 1980 paper ‘Noah’s Ark Revisited: On the Myth-Land Connection In Traditional Aboriginal Thought’ published in the journal ‘Oceania’ (and subsequently republished in 1988 as a chapter in a book edited by Alan Dundes, ‘The Flood Myth’). It was written by the German anthropologist Erich Kolig, who had conducted postdoctoral research in the Noonkanbah region 10 years earlier. Kolig’s purpose in writing this paper was far from supportive of young earth creationist dogma. Rather, he was illustrating the impact of western influences on traditional Australian aboriginal cultures. As he wrote the following year in his own book ‘The Silent Revolution: The Effects of Modernisation on Australian Aboriginal Religion’:

*“There is a generalised trend among Aboriginal people towards rethinking traditional cosmology along the lines of Western*

*thought. With the move out of the desert, there has been a general decline in the need for topographical authentication of mythological incidents”.*

It is important to remember that every flood myth collected from Australian aboriginal cultures occurred after contact with Christian missionaries, for they were usually the first Europeans to enjoy any prolonged contact. Tales such as this with overt references to Judeo-Christian imagery have almost certainly resulted from this contact. This was not likely to be coincidental, as the missionaries had a vested interest in Australian aboriginal societies accepting and believing Biblical stories, often giving them flour, tea and sugar as rewards for successfully memorising Bible verses. In addition, they did not come with the Bible alone, but with the many technological trappings of western society, making them appear, initially at least, as magical beings, perhaps akin to demigods themselves, as did the indigenous peoples of the Americas when first encountering Spanish conquistadors. Thus the Ark Gumana story is nothing more than a modern variant of some existing native myth contaminated by selective exposure to missionaries and the Bible. As Kolig continues, these are:

*“the ways in which Aboriginal cultures tend to manage, on their own terms, incursions into their culture”.*

Mitchell Rolls, lecturer in Aboriginal Studies at the University of Tasmania, has unearthed similar fusions of traditional Aboriginal mythology, western cultural practice and Christian instruction. He cites (2005) the widespread belief among native Arnhem Land societies of the feral buffalo as a significant mythological being, akin to the almost universally revered rainbow serpent. Yet the buffalo was introduced to Australia from south-east Asia less than 200 years ago. Rolls also mentions the emergence of native myths incorporating a hero riding another non-native animal, in this case a donkey, an attempt to emulate, no doubt, the story of Jesus riding a donkey on Palm Sunday. A further example concerns the influence visiting Muslim fishermen from Macassar, Indonesia had on the mythology of the Yolngu people of Elcho Island in Arnhem Land in the 18th and 19th centuries. The Yolngu now have a Dreaming figure named Walitha whose characteristics bear an uncanny resemblance to the Qur'anic view of Allah.

There are further problems for those blithely equating Aboriginal mythology with Christian mythology, however. Unlike Christian mythology or western anthropological methodology, Aboriginal mythology was never intended to be openly available. Much mythology is secretive and reserved for only men or women, or mothers, the elders, the initiated etc. Indeed, mythology is often deemed to be dangerous if given to the wrong person, or at the wrong time. Christian missionaries (and even modern anthropologists) were therefore faced not only with considerable language difficulties but with aboriginal groups divulging very limited and perhaps purposely inaccurate information. Young earth creationists are not only highly selective and duplicitous in their choice of flood myths, but in the specific aspects of the mythology they choose to report. For example, Australian aboriginal mythology commonly depict separate creation events for living beings such as humans, animals and sometimes plants. Some of these myths involve female homosexuality and a pivotal role for menstrual blood. The concept of the physical Earth itself having been created ex nihilo, however, as well as the concept of hell, appears to have been unknown to any Australian people before contact with Christian missionaries (indeed, notions of hell are completely unknown in all hunter-gatherer societies and rarely found outside of middle-eastern cultures). Traditional Australian aboriginal belief systems are geosophical, i.e., it is the physical Earth itself, rather than any natural or supernatural beings, that has always existed (this view is not unique to Australian peoples and is widespread, being found in many other indigenous tribes such as, for example, the Cubeo in modern Columbia). There is no concept of a 'Genesis' type beginning or a 'Armageddon' style end. The physical Earth is eternal and the life upon it is born and reborn endlessly in a cyclical pattern. Obviously these mythological beliefs are not the kind that young earth creationists would want to advertise. So they don't.

One aspect of flood mythology that seems particularly surprising is the lack of a strong correlation between areas known to suffer repeated flood damage and the number of flood myths that have originated from these areas. One example is the Polynesian islands, the majority of which lie very low in the water and a number of which are at serious risk of inundation should even minor rises in sea level occur. The following extract is from an editorial commentary in Gray and Moore's 'The Mythology of All Races':

*“The importance of flood-myths in Polynesia was apparently not very great. Deluge-episodes, of course, do occur; but so far as the published material goes, the floods referred to are merely incidents — and, as a whole, minor incidents”*

Nevertheless, Northwest Creation Network do include a myth originating from the mountainous island of Raiatea (or Ra'iatea), in the Leeward Islands:

*“A fisherman carelessly let his hooks get entangled in the hair of the sea god Ruahatu and angered the god when wrenching them out. The fisherman prostrated himself before the god and apologised profusely. Moved by his penitence, Ruahatu told him to go with his wife and child to Toamarama, a small low island on the east side of Raiatea. This he did, taking also some domesticated animals. As the sun set, the ocean waters began to rise and continued rising all night. At last even the mountaintops were covered, and everyone on Raiatea perished. When the waters receded, the fisherman and his family returned to the mainland and became progenitors of its present inhabitants”.*

The version reproduced here is found in anthropologist Theodore Gaster’s book ‘Myth, Legend And Custom In The Old Testament’ (1969). Clearly, this myth includes four of the six Biblical criteria championed by Northwest Creation Network; destruction by water, divine causation, sparing of humans and sparing of animals. But we have reason to believe that this myth too might have been contaminated by Christian influence. The Swedish anthropologist Bengt Danielsson reports (1952) that when Father Albert Montiton, the first Catholic missionary to travel to Fangatau and Tatakoto (the remotest outlying atolls of French Polynesia) in 1869, he found “*Christian intrusions in the native religious texts*” to have already taken place. Danielsson hypothesises this was due to Spanish sailors having previously briefly visited the atolls on a number of occasions in the 1590s. In any case, the first Christian missionary to visit Raiatea, John Williams, arrived in 1818 and there has been a strong Protestant Christian influence on the island since then. It appears that even the most remote corners of the world were susceptible to cultural contamination from the outset of contact. Though not everywhere it seems – while preaching the Gospel in 1839, Williams and fellow missionary James Harris were killed and eaten by some of the natives on the island of Erromango.

Although accepting that the Raiatea myth might be authentic, Roland Burrage Dixon, also writing in Gray’s ‘The Mythology of All Races’, had this to say regarding flood myths from the Pacific Islands generally:

*“Although there may be some question whether the end of the Raiatea story shows traces of missionary influence, all these [Leeward Islands] flood-tales are probably aboriginal. As much cannot be said, however, for the versions from New Zealand, the Marquesas, Hawaii, in all of which the Biblical parallel, extending even to names and details, is far too close to permit us to regard the tales as other than local adaptations of missionary teaching”.*

Some of the New Zealand Māori stories of the hero Tāwhaki exemplify Dixon’s view. In one story Tāwhaki’s ancestors, including his grandfather Hema, release a flood from heaven which inundates the world, drowning everyone. Since Christian missionary influence Tāwhaki’s genealogy has been altered, however. Hema has now been rebranded as Noah’s son Shem, who many fundamentalist Christians believe was the progenitor of the Asiatic races. Despite doubts as to their lack of authenticity, Northwest Creation Network list two more flood myths from the Pacific islands, one Melanesian, the other Maori. Changing mythology by altering genealogy is not confined to Christian missionaries, however, and has a long history. For example, the Islamic philosopher Al-Kindi (803-873AD) rewrote an ancient myth telling of the origins of the Arabic people by claiming that Qahtan, the supposed founder of the Arabs was the brother of Yunan, who Arab mythology considered to be the founder of the Ancient Greeks. The purpose was to claim that Ancient Greek scientific and philosophical knowledge actually emanated from themselves. Similarly, also in the 9th century, some Arabic texts transformed the Buddha into a monotheistic prophet of Allah who played a role in eliminating paganism from India while later Jesuit missionaries adapted characters from Buddhist stories (which had been translated into Greek in the 11th century and thence to Latin), into the Christian sages Baarlem and Josaphat, in order to win converts.

A similar situation of intercultural mixing of myths appears to have been the case in India, albeit occurring farther back in time. According to Gaster (1969) no flood story had ever been written in Sanskrit until the Brahmana literary period, well after contact with Middle-Eastern peoples had been made. Written Sanskrit, in the shape of the Rigveda (which deals specifically with the origin of the world), has been available since the late Bronze Age and predates even the oldest dating of Genesis by several centuries. Although the Rigveda does mention flooding it is only in relation to the characteristics of the Goddess Saraswati, who was named after a river. There is no suggestion whatsoever of the destructive nature of a flood. Rather, the term is used only in deference, for example, “*As on a chariot, the flood flows on, surpassing in majesty and might all other waters*”. It is surely improbable that Noah’s descendants carried details of such a momentous event in the history of the world to India, where it was continually retold, generation after generation, for over a thousand years before anyone literate thought to write it down.

Northwest Creation Network list three flood myths from India. The best known story is that of Manu (an almost identical version they consider separately involves a central character called Matsyu) which forms part of the Manusmriti of the Shatapatha Brahmana believed to have been written about 800-600 BC:

*"A long time ago lived a man named Manu. Manu, while washing himself, saved a small fish from the jaws of a large fish. The fish told Manu, "If you care for me until I am full grown I will save you from terrible things to come". Manu asked what kind of terrible things. The fish told Manu that a great flood would soon come and destroy everything on the earth. The fish told Manu to put him in a clay jar for protection. The fish grew and each time he outgrew the clay jar Manu gave him a larger one. Finally the fish became a ghasha, one of the largest fish in the world. The fish instructed Manu to build a large ship since the flood was going to happen very soon. As the rains started Manu tied a rope from the ship to the ghasha. The fish guided the ship as the waters rose. The whole earth was covered by water. When the waters began subsiding the ghasha led Manu's ship to a mountaintop".*

However, mirroring the relative unimportance of flood myths to Polynesian culture, the Indian historian Burjor Avari (2007) writes of the 'Shatapatha Brahmana':

*"The text was not followed or acclaimed by the vast majority of Indians in their history; it came to the world's attention through a late eighteenth-century translation by Sir William Jones, who mistakenly exaggerated both its antiquity and its importance".*

The cultural contamination of native tales resulting from Christian contact is not confined to flood mythology. According to anthropologist Colin Turnbull (1959) this is just what has happened to the creation myth of the pygmy Efe people in the Congo. Their native creation myth has become amalgamated with that of Genesis and now tells of how the high God (who created humans to be immortal) forbade the people not to eat the fruit of the tahu tree. One woman does so and the female moon god then informs the high God who punishes all of humanity by limiting their lifespan. It seems obvious which components of the myth are traditional and which have been acquired from Christian missionaries.

Ironically, some of the best evidence we have for the cultural contamination of flood myths involves the Noah myth directly. It appears highly likely that the Noah myth is no more than an adaptation from earlier flood myths, specifically the Sumerian epic of Ziusudra (dated c.3000 BC), the Akkadian epic of Atrahasis (c.1640 BC) and the epic of Gilgamesh (c.1100 BC). These three versions, plus the later Noah story, all hail from geographically near regions and demonstrate not only similarities in plot but also share phrases that are, on occasion, almost identical. The epic of Gilgamesh is perhaps the best known. The Gilgamesh flood story is considerably more detailed than that of Noah, so only a very brief synopsis follows:

Enlil (the God of wind, height and distance) is angered by the noise and clamour created by humans and convinces the other Gods to kill everyone with a flood. Ea (the God of water and intelligence) disagrees with the decision and warns a righteous man, Ut-napashtim, of the plan. He tells Ut-napashtim to convert his house into a boat large enough to carry several humans and some animals. He builds the boat and boards his family and a few craftsmen, as well as samples of all the land animals, and sets to sea. A violent storm follows, lasting six days and six nights and water covers even the highest mountains. Even the gods themselves thought they would die. Eventually the boat comes to rest on Mount Nisir. Ut-Napishtim then releases three birds to ascertain when the water had receded. The first two birds return to the ark. The third bird apparently found dry land because it did not return.

Although the Gilgamesh flood myth is told in the first person, by Ut-napashtim to Gilgamesh himself, similarities with the story of Noah are obvious. However, we have good evidence to believe that the Gilgamesh version predates the Noah version of the story by some considerable amount of time. In turn, some scholars consider the Gilgamesh flood story to be composed of two earlier versions joined together by a third author. First, although the complete Epic is told on a collection of twelve Babylonian cuneiform tablets (with the flood story on the eleventh) which have been physically dated to about 650 BC (the tablets were actually found at Nineveh in the library of the Assyrian king Ashurbanipal who reigned from 668 to 627 BC and translated in London in 1872), various extracts of the story are also found on tablets dated about 2000 BC. Second, analyses of the language used in the tablets indicates that the story originated much earlier than 2000 BC. Third, the measurements for Ut-napashtim's boat are given in ancient sexagesimal mathematics, used at the dates of the earlier tablets but largely abandoned at the time the Nineveh tablets were created. Fourth, variations of the Gilgamesh story have been found translated into several other ancient languages. Finally, and perhaps most importantly, a further clay cuneiform tablet has recently come to light. This was acquired by a British Air Force officer, Leonard Simmonds in the Middle East during World War II but only came to the attention of archaeologists in 1985 and only examined in detail in 2009. The British Museum Assyriologist, Irving Finkel has now translated the text (Finkel, 2014) and found phrases identical to those found in Genesis, including, for the first time, an identical rendering of the story that the animals went into the ark *"two by two"*.

We should not be surprised by this finding. Classicists such as Martin Litchfield West (1997) have written extensively on the similarities between the often older Greek stories and many tales found in the Old Testament, including Trojan and Jericho, Arion and Jonah and Nestor and David. In the case of the flood legend, however, Biblical literalists must now explain not only story line similarities but how the exact words of God, the claimed 'eyewitness account' described in Genesis, appeared to have been set in stone more than 1,000 years earlier in a remarkably similar rendering.

As we have seen, the Gilgamesh flood myth was certainly well-known throughout the ancient Middle East and a fragment of an ancient tablet describing the myth has been unearthed in Israel. The dominant culture in that part of the ancient world was undoubtedly polytheistic Babylonian, while Israel was a land occupied by a number of relatively small and unimportant tribes that tended toward monotheism. The general rule, as we have seen, is that myths from dominant cultures influence lesser ones, not normally the other way around. It is also possible, as Howard F. Vos has argued (1963) that the author of the Genesis account used the Gilgamesh flood myth as a source text and simply "*purified the account of polytheistic elements*" in order to promote the Judaic monotheistic religion. Until 600-700 BC the religion of the Israelites was, like their neighbours, polytheistic. Judaic monotheism is believed to have developed for essentially political reasons (in the broadest sense of the term; unlike the ancient Greeks who developed the notion of polytheism on the basis of purely philosophical musings), that is, to encourage adherence to the authority of the Israelite tribes, the notion being that a single god, Yahweh, cared for that tribal group exclusively and to deny this would incur his wrath.

This monotheistic authority was underlined by listing of the Hebrews of specific elements in the six days of creation, all of which represented gods of neighbouring polytheistic cultures. On day one the gods of darkness and light are dispelled ("*And the evening and the morning where the first day*" according to Genesis 1:5; note that the Hebrews have adopted an astronomical custom from the Babylonians, i.e., measuring each new day starting from sunset, rather than sunrise; note also the scientific inaccuracy that light was created before the sun), on day two, those of sky and sea. Day three sees the gods of earth and plants removed, while on day four the gods of the sun, moon and stars are dealt with (note the obvious scientific inaccuracies of creating plants, indeed any organisms, before the sun was formed - though it was commonplace in Bronze and Iron Age societies to not include plants under the rubric of living things - as well as the conceptual inaccuracy of days being thought to exist before the sun was formed). The gods of the animals are dispatched on day five and, of course, on day six humans are created in the image of the one god. Similarly, the first commandment given to Moses, supposedly by Yahweh, is to have no other gods. Remnants of polytheism can be found in other parts of the Bible, most notably in Psalm 82 where Yahweh holds council with the other gods, letting them know that they are subordinate to him, "*he gives judgement among the gods.....you are gods*". The original Hebrew leaves every instance of the words 'god' or 'gods' intact, while modern versions of the Bible tend to encase the words in quotation marks in an attempt to play down the notion that polytheism was ever taken seriously by the Hebrews. It reasonably follows, then, that the Judaic story of Noah was part of this deliberate shift toward monotheism. It has either been copied and adapted from the earlier Gilgamesh myth or the stories have been copied and adapted from a common source predating both. Either way it is likely the result of cultural contamination. Of course any such politically-motivated possibility is vehemently denied by Biblical literalists whose 'logic' circumvents the evidence. Vos (1963) again:

*"Even if Moses had used some source materials which are not extant today, the process of his gathering and compiling them to write Genesis would have been guided correctly by God".*

In other words, the Bible is true because it says it is true. However, we have seen that many of the myths proposed by young earth creationists to bolster support for their notion of a universal memory of a worldwide flood do not in fact do so. Too frequently there is evidence that flooding was localised, that myths have been inaccurately reported, contaminated by input from other cultures and, in some cultures at least, there is good reason to believe that flood myths are of little importance and played minor roles in their mythological lexicon. There is another avenue of evidence that brings into question the claim made by young earth creationists that "*Native global flood stories are documented as history or legend in almost every region on earth*". What is not addressed in creationist flood myth literature is the uncomfortable fact that, regardless of the fact that flood myths are widely distributed throughout the world, the greater proportion of cultures simply have no flood myths.

This flaw in the young earth creationist argument was first recognised well over a hundred years ago by Richard Andre (sometimes cited as Andree). Collecting flood myths from 90 different cultures throughout the world, he noted, in his book published 1891, 'Die Flutsagen: Ethnographisch Betrachtet' ('The Flood: An Ethnographic View') that 26 myths did show

similarities to the Biblical version, while 43 myths appeared to have originated wholly independently and showed no discernible similarity at all. His strongest point, however, was that over 50% of all the cultures studied had no discernible flood myths at all, including none found in the Japanese islands and only a handful in sub-Saharan Africa. The vast majority of Australian aboriginal cultures too have no flood myths and despite numerous claims that the North American continent is a particularly rich source of flood myths (why do you think they called it Tennessee? - asks one creationist website!) the fact is that although many such myths do exist, the majority of native North American cultures have no flood myths that can be reliably traced to pre-European contact. Those with no flood myths at all include the Mescalero Apache, Lipan Apache, Chiricahua Apache, the Paiutes, Utes, the Crow, Hidatsa, Navajo Arapaho, Mohawk, Tuscarora, Oneida, Shoshoni, Kiowa, Osage, Quapaw, Shawnee, Chickasaw, Creek, Calusa, Huron, Yavapai, Chipewyan, Gros Ventre, Nez Perce, Flathead and Iroquois tribes.

Andre's findings were later corroborated by a number of Christian anthropologists including John Augustine Zahm (1893) and Edmund J Sutcliffe (1942). One particularly strong source of flood mythology is that of James George Frazer. In 1918 he published a three volume anthropological study entitled 'Folk-Lore In The Old Testament'. Noting that many cultures had observed marine fossils in mountainous regions often at some distance from shorelines and mistakenly believed that this was an indication that sea level was considerably higher in the past, he paid particular attention to the great flood (filling 250 pages in Chapter 4) and studied 175 cultures with this particular myth in mind. Bear in mind when reading the following quote that Frazer is continually yet erroneously cited by young earth creationists as having found evidence of the universality of a worldwide flood. This what he actually concluded:

*"It is particularly remarkable that neither of the great civilized peoples of Eastern Asia, the Chinese and the Japanese, should, as far as I know, have preserved in their voluminous and ancient literature any native legends of a great flood of the sort we are here considering, that is of a universal inundation in which the whole or the greater part of the human race is said to have perished.....in Africa, including Egypt, native legends of a great flood are conspicuously absent, no single case of one has yet been reported".*

It is rare to find an honest discussion of this type of evidence in the young earth creationist literature. The overwhelming assumption seems to be that if a flood myth exists in any culture and can be perceived to have even the slightest resemblance to the Noah story then this constitutes sufficient evidence that a worldwide flood has actually occurred. Essentially this is one-dimensional view of myths. They are perceived as no more than disguised history, a stance first taken by some early Greek philosophers, the most prominent being Euhemerus around 300 BC.

By denying the obviously poetic nature of flood myths Biblical literalists are, in effect, implying that ancient civilisations were devoid of any sense of poetry or metaphor. Yet, surprisingly, we see no corresponding discussion in the Christian fundamentalist literature of their ideas for when human societies actually did develop the use of metaphor and other non-literal meaning as a literary style. Surely one of the best ways to strengthen the Biblical literalist argument would be to present evidence that literary metaphor originated later than the Biblical texts. They cannot do so, however, because metaphor was clearly present in Genesis from the outset. This is instanced by, for example, use of the terms 'greater lamp' and 'lesser lamp' instead of the ordinary ancient Hebrew nouns for sun and moon (notwithstanding the scientific inaccuracy of referring to the moon as a lamp like the sun). Too often when science conflicts with scripture, Christians are ready to play their metaphor card. Doesn't this mean that the scripture simply wasn't literally true to begin with? Christians can, after all, accept that Jesus' parable of the prodigal son as a fable, a story with no basis in history. Rather than hold to views which are clearly irrational, Biblical literalists might do better to open up their horizons. One way might be to consider the work of those scientists who are Christians and do not accept a literal interpretation of the Bible.

Apart from the issue of cultural contamination there are at least four more reasons why flood myths might have no connection to a Biblical source. The first reason to doubt that flood myths are no more than disguised history is that myths in general often function as pre-scientific explanations for wholly natural phenomena. Paleolithic or even Bronze-Age humans had no real idea of the effects of long-term climate change or even how the planetary water-cycle works and so when flood events occurred they would naturally attempt to explain them in terms of supernatural causation. A logic then develops that operates by similarity, with a particular story, image or symbol being no longer simply descriptive but equated with an explanation. 'Image-thinking' is a strong characteristic of oral, pre-literate cultures who store their wisdom in easily-remembered stories, proverbs and genealogies. Nowadays however, we usually have far more evidence available to us than is contained in the myths themselves (geological or archeological, for example, or a better appreciation of historical context). We have no sound reason to invoke supernatural causation. Thus the Irish poet W.B.Yeats's depiction of science as essentially "*the critique of myth*" has more than a ring of truth.

The second reason is that the recurring themes or motifs in flood myths might sometimes reflect subconscious fears common to all human beings in all cultures. I am thinking here of the writings of the Swiss psychologist Carl Jung, who observed that images or motifs common to myths often appeared in the dreams or psychotic fantasies of patients suffering from psychological disorders. Jung reasoned that many of these motifs or themes must be the products of some sort of "*myth-forming structural elements . . . in the unconscious psyche*". Although I am not particularly convinced of the Jungian synopsis, experimental psychology has reliably demonstrated that most human beings possess a variety of innate predispositions in the form of specific fears imbedded in the structure of the nervous system, such as a fear of heights, spiders and snakes, but not normally flowers, for example. It is obvious why humans might have evolved such fears. Thus, for example, dreams of flying and myths of snakes are abundant in many cultures and may have evolved to partially allay our innate fears. Flood myths may therefore confront another of our greatest fears, that of drowning. Similarly, apocalyptic myths such as those involving a flood may go some way in modifying our childlike psychological attitude, which naturally assumes that the world is permanent and indestructible.

The third reason is that sometimes myths may simply be stories, designed to amuse, entertain, placate and motivate. The American literary scholar Jonathon Gottschall (2012) notes that:

*"Stories the world over are almost always about people with problems.....a deep pattern of heroes confronting trouble and struggling to overcome."*

The Noah flood myth being a perfect example of this seemingly universal template of introducing character(s), then their predicament followed by their attempt to escape the predicament. A number of other anthropologists and folklorists have shown that traditional tales often exhibit the same or similar plot patterns, regardless of the actual storyline or the culture in which they originate. Rather than attempting to unearth meanings in myths and fairy tales or to ascertain mood or tone, the Russian folklorist Vladimir Propp (1968), for example, identified elemental building blocks that formed the basis of all narrative structure. He found all the stories he studied exhibited no more than eight fundamental generic characters (such as villain, trickster, wise man, hero etc.) and no more than 31 functional sequences (such as departure, receipt of a magical agent, trickery, punishment etc.). The 'trickster' character is particularly widespread and has been found in the myths of every known hunter-gatherer society and in the majority of subsequent societies, see e.g., Rickett (1964) and Radin (1956).

Furthermore, recent psychological research has demonstrated that the best remembered stories are those that include a combination of miraculous or counterintuitive physical feats (such as superhuman feats designed to survive an impending disaster) performed by people with plausible human psychological characteristics (such as the moral nature of Noah). Storytelling may also enhance reasoning skills. Evolutionary psychologists Leda Cosmides and John Tooby have shown that when a common test of deductive reasoning such as the 'Wason Selection Test' is formally presented as a test of logic, fewer than 10% of the population are normally able to solve the puzzle. However, when the test is explicitly presented in story form, in the context of social relations (involving the detection of cheating) this figure jumps to 70-90%.

Propp also found that the actual storyline itself, whether natural disasters, diseases, magic spells, involving boats, forests, mountains etc. were found to be largely interchangeable and of less importance to many listeners than the functional sequences acted out by a limited number of generic characters. As the late Russian film director Andrei Tarkovsky once said of critiques of his own films (all of which are widely considered to be pregnant with meaning), "*If you look for a meaning, you'll miss everything that happens.*" Thus, many flood myths may have no underlying religious meaning but merely use a flood scenario to convey an underlying plot sequence which listeners simply enjoy. In other words, the flood is incidental to the story. This view is strongly supported by the seeming cross-cultural ubiquity of myths involving an opposite fate, that is, destruction by fire.

The fourth reason lies in the highly selective nature of the myths that Biblical literalists choose to believe. If, as they claim, we should accept a whole panoply of flood myths as disguised history what prevents us from allotting the same degree of credence to other types of myth that are just as incredulous? Christians readily do so, but only when the myth is purportedly Judeo-Christian. The importance of being highly selective when it comes to myths was recognised by Christians early on. As the existentialist psychiatrist Rollo May (1991) points out:

*"...use of the word 'only' as a deprecation of myth began with the Christian Fathers in the third century AD as their way of fighting against the common people's faith in Greek and Roman myths".*

If young earth creationists are prepared to accept the Noah myth as absolutely true in every respect why do some of them not also accept Samuel 2:8?

".....for the pillars of the earth [are] the Lord's and he hath set the world upon them"

Or Psalm 93.1?

".....the world also is stabilised, that it cannot move"

Or Ecclesiastes 1:5?

"The sun also ariseth, and the sun goeth down and hasteth to his place where he arose".

Such passages clearly affirm a geocentric view of the universe which, like the Noah flood story, is completely untenable in light of modern science. The Biblical literalist failure to adequately differentiate the metaphorical aspects of the Bible from the literal is also problematic in the case of Biblical views on slavery, the subjugation of women and God-commanded genocide. If the Bible is, at least in part, metaphorical, in what way does it differ from, for example, Aesop's Fables, which is also in part, metaphorical? And why we may ask (apart from their circular reasoning that the Bible must be true because the Bible says it's true) do they not also accept the historicity of other kinds of religious myths? Why is it only flood myths they disingenuously claim to be "documented as history or legend in almost every region on earth"?

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