Dread of man: part 2—fear, hunting, and human diet

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In part 1 of this paper, I proposed that the fear and dread of humans was supernaturally imposed upon animal minds just after the Flood (Genesis 9:2), and sought to answer objections that might be raised. Animal fear of humans is innate, but it stems principally from that point in history, rather than from creation. Part 2 is a more detailed examination of the implications of the thesis. After exploring the neurobiological basis of fear, some interesting exceptions to the 'dread of man' are noted, where wild animals are fearless of humans; hypothetical explanations are attempted. Informed speculation is also offered in relation to the transition between the antediluvian and postdiluvian periods. What did the Noahic family do for food immediately after leaving the Ark, and what about the succeeding generations? We consider dietary requirements, the history of hunting, and even the advent of gardening. Finally, we conclude with a hitherto apparently unnoticed contrast between the biblical creationist and evolutionary timelines.

Part 1 of this paper advanced the thesis that God's instructions to the Noahic family about the future 'dread of man' represented a wholesale supernatural alteration of animal sensibilities. God may have imposed this to help protect post-Flood people from animal violence. However, it was proposed that the main reason was to offset the greatly increased threat to *animal* survival arising from God's sanction of meat-eating:

> "The *fear of you and the dread of you* shall be upon every beast of the earth and upon every bird of the heavens, upon everything that creeps on the ground and all the fish of the sea. Into your hand they are delivered. Every moving thing that lives shall be food for you. And as I gave you the green plants, I give you everything [emphasis added]" (Genesis 9:2–3).

Assuming this proposition is correct, there are a number of interesting corollaries, which we will explore in this paper. It raises further questions too, such as: to what extent may fear be characterized biologically? Therefore, before further exploring the immediate post-Flood period we will take a short detour.

The biology of animal fear

The experience of fear, in humans and many animals, involves a surge in adrenaline. Both heart rate and blood pressure increase. The airways open wider, the pupils are dilated, and more glucose is delivered to the muscles. In fact, everything is primed for fight or flight. Although an innate response, animal fear seems to have been a supernaturally imposed biological juncture in world history. If so, it is worthwhile considering the means by which it was accomplished. This requires a short foray into neuroscience.

We know about physiological consequences of fear, but what exactly *is* fear? It is a singularly difficult question to answer. Ralph Adolphs is an expert on the subject: Professor of Psychology, Neuroscience, and Biology at Caltech Brain Imaging Center in the US. He commenced a major review (on 'The biology of fear') by noting the following:

> "Some argue that 'fear' is a psychological construct rather than something discoverable through scientific investigation. Others argue that the term 'fear' cannot properly be applied to animals because we cannot know whether they feel afraid."[1]

Not only is fear notoriously hard to define, there is a subjective element to our descriptions of animal fear; we cannot 'get into their minds'. "What is fear? The state evoked by threat. What is threat? That which causes fear," writes Adolphs. Yet he goes on to say that this definition of fear isn't actually circular because we may clearly observe the animal behaviour that results from fear.[1] A further problem is that much of our knowledge about the neurological basis of fear comes from *human* brain research. Therefore, conclusions of such research may only be tentatively applied to the subject of animal fear.

With those caveats, we may note a few specifics about fear in animals. Obviously, the threat of predators, stress caused by aggression of conspecifics, or the fear of pain, are first communicated to the brain through the senses. These are especially sight and sound, but also smell and somatosensory receptors. They trigger distinct regions of the brain's amygdala and hypothalamus. These in turn stimulate the periaqueductal grey, an autonomic region of the grey matter which is critical to involuntary responses to threat.[2,3] The latter releases chemical signals: steroidogenic factor 1 (in several species), and corticotropin, aka adrenocorticotropic hormone (across many more species).[4] Such secretions are involved

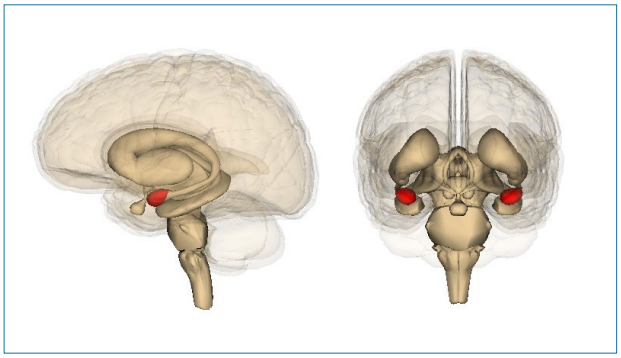

Figure 1. Side and front views of amygdala in the human brain

in regulating psychological stress and fear. Many parts of the brain's cortex, midbrain, and brainstem also cooperate in fear responses but the details are still poorly understood.[1]

The amygdala is the name for each of a paired cluster of grey matter near the brainstem, deep in the brain's temporal lobes, each inhabiting one of the cerebral hemispheres (see figure 1). It has a complex internal architecture neurologically. However, it seems to be a key mediator between many other brain regions that are involved in responses to stress, anxiety, and fear (and in humans, phobias too). As well as receiving most of the fear-associated sensory inputs, the amygdala is also widely believed to regulate most of the outputs associated with animals' fear responses.

In considering the 'dread of man', it is pertinent that the amygdala's role in fear processing seems to be basically the same across numerous creatures. These include: humans,[5] monkeys,[6,7] rodents,[8,9] and even reptiles[10] (refs. from Adolphs[1]). Although the neurological basis of animal fear is still poorly understood, this ubiquity of the amygdala's central role in fear responses is fascinating.

It seems likely that the 'dread of man' was indeed occasioned by a divine neurobiological intervention. Thus we may legitimately conjecture that God somehow altered the function of animalian amygdalae, and perhaps also related brain regions and pathways mentioned earlier. A comprehensive discussion of this point is far beyond the scope of this article, but it would make a fascinating research study for a creationist with a keen interest in neuroscience.

How might the fear response be lost?

Part 1 of this paper briefly discussed interesting exceptions to the rule, that animals "fear and dread" humans (Genesis 9:2). Some animals seem quite fearless of humans: domesticated creatures, many zoo animals, and wild animals which become habituated to people who feed them. Moreover, there are historical records of explorers encountering naive wild animals that were seemingly without fear.

Animals of the remote Galápagos Islands are a further intriguing case in point, 605 miles (973 km) off the coast of Ecuador. As was true of Australia's Kangaroo Island (see part 1), the animals of the Galápagos appeared to be extraordinarily tame when they were first discovered in the 16th century, and most retain their fearlessness today.[11,12] The flora and fauna of the islands have been protected through active conservation efforts since the 1950s. All sorts of birds, marine iguanas,[13] sea lions, and giant tortoises, either take no notice of humans, or even seem curious and approach them quite closely. Prior to the mid-20th century, animals of the Galápagos had already experienced contact with humans for at least four centuries. According to Carl Wieland:

> "This suggests that the fear of man is not learned, but may be largely programmed genetically, like other instinctive behaviour. If the program is lost, e.g. during speciation, it won't get 'rewritten' via experience."[11]

Exactly when did this 'dread of man' get programmed into the DNA of diverse kinds of animals? Obviously, the thesis of these two papers is that it occurred some 1,657 years after creation (Genesis 9:2). Wieland observes that, compared to the tame animals of the Galápagos, "the same types of creatures on the South American mainland have the 'normal' fear of man."[11] Clearly, the alteration to the fear response of island animals, such as those of the Galápagos, must have happened a long time before the first post-Flood people arrived.

But, *how* exactly might animal fear responses wane, or get deleted? The answer is likely to be different in different cases (see figure 2). As one possibility, I hypothesise that a mutational abnormality occurring in a small island (or other isolated) population could have led to a break in the neurological transmission of fear. A useful analogy can be drawn with blind cave fish. They may lose the ability to see through a mutation that switches off (or corrupts) the genetic instructions for making eyes. This does not disadvantage them in the pitch-black environment of a cave where sight is useless; arguably, it may even be an advantage since eyes could be scuffed against the cave walls, so leading to infection.[14]

Similarly, imagine that a mutation alters some aspect of the brain's circuitry or neurotransmission, perhaps in the amygdala, or the periaqueductal grey. It would be something that is crucial to the animal's ability to fear danger. If this occurred in a small, isolated population, in the absence of predators, the loss of fear would pose no problem. It might actually be an advantage, saving energy that would otherwise be wasted in avoiding non-existent conflict or predation. According to Daniel Blumstein (professor at the Department of Ecology and Evolutionary Biology, and a professor for the Institute of the Environment and Sustainability, at the University of California, Los Angeles), fear is costly. He cites several examples, one of which is,

> "Foraging in the open, flocks of birds expend valuable energy by quickly taking flight, en masse, when a raptor appears. While they successfully escape the raptor, the birds leave behind their food source."[15]

Excessive vigilance in animals would likely divert them from engaging in important activities.

In any case, our hypothetical mutant allele (for fearlessness) would conceivably become fixed in the population. We deem sightless cavefish an oddity, though they are clearly descended from sighted fish, which is why they can still hybridize with them in many cases.[14] Similarly, fearless wild animals may be quirky descendants of animals which were 'wired' to fear humans (as predators) just after the Noahic Flood (Genesis 9:2). Such cases, where the fear response has been *lost* through mutation, would likely be irreversible. That is, the reintroduction of predation would not be expected to overwrite their fearlessness.

How else might the normal fear response be lost? After the supernaturally imposed 'dread of man', it is probable that some animals dispersed to remote locations where they remained entirely isolated from encounters with human beings until relatively modern times. Intuitively, we might expect that such long-term isolation led to waning of the fear response (discussed shortly). This would especially be the case in the absence of significant predators, for instance on small islands. Mechanisms of dispersal, then isolation, are readily suggested within the biblical model of history. The two principal means of dispersal in the years after the Flood would have been over land, and over sea on log mats.[16,17] Additionally, centuries later, a fairly rapid rise in sea level with the declining post-Flood Ice Age would have flooded the coastal margins, thus submerging land bridges, and low-lying land masses.[18] The consequent formation of islands and archipelagos ensured the isolation of the fauna.

Why might the long-term isolation of animals from major predators—especially human beings—have led to a waning of the 'dread of man'? Perhaps it occasionally needs 'triggering' by some imminent threat of predation that acts as a fear stimulus. This would be reversible though, distinct from tameness arising from a mutational defect (discussed previously). Possibly, this might happen through natural selection acting on natural variation in an animal population. Without the threat of violence, there would be no selection of the more skittish, flighty individuals. Tameness would increase. Alternatively, maybe epigenetic changes can cause a waning of animal fear, reinforced over several generations of non-arousal.

Daniel Blumstein concurs with the latter hypothesis. He and colleagues researched tammar wallabies on Australia's Kangaroo Island, where there have never been terrestrial mammalian predators. Then they compared them to the same wallabies in suburban, predator-free New Zealand. The New Zealand tammars had been introduced 130 years earlier from the Australian mainland where there were many such predators. When exposed to red foxes, they were surprised to find that the Kangaroo Island tammars responded fearfully. However, the tammars from New Zealand did not. Blumstein "hypothesized that a predator recognition template had essentially disappeared through disuse."[19] It seems that the Kangaroo Island tammars retained a degree of antipredator behaviour because they are predated upon by the large, wedge-tailed eagle.

Image: Luca Nardone © Pexels.com

Figure 2. Animal fear is incompletely understood, as are the exceptions of tameness.

Tameness might also be essentially a learned behaviour, animal offspring emulating their parents who, for many generations enjoyed the luxury of living without the threat of predators. That is, the young had no opportunity to learn avoidance or flight behaviours. Or it might be a combination of the two. Veterans of ethology (animal behaviour) know not to disallow the possibility of new and unusual behaviours arising, even in cases where they are extremely familiar with their animal subjects.

The immediate post-Flood period

After the Flood, God explicitly instructed Noah and his immediate family (and by extension, the generations to follow) that "every moving thing" (Genesis 9:3) could be eaten. Therefore, He also ordained that every "beast of the earth ... bird of the heavens … everything that creeps … and all the fish" would flee from people in fear. The two things are linked. Unless God had so modified the psychological makeup of the animals themselves, the slowest and tastiest creatures would have been quickly driven to extinction!

In other words, apart from their own livestock, procuring the meat of wild animals in the post-Flood world was not going to be a case of simply walking up and snatching any beast or bird that took their fancy. Yet, it seems they could have done so before the Flood, had they been so inclined.

Image: Petr Ganaj © Pexels.com

Figure 3. The violence of the antediluvian period (Genesis 6:11) included that of animals, as attested by fossil remains of both defence and attack structures, and wounds. Some of that violence would have been directed towards humans too.

Postdiluvian people would have had to learn to trap and hunt now-evasive living creatures, requiring cunning and the mastery of new skills.

Taking Genesis 9:2 and 9:3 together, God was sanctioning hunting. I have argued that His transformative intervention was a key event in biological history. It was also a vital one. Without it, the future of animal kinds would have been especially precarious in the immediate aftermath of the Flood, when both terrestrial and marine animal populations had been devastated. The animal populations leaving the Ark were limited to founding pairs, or seven pairs (or sevens) of the clean animals.[20] Eating any of the *single* pairs of animals immediately after the Flood would have been problematic to say the least! However, as soon as the animals were allowed out of the Ark, they must immediately have dispersed (excepting the livestock), as now fearing and dreading human beings. This would have averted the risk of immediate human-caused extinction!

Obtaining adequate protein was not an urgent problem for the family of Noah. We may reasonably assume that the eight of them initially relied on left-over stores from the Ark. This would have been important during the time newly planted crops were growing (conceivably only 3–4 months).[21] They likely did some fishing too. Later on, as Shem, Ham, Japheth, and their respective wives had families of their own, they would certainly have eaten regularly and sustainably from their domestic flocks. More individuals of the livestock kinds had been taken onto the Ark, so their numbers would have increased fairly quickly, a reliable and important protein source for the small founder population of human beings.

The development of hunting

In the years and decades following the Flood, human longevity, although significantly reduced, was still far greater than it is today (Genesis 11:10ff). That, and the greater fecundity of those times, would have ensured a rapid population increase in the decades following the Flood. Within say 20–30 years, plant and tree cover would have mushroomed, animal population densities would have substantially increased, and numerous species must have established themselves in diverse niches and habitats. As Noah's grandchildren and later generations multiplied and roamed a bit further from their home range (Genesis 11:2); albeit within the vicinity of "the land of Shinar"), their encounters with animal descendants of the Ark's founding pairs would have become more frequent. People would increasingly have trapped and hunted animals for food (as per Genesis 9:3).

Prior to the Flood, it is unlikely that the killing of animals *for human food* was widespread. Also, a straightforward conclusion of Genesis 9:2 is that antediluvian animals were not afraid of people. Can we meaningfully say, then, that animal hunting occurred during that period? To hunt is "to chase and kill (animals) for food or sport."[22] People may well have killed animals, but these would not have fled, so there would have been little satisfaction or reward in the act. There is little sport without the chase; merely gratuitous slaughter.

Nevertheless, since animals were easy to catch, one would think that their skins (particularly of domestic livestock) were used for leather clothing, and pelts for warm garments. They were surely traded too. Leather clothing is very hard-wearing so can be worn for a long time. It would have required the killing of far fewer animals than would be the case if they were being eaten. Those animals which yielded the most desirable and suitable skin products would have been kept and bred for that purpose. Certainly this is a much more reliable and consistent strategy than going out and killing a wild beast at random.

On the other hand, Scripture records that "the earth was filled with violence" before the Flood (Genesis 6:11). The context is the terrible corruption and evil of the antediluvians (Genesis 6:5, 12), so the violence referred to must particularly be that of depraved human beings. Tragically, we know this included vengeful murder (Genesis 4:8, 23). Man hunting man was not unknown. Indeed, upon being punished by God for murdering his brother Abel, Cain feared being hunted down and killed, so God put a mark on him (Genesis 4:14–15).

Yet *all creatures* were corrupt through the ravages of the Curse, so attack and defence mechanisms had been part and

parcel of animal interactions since nearly the dawn of history, as also evidenced by the fossil record (see part 1). Consequently, the 'violence' of that period embraced animals. This surely included both animal-vs-animal and animal-vs-human violence (figure 3).

Certain wild beasts, since fearless, may seriously have imperilled the lives of pre-Flood people, more so than is the case today. That is not to say that none of them were cautious or wary of humans at all, or that they lacked any protective instinct whatsoever. No doubt, some that were fairly docile (particularly larger animals) would have put up a fight as soon as a hostile attempt on their lives became obvious. Killing such creatures would surely have been more dangerous than it is today, precisely because they did not fear man at that period of history.

As indicated in part 1, some commentators on Genesis have suggested that God instilled terror into wild animals post-Flood to protect post-Flood people from being themselves hunted by animals.[23] But before that time, taking on formidable, troublesome animals (especially larger predators) in order to kill them was likely an occasional necessity for antediluvian people. It may even have been deemed a dangerous pleasure by some of them—not so much hunting as mortal combat. I suggest the killing of animals during that period of history mostly functioned to maintain people's security and safety. There is no biblical indication that people ate animals. Moreover, it is unlikely to have been commonplace because a straightforward implication of Genesis 9:3 is that no pre-Flood dietary impulse was driving people to obtain protein through carnivory (discussed in more detail later).

Nimrod the hunter

Keeping in mind these musings about hunting, it is fascinating to read the biblical record of Nimrod, one of Noah's great-grandsons in the line of Ham:

> "Cush fathered Nimrod; he was the first on Earth to be a mighty man. He was a mighty hunter before the Lord. Therefore it is said, 'Like Nimrod a mighty hunter before the Lord'" (Genesis 10:8–9).

That Nimrod "was the first on Earth to be a mighty man" is also recorded elsewhere (1 Chronicles 1:10). It may, instead, be rendered "He began to be a mighty man on the earth". In other words, just two generations after the disembarkation from the Ark, men were vying with each other as hunters, and Nimrod stood head and shoulders above the rest.

Many Bible scholars believe that the Hebrew text behind "before the Lord" is better rendered "*against* the Lord". This would tie in very well with other information about him. It was Nimrod who founded and ruled the city of Babel and other cities, notably Nineveh (Genesis 10:10–12)—identifiable with Sumerian culture.[24] Consequently, it is very likely that Nimrod actually *led* the rebellion at Babel (see Genesis 11:4). That was itself the occasion of God's judgment when

Image: David Scott, 1832 / Public Domain

Figure 4. Painting of Nimrod, having just slain a wild animal

He confused the one language spoken up until that time (Genesis 11:6–9).[25]

Nimrod's prowess and prestige as an elite hunter (figure 4), although a rebel as far as God was concerned, suggests that he was brave and successful in tackling large and formidable animals. Especially before the Flood, these would have been a threat to human beings. Perhaps he even took on some of the larger dinosaurs. Correspondingly, we ourselves need only look back a few generations, to the 19th and early 20th century (prior to modern-day concerns of ecology and conservation), to read about big game hunters going on safari to hunt large and dangerous wild animals.[26]

Dietary issues

Permitting the killing of potentially dangerous animals is one thing, but why did God specifically sanction meat-eating following the Flood (Genesis 9:3)? His explicit statement indicates that it was going to be important for human health.[27] Surely this was because of the vast difference between the luxuriant, productive pre-Flood environment (see the glimpses of this given in Genesis 2:6 and 2:10–14) and the devastated world in which human Flood survivors now found themselves? Many plant types with which Noah's family had been familiar before the Flood were now scarce or extinct. It was going to be tougher to get adequate nourishment from

Image: Maarten van Heemskerk / Public Domain

Figure 5. 19th century depiction of the Hanging Gardens of Babylon, one of the Seven Wonders of the Ancient World. The Tower of Babel appears in the background.

plants than had previously been the case. That would especially have been so without the advanced dietary knowledge we possess today.

God's lifting of the bar on meat-eating ensured that people could ingest sufficient protein and obtain essential nutrients (particularly the irreducibly complex vitamin B12, or cobalamin[28]), ensuring a balanced diet and healthy bodies. This would have been especially important during the interim phase when the land was being settled and brought into crop production. For example, "Noah began to be a man of the soil, and he planted a vineyard" (Genesis 9:20), but it would have taken time to reach maturity.

Thinking further about vitamin B12 may throw more light on our subject. Usually obtained from dairy products, eggs, and meat, B12 is vital for the metabolism of both amino acids and fatty acids, and more besides.[29] Plants lack this essential dietary factor. For this reason, vegans (strict vegetarians who exclude even dairy, eggs, honey, and any other animal products) risk deficiency-associated problems unless they take supplements or eat cereal grains fortified with it. However, it is conceivable that some plants in the antediluvian period might have been sources of vitamin B12.

Alternatively, perhaps certain bacteria of a person's healthy gut biota provided it. Among the commensal and probiotic flora of the human gut are bacteria (notably *Lactobacillus sp.* and *Bifidobacterium sp.*) which can synthesize water-soluble vitamins. A few studies of *Lactobacilli* have shown limited vitamin B12 synthesis in the human gut which, if it could be properly harnessed, might mean vegans could avoid reliance upon exogenous sources of the vitamin.[30] However, this seems unlikely because most of the microbial activity producing vitamin B12 occurs in the colon. The receptors necessary for absorbing it are found 'higher up' in the ileum.[31]

Other herbivorous mammals get round this problem through rumination (chewing the cud) or coprophagy (eating a portion of their own dung). Is it possible that antediluvian people were endowed with sufficient vitamin B12 synthesis, by microbiota of the small intestine,[32] to provide their dietary needs? Maybe, but it would not have been necessary. Keeping sheep began in the earliest generations of mankind (Genesis 4:2) and doubtless they kept other domesticated creatures like chickens. They were vegetarians, not vegans, so the consumption of milk and eggs would have provided them with all the vitamin B12 they needed without needing to kill any *nephesh chayyah* (living, breathing creatures).

Evolutionary timeline re: human hunting and agriculture

What we have looked at so far contrasts strikingly with the evolutionary scheme. We noted in part 1 (the section: *Ideas of cultural evolution*) that generations of people have been led to believe our ancestors were hunters for long ages of time, often misnamed 'prehistory'. In addition, that they only took to farming very late in their developmental timeline. So-called prehistoric human societies were supposedly hunter-gatherers, so only with the Neolithic Revolution did people begin to cultivate the land to grow crops.

Prior to that time (said to be about 12,000 years ago), during the so-called Pleistocene, it is alleged that there were numerous cycles of glaciation (Ice Ages). Glacial periods (ice advancement) were interspersed by warmer periods (interglacials) when the ice cover was less extensive—all of this envisaged to stretch back to 2.6 million years ago. All through the Pleistocene, with the waxing and waning of ice sheets, humans supposedly were gradually evolving from more primitive hominid ancestors. They hunted and fished, or foraged for what food they could find. According to secular anthropologists the simple innovation of farming the land never occurred to these human ancestors!

However, the scientific evidence being interpreted in support of multiple ice ages (some 'dated' to over two billion years ago)[33] fits much better with a *single* Ice Age following the Deluge described in Genesis 6–9.[34] Also, we have seen that the implication of Genesis 9:2–3 (supported by the information about Nimrod in Genesis 10:8–9) is that the widespread hunting of animals *for food* did not occur until after the Flood. Prior to that time, people were agriculturalists, cultivating the ground to raise food crops.

The advent of gardening

There is a further contradiction between the biblical timeline of human industriousness and that given by evolutionists: the onset of gardening. In a sense, gardening (horticulture) is a specialized form of cultivation. Certainly, there is good archaeological and literary (textual) evidence that the ancients were involved in gardening. They were adept at terracing, landscaping, and the cultivation of plants, both for

Table 1. Contrast between evolutionary and biblical anthropology with respect to the timing of cultivation

Timeline	Step 1	Step 2	Step 3
EVOLUTION	**Hunter-gathering** ca. 1.8 million years[37]	**Agriculture** 10,000–8,000 BC	**Gardening** 1,800 BC (Mesopotamia)
GENESIS	**Gardening** 4,000 BC (Genesis 2:8–10, 15)	**Agriculture** Began in earnest post-Fall[36] (Genesis 2:5, 3:17b–19)	**Hunting** 2,400 BC, after the Flood (Genesis 9:3, 10:9)[38]

food and for ornamental purposes. For example, this was happening c. 1,800 BC in ancient Mesopotamia, and there are also the famed Hanging Gardens of Babylon from the sixth century BC (figure 5).[35] Such facts are entirely in keeping with the Genesis record and timeline. The Old Testament as a whole is replete with references to elaborate and rich gardens, notably during the reign of Solomon, c. 970–931 BC (e.g. Ecclesiastes 2:5; Song of Solomon 4:15–16, 6:2).

The newly created Adam found himself in a flourishing garden right at the start (c. 6,000 years ago):

> "The Lord God took the man and put him in the garden of Eden to work it and keep it" (Genesis 2:15).

In fact, Adam and Eve were originally instructed to live off the produce of the plants and trees of Eden, except for "the tree of the knowledge of good and evil" (Genesis 2:16–17). Scripture teaches that agriculture followed quickly, although the Fall meant that the work would now be arduous and painful (compare Genesis 2:5 and 3:17–19).[36]

Contradictory worldviews

We have considered several discrepancies between the secular and biblical teaching about human industry and behaviour. Table 1 summarises the contrasts between these two very different timelines.

Theistic evolutionists and 'old-earth creationists' who adopt the conventional secular timeline for anthropological origins are confronted with yet more contradictions here. The evolutionary trajectory from hunter-gathering to agriculture to gardening is in the opposite direction to the trajectory plainly taught in the Word of God. We can further summarize these contradictory views explicitly in terms of animal killing:

Evolutionary worldview: human ancestors were involved in the death and bloodshed of untold billions of animals for hundreds of thousands of years *before* discovering that they could subsist much more effectively by tilling the land for food. Gardening was a *very recent innovation* from this secular perspective.

Creation worldview: there was no death of animals originally as man was initially *created to be a gardener*, then for centuries humans tilled the land to obtain food. Apart from sacrifices, Scripture seems to indicate that the widespread killing of animals for food (certainly by covenant-keeping people) only took place after the globe-destroying catastrophe and a *divine mandate* to do so.

There is an exception to the latter, regarding sacrifices. This goes back to the sobering occasion when Adam and Eve were clothed with garments of animal skin by God Himself (Genesis 3:21). He provided and made those 'skin coats' to deal with their sense of nakedness and shame, brought about by their sin against God. It was an act of human rebellion that necessitated God's slaying of one or more innocent animals. Importantly, God was literally making a covering (Hebrew *kaphar*[39]) for sin—an atonement—involving the shedding of animal blood. This was a vital means of bringing about the reconciliation of repentant rebels with God, through their cleansing and the forgiveness of their sins (see 1 John 1:9). This was not just an object lesson for Adam and Eve, teaching the necessity of blood sacrifice as the only means to get right with God (c.f. Hebrews 9:22). It also pointed forward to Jesus' perfect atoning sacrifice for sins, as prophesied in Genesis 3:15.

God's provision of skin coverings for Adam and Eve dramatically emphasized the seriousness of sin. Much later, their son Abel (by this time a grown man with a prophetic ministry; Luke 11:49) knew to bring "of the firstborn of his flock and of their fat portions" as an acceptable offering to God (Genesis 4:4, cf. Hebrews 11:4). Cain *should* also have known that a blood sacrifice was required, as shown by God's rejection and rebuke (Genesis 4:5–7). However, as discussed in part 1, God's institution of sacrifices was not a signal that people could slay animals *for food.* Rather, that was something which God did not sanction until nearly 17 centuries later (Genesis 9:3–4).

Conclusion

When reading about the immediate post-Flood period in the Genesis record, we should not too quickly pass over the scriptural statement about the 'dread of man'. In both parts of this paper, I have argued that Genesis 9:2 represents a biological discontinuity. God supernaturally intervened at this point in history, so altering the way in which all animals would thereafter perceive human beings. This is closely tied to the lifting of His own injunction against meat-eating back

at the dawn of humanity.[40] On this basis, we also learnt several lessons about biblical history, further reinforcing its incompatibility with secular evolutionary thinking. What is more, zoologists and ethologists (certainly creationist ones) would do well to bear this event in mind, in seeking fully to comprehend psychological aspects of animal makeup and behaviour.

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37. This assumes, within the evolutionary view, that *Homo erectus*, the presumed ancestor of modern *H. sapiens*, was subsisting through hunting and gathering.
38. As discussed, while some humans likely did kill animals in the centuries prior to the Flood, there is no hint in Genesis that they consumed their meat. People would not have needed to *hunt* (i.e. chase down) animals, or use bows and arrows, because they were fearless of man.
39. The link between covering, *kaphar*, and atonement is seen in *Yôm Kippur*, the Day of Atonement. It is also used in Genesis 6:14 where Noah was told to 'cover' (*kaphar*) the Ark inside and out, translated as 'pitch.'
40. While Genesis 1:29–30 does not explicitly contain an injunction against carnivory, it is unambiguously implied by the text because God explains that everything and everyone will eat only plants. "And it was so" further confirms that it did actually occur, right up until the Fall.

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