

SECTION 3 – THE SCIENCE

Chapter 7 – Bogeys in the evolutionary coal-cellar

I now suspect that just as a deer herd lives in mortal fear of its wolves, so does a mountain live in mortal fear of its deer. And perhaps with better cause, for while a buck pulled down by wolves can be replaced in two or three years, a range pulled down by too many deer may fail of replacement in as many decades. So also with cows. The cowman who cleans his range of wolves does not realize that he is taking over the wolf's job of trimming the herd to fit the range. He has not learned to think like a mountain. Hence we have dustbowls, and rivers washing the future into the sea.

Leopold Aldo¹

Horror shows and window tests

If the woes of Creation have long been given full expression by eminent Christian preachers such as Wesley and Spurgeon, whom I quoted earlier in the book, they have been raised to new levels in discussions of evolution. You may be familiar with this famous quote by Richard Dawkins, part of his argument against purpose in the universe:

The total amount of suffering per year in the natural world is beyond all decent contemplation. During the minute that it takes me to compose this sentence, thousands of animals are being eaten alive, many others are running for their lives, whimpering with fear, others are slowly being devoured from within by rasping parasites, thousands of all kinds are dying of starvation, thirst, and disease.²

But theistic evolutionists, in significant numbers, are no less forceful in their desire to emphasise nature's darkness. Physicist and theologian Robert J Russell writes:

...it is hard to deny that nature "red in tooth and claw" is a suffering nature, full of agony, of pitiful and often senseless death, blind alleys, merciless waste, brute force. Is it entirely anthropomorphic to recognise in pre-human nature something which eventually becomes that which in that which in the human realm is evil?³

Karl Giberson, co-founder with Francis Collins of the Evolutionary Creation organisation *BioLogos*, blogged in support of another BioLogian, Darrel Falk, about his contention that the design of mice-eating cats and bubonic plague should under no circumstances be attributed to God:

The natural world has some terrible creatures in it, and it is hard to imagine God intentionally designing such nasty things. In 1860 Darwin even raised this in a letter to the American biologist Asa Gray:

¹ Aldo, Leopold (1887-1948) *Thinking Like a Mountain in A Sound County Almanac and Sketches Here and There* (Oxford, 1949).

² Dawkins, Richard, *God's Utility Function* (Scientific American November, 1995), p. 85.

³ Russell, Robert J , *Cosmology from Alpha to Omega* (Minneapolis, Fortress, 2008) p.242.

“I cannot persuade myself that a beneficent & omnipotent God would have designedly created the *Ichneumonidae* (wasp) with the express intention of their feeding within the living bodies of caterpillars, or that a cat should play with mice.”

*Creationists have long tried to wriggle off this particular hook by arguing that the nasty features of the world are the consequences of human sin – by-products of the curse. But the truly nasty stuff precedes the appearance of humans, which makes this argument suspect at best.*⁴

It would be interesting to know how Asa Gray, who unlike Giberson and so many present-day theistic evolutionists believed that evolution was directed to specific goals by God's providence, replied to Darwin's letter – that would surely be illuminating. But we do know his settled views on creation from his review of the *Origin of Species*, which shows that he, at least, had no problem imagining that God *did*, as a matter of fact, intentionally design such “nasty things”:

*At least, Mr. Darwin uses expressions which seem to imply that the natural forms which surround us, because they have a history or natural sequence, could have been only generally, but not particularly designed, a view at once superficial and contradictory; whereas his true line should be, that his hypothesis concerns the order and not the cause, the how and not the why of the phenomenon, and so leaves the question of design just where it was before.*⁵

The Catholic scientist Francisco Ayala, writing a review for *BioLogos* in 2011, aligns more with Giberson and Falk than with Gray:

*But humans are chock-full of design defects. We have a jaw that is not sufficiently large to accommodate all of our teeth, so that wisdom teeth have to be removed and other teeth straightened by an orthodontist. Our backbone is less than well designed for our bipedal gait, resulting in back pain and other problems in late life. The birth canal is too narrow for the head of the newborn to pass easily through it, so that millions of innocent babies—and their mothers—have died in childbirth throughout human history.*⁶

Another claim that God sits at arm's length from a morally dubious evolutionary process (which is also the sole means of biological creation) comes from theologian Keith Ward:

⁴ Giberson, Karl, *Evolution and the Problem of Evil* (<http://www.beliefnet.com/columnists/scienceandthesacred/2009/09/evolution-and-the-problem-of-evil.html#pXc57RSzUCV76hHZ.99>) accessed 06/11/2016.

⁵ Gray, Asa, *Darwin and his Reviewers* (The Atlantic Monthly Volume 0006 Issue 36, October 1860).

⁶ Ayala, Francisco, *On Reading the Cell's Signature* (<http://biologos.org/blogs/archive/on-reading-the-cells-signature/#sthash.eRxVD0a5.dpuf> Accessed 06/01/15. In the book *Debating Design* Ayala cites, with approval, this passage by atheist David Hull: “The evolutionary process is rife with happenstance, contingency, incredible waste, pain, death and horror... Whatever the God implied by evolutionary theory and the data of natural selection may be like, he is not the Protestant God of waste not, want not. He is also not the loving God who cares about his productions. He is not even the awful God pictured in the Book of Job. The God of the Galapagos is careless, wasteful, indifferent, almost diabolical. He is certainly not the sort of God to whom anyone would be inclined to pray.” (Dembski W A and Ruse M, *Debating Design*, Cambridge, 2006, p.78.

If natural science shows that many genetic mutations are fatally harmful to organisms, that is a strong indication that any theory of creation that attributes every event to the directly intended action of a good and omnipotent God is mistaken.⁷

There really doesn't seem much of Creation left to God after all this. My intention here is not to press the case, already made over several chapters, that these sentiments ignore the clear teaching of Scripture and historic theology (not to mention its being an axiom of monotheism) that God is the sole Creator and sustainer of everything that is in the world, even of those things that might appear wild or even harmful to us. Neither do I intend to dwell on the parochial subjectivity of arguments taking the form "I would not have created things that way if I were God."

Instead I will attempt the more restricted task of showing how hyperbolic these arguments are with respect to the real world. If you are committed to a belief that the existence of *anything* harmful in nature cannot be consistent with God's existence or with his love, then you will not be impressed. But others may find it helpful to look at some evidence that our world, even granted the existence of evolution, is not quite such a hell-hole as many people, including Christians, seem overly eager to claim.

I concede that there is a place for the discussion of suffering in death and nature. But is the kind of language seen in the quotations above really conducive to a sufficiently nuanced consideration of the matter? In other words, is the picture of the universe given there truly representative of reality? Or is it, perhaps, so wildly polemic as to be a calumny on our Creator, and shoddy science to boot? To begin in a general way I invite you to consider the last time you stepped into the world of nature – or better still, to take ten minutes out to do so now, outside your own door.

What was it like for you? How many agonised animal screams did you hear? How much sheer horror did you see? Animals being eaten alive, maybe? How did the implacable malevolence of the world feel to you, not to mention the overwhelming indifference and hostility of the universe? I'm writing this in Devonshire, England, but the collective experience of all who read this should provide some kind of representative experience of the world.

My chickens were well, thanks, but then they do have a protected environment. One died, peacefully, earlier this year. There was a pair of wagtails darting around the pony's feet; after tasty insects, I guess. I was privileged to see their elaborate courtship dance last spring. A wren has been patrolling the bank by our bedroom window daily for a couple of years now. Our regular swallows are wintering in South Africa, after producing three successful broods in the stable this summer. There's a fox we often see sitting on our hill apparently just enjoying the sunshine and the rolling view in his vulpine way. A mole has excavated a veritable metropolis in an unused part of the meadow. We have also had a trio of carrion crows resident in our field for several years. In the past they've stolen a few eggs, until they were outwitted by rubber substitutes.

There are also rather too many rabbits in the field. I'll dwell on them a little, partly because they're well down the food chain and because I know a bit about them. Many rabbits obviously don't survive long, or there'd be far more. Foxes get a few – though the rabbits tend to outrun them. The buzzards have a go at them, but if the bunnies weigh above 500g it's really just target practice – and it's not

⁷ Ward, Keith, *Theistic Evolution* (in Dembski & Ruse *Debating Design*, Cambridge 2006) p.262.

unlikely that both parties enjoy the adrenaline rush. The tawny owls probably do better at serious hunting, but at night, when we can only hear them converse.

Rabbits in Britain suffer endemic myxomatosis, which probably makes them feel pretty ropy until a predator knocks them off. As it happens I actually saw the first case in the years I've lived here this week. I noticed a sick rabbit the evening before last, and yesterday morning I spotted that our three crows (Eeny, Meeny and Miny – pardon the familiarity) were despatching it. Later it became a welcome winter meal for a buzzard. Today it's been completely recycled.

I learned how to diagnose myxomatosis in my gap year job at a pest control laboratory. There I also learned that your average rabbit has several score of fleas and an average of about five tapeworms. Yet for all that, the rabbits seem pretty contented most of the time – they're not being eaten, painfully parasitized or agonised, often for years at a time. They're just munching our herb garden. When they do get predated, it's normally when they're getting old and slow or sick, and it's usually by something keen to finish the job quickly and have supper.

In other words, it's the natural world that the ancient Bible writers knew well – full of variety, fecundity and exuberance as well as the occasional violence – for all of which they offered unstinted praise to its Creator. If the world really was implacably malevolent it would hardly be as richly populated as this after 4 billion years, would it?

As for that overwhelmingly hostile universe, what has it ever done to you? Admittedly there are few places in it where you'd feel comfortable, but nobody's asking you to step outside your tailor-made Eden, are they? And though Jupiter may throw occasional asteroids at us, more often than not it soaks them up itself to protect us, for the solar system, like the universe itself, is extremely finely tuned in our favour. Fine tuning is the opposite of indifference, it seems to me. And anyway, how many people do you know who have actually been lost to asteroid strikes? As for the dinosaurs, maybe it was God's decision how their reign should end, since they all had to die at some stage anyway.

Catholic Intelligent Design writer Vincent Torley proposed a similar simple exercise for assessing the world's fallenness:

I'd like to propose a test which I'll call Torley's Window Test. It's very simple. Wherever you are on planet Earth, I invite you to have a look out your window and tell me: what do you see? No matter where you live, you will probably see a scene of great beauty – whether it be the natural beauty of the countryside, or the man-made beauty of cities.

In neither case, if you look out your window, are you likely to see any evil. You almost certainly will not see animals (or people) suffering excruciating pain, or dying a slow and agonizing death. And you probably won't see human beings performing depraved acts of wickedness, either. Which prompts me to ask: where is all the evil? Why is it almost nowhere to be seen? And why is beauty to be found everywhere?⁸

⁸ Torley, Vincent, *God: Lawgiver or Hypocrite?* (November 29, 2013 <http://www.uncommondescent.com/intelligent-design/lawgiver-or-hypocrite-loftus-attacks-divine-command-theories-of-ethics/>) accessed 06/01/2016.

In fact one of the best scientific treatments of this subject I have come across was by the co-describer of the theory of evolution by natural selection, Alfred Russel Wallace. He wrote a whole chapter entitled *Is Nature Cruel?* in his final book, *The World of Life*. I'll draw on this work later, but at this stage will just point out his observation that the exaggerated rhetoric about the world's malevolence was around in his own time, amongst others in the anti-religious work of Thomas Huxley, "Darwin's Bulldog", who saw fit to quote Dante's *Inferno*:

From the point of view of the moralist the animal world is on about the same level as a gladiator's show. The creatures are fairly well treated, and set to fight—whereby the strongest, the swiftest, and the cunningest live to fight another day. The spectator has no need to turn his thumbs down, as no quarter is given. He must admit that the skill and training displayed are wonderful. But he must shut his eyes if he would not see that more or less enduring suffering is the meed of both vanquished and victor. And since the great game is going on in every corner of the world, thousands of times a minute; since, were our ears sharp enough, we need not descend to the gates of hell to hear—

Sospiri, pianti, ed alti guai, (Here sighs, with lamentations and loud moans,)

...

Voci alte e floche, e suon di man con elle (Voices deep and hoarse, with hands together smote that swell'd the sounds)

—it seems to follow that, if the world is governed by benevolence, it must be a different sort of benevolence from that of John Howard.⁹

It is noteworthy that despite Wallace's expert debunking of the horror-stories, backed by a lifetime as a field-naturalist and scientist, they are still standard fare in both secular and religious writing. Why? Perhaps Wallace had it right:

We have here presented one of the strangest phenomena of the human mind – that numbers of intelligent men are more attracted by a belief which makes the amount of pain which they think does exist on the earth last for all eternity... without any permanent and good result whatever, than by another belief, which admits the same amount of pain into one world only, and for a limited period, while whatever pain there is only exists for the grand purpose of developing a race of spiritual beings, who may thereafter live without physical pain – for all eternity!¹⁰

It seems a shame that the spiritualist Wallace had a better handle on Christian theology than many Christians. It may not just be "attraction to a belief", though, that concentrates so myopically on pain, but the inertia of worldviews. Despite well-documented limitations to the idea, perception is nevertheless highly theory-laden, and worldviews are, in effect, unconsciously held theories. If, as I suggested in the last chapter, nature came over several centuries to be understood as inimical and violent, then it will tend to be seen that way unless the worldview is consciously challenged (perhaps by Torley's window test, or even by imbibing the Bible's worldview through that old Evangelical habit, devotional Bible reading).

⁹ Huxley, Thomas *The Struggle for Existence in Human Society* (1888) in *The Nineteenth Century* (February 1888) p.163. John Howard was a prominent prison reformer.

¹⁰ Wallace, Alfred Russel, *The World of Life* (London, Chapman and Hall, 1910) p.371.

As an illustration, consider in how many different ways wild landscapes have been viewed over the last millennium. In mediaeval times, a rugged mountain was, literally, a wasteland of no use to man or beast, except perhaps when fleeing from invading armies. You would not take time out to walk up Snowdon. Nobody except a fisherman or sailor would take much pleasure from being on a beach, and an artist would rather paint a city than a natural landscape.

With romanticism came the idea of “sublimity” in nature, “nature” meaning essentially “free of people”. That sublimity, though, was closely akin to dread. Mountains were described by words like “terrible”, “awful” or “ghastly”. Wordsworth walked up Snowdon by moonlight, to write about it. Romantic landscapes always heightened the dramatic and the intimidating, whilst seascapes were invariably stormy and usually involved shipwrecks.

Yet we come to the present time, and “wilderness” is seen as a form of domesticated beauty, a place to retire and be comfortably free of traffic noise, for public recreation rather than solitary spirituality. You climb mountains for the thrill, or microlight over them taking selfies. Snowdon has a railway ending at a summit café. Beaches require cocktail bars and windsurfing in order to become sublime.

So do you look at a wilderness and see uselessness, or sublimity, or amenity? It depends on which theory of nature you've unconsciously adopted. In all probability, it will be the same viewpoint as most of your contemporaries. The same is, to a great extent, true of the evils in nature.

Before looking in more detail at the general issues surrounding pain and suffering, I want to spend the rest of this chapter dealing with some of the specifically “evolutionary” problems brought up by pessimists about the Creation. These include extinctions, evolutionary “blind alleys”, merciless waste, arms races, and “evil” design. The next chapter I'll devote to the myth of “selfish” evolution.

Extinctions

Extinction is often presented as if it's a self-evident source of suffering, and the alleged millions of extinctions in earth's history seem to mean unimaginable amounts of suffering. But to become extinct just means to die without offspring – which many people, and many more animals, experience every day, often quite painlessly.

For most species it's not even sudden – should the giant panda become extinct, it would be because its habitat shrunk too much to sustain a breeding population. That's a shame for panda-loving people – but to pandas, without a thought for the future, it's no big deal. They are slow breeders and solitary livers anyway. Even in more rapid extinctions, there is little drama. Do you really suppose that Martha, the last passenger pigeon, who died in Cincinnati Zoo in 1914, was even aware of the predicament of her species?

Mass extinctions, like the K/T extinction, appear to be more gradual than usually supposed – the asteroid seems to have started a prolonged period of change. Still, what it was like to be killed by the Chicxulub asteroid strike is hard to imagine, but was surely no worse than being struck into oblivion by a large Tyrannosaur about its daily business.

But for the sake of accuracy alone, it's reasonable to challenge the huge numbers assumed for extinctions anyway. It's usually claimed that 99.9% of species are now extinct. Even if that were true, it wouldn't (as I have already shown) add one jot to the sufferings in nature.

It is routinely said to be wasteful for God to create so many now departed species, but that is meaningless. God can create things for their own sake, to last for a season – and the average life of a species, estimated as upwards of a million years, is 150 times longer than the age granted to the whole earth by Creationists. And he can justly create them for a temporary role – such as the species believed to have “terraformed” the earth's atmosphere with oxygen in the Precambrian era. He can even create them for mankind now, or in the age to come, to discover and use as a motivation for praise (how often do you praise God for dinosaurs or ammonites?) – hundreds of former worlds are present in one as fossils! What richness!

In earlier centuries, when a different philosophy reigned, such vast numbers of species would be seen as an outworking of the “principle of plenitude” – that God creates every possible kind of being. Philosophers might even have been easily persuaded that extinction was one good way of making room for all of them in the world.

But let's return to that 99.9% figure: it depends entirely on the *assumption* that Darwin's theory of “phyletic gradualism” is true – that species change infinitesimally in all directions, with selection preserving just a lucky few. But gradualism almost certainly *isn't* true, according to modern evolutionary theory. There are perhaps 10 million living species, and the best estimate of named fossil species is that of palaeontologist Donald Prothero – approximately 250,000¹¹.

That low figure is no longer thought to be entirely because the fossil record is impossibly poor. A paper by Michael Benton¹² shows, using three separate measures, that the fossil record is broadly reliable: we don't have all the species that have been preserved, of course, and probably many were not fossilized at all, but we can now claim to have a representative proportion. There may well even be more living species than extinct ones – how would one possibly know?

Furthermore, that quarter of a million fossil species is distributed across maybe 200 million or more catalogued fossils in museums around the world – making an average of 80+ specimens of each species. That doesn't fit a pattern of predominantly gradual change with multiple extinctions, but one of stasis and relatively sudden and successful transformation – the very pattern suggested by the now dominant theory of punctuated equilibria¹³.

Very crudely, this theory suggests that small populations of a species become isolated and evolve quicker than the “resolution level” of the relatively sparse fossil record – up to a million years or so. It's just not possible to observe if speciation takes place over the whole million years or just a generation or two. But the net result is that when the population reappears in the fossils, it's a new species, which then continues in the fossils much the same for as long as it exists at all. If, let us

¹¹ Prothero, Donald R, *Fossil Record* in Singer (Ed) *Encyclopedia of Palaeontology* (Chicago, Fitzroy Dearborn, 2000) p.491.

¹² Benton, M J, *The quality of the fossil record of vertebrates*, in Donovan, S K and Paul, C R C (eds.), *The adequacy of the fossil record* (New York, Wiley, 1998) pp. 269-303

¹³ Eldredge N & Gould S J, *Punctuated Equilibria: an alternative to phyletic gradualism*, in Schopf T J N (ed), *Models in Palaeobiology* (San Francisco, Freeman Cooper & Co, 1972) pp.82-115.

suppose, the original species then becomes extinct, the picture is closer to one new type replacing one old type, than to evolution wildly flailing around producing hundreds of “failures”. That brings us to the emotive, but misleading, term of “evolutionary blind alleys.”

Blind alleys

The picture (deliberately) conjured up by this term, and the related one of “failed experiments”, is of ill-starred creatures stumbling about in anguish like misshapen Frankenstein monsters until, inevitably and mercifully, they succumb in the bloody struggle for existence (only after a lot more agony, of course). This is tommyrot.

Like so many of these concepts it's a mainly theological idea with no real scientific value – “Look at all the waste in evolution, with all those failures littering the field. Would a Creator God really have shown such incompetence, especially given the suffering of all those badly-designed types?”

Evolutionary “blind alleys” and “failures”, it is held, demonstrate the existence of purposeless evolution. But the *real* question is, what evidence demonstrates the existence of such dead ends and failures? In fact, they are circularly *assumed* to have existed from the predictions of the Darwinian gradualist model of evolution.

Extinctions are often cited as direct evidence of these “evolutionary dead ends” as if the connection were self-evident. But extinctions do not demonstrate failed directions of evolution, any more than the death of soldiers in battle necessarily demonstrates failed strategies. Rather they show changes of conditions that eventually exceed that type of organism's potential for adaptation. Steam engines were not dead-end technologies because they were replaced with diesels. It only becomes a “failed experiment” if you make the continuance of a particular line the sole criterion of success, rather than (say) the health of the whole biosphere – which is more likely to be God's concern.

It only becomes a *tragic* failure if you weave some fanciful image of a Last Fish dying slowly in a desert with gasping regrets she'll never see her grandchildren – a scenario which in real life would be the same as the millions of other similar fish that died in deserts fortuitously during the millions of years it was a flourishing species. Why is extinction any more wasteful and tragic than death itself? Both bequeath the earth to other living individuals

So extinctions as such count for nothing as evolutionary mistakes. What we're looking for are the abject failures: not the steam engines that gave way to diesels, but the steam toasters or steam battery packs that some moron patented before they sank into welcome oblivion. And those are much harder to come by in the biological world.

The fossil record, as I stated above, shows an overwhelming predominance of apparent stasis and sudden changes of successful forms (hence punctuated equilibria). Gradual transitions, even in the more rapid timescales of punctuated equilibria, are in pretty well all cases postulates of the assumption that they “must” have existed, but not fossilised. The same is true of “evolutionary failures” – they *may* have occurred during times of speciation, or even as isolated lineages during stasis – but they don't actually manifest as fossils. They are a pure hypothesis.

How would we even recognise such a “failed experiment” if we did find a fossil? It would represent some species that once lived, and a live species is, by definition, more or less successful. Stillborn

monsters seldom fossilize – and never take part in evolutionary experiments because they don't reproduce after their kinds. Low or declining numbers might be because a species is a failure – but more likely because the species occupies a specialised niche that is disappearing. Or a species may even just lose out in exceptional circumstances (like introduced grey squirrels ousting reds in the UK, global warming leaving nowhere for cold-loving species to go, and so on).

Some have said the giant panda ought to be quietly left to go extinct because it is so poorly adapted. But it's been around successfully since the Pleistocene, just as long as we have. If its habitat or other environmental factors are no longer conducive to its survival, then that's another matter – but it's not a blind alley.

How would one tell any fossil is a “dead end”? Extreme body plans are no guide. We can have little idea of the entire world a strange fossil creature lived in, so it's impossible to say how well suited it was. It's even impossible to be sure how rare it was, because all agree the fossil record is at least somewhat patchy. Plenty of today's common plants and animals are weird, but highly successful.

For example, commonly it was said (and still is, in popular science texts) that the Irish elk became extinct because its increasingly disproportionate antlers, assumed to be sexually selected, eventually made the whole creature maladaptive – a blind alley. But all we really *know* is that it had big antlers and went extinct.

That redoubtable iconoclast, palaeontologist Stephen J Gould, drew attention¹⁴ to findings that as deer increase in size, their antlers habitually enlarge disproportionately. The giant elk, being the largest deer found, had antlers that followed this rule. This suggests that some kind of developmental constraint, or structuralist “law”, was probably at work in the elk, rather than any evolutionary “experiment”, whether that experiment were entirely directionless, an attempt to adapt to some supposed need that failed, or even the inexplicable love of the elk ladies for grotesque headgear.

But we don't really need Gould's excellent analysis to show the vacuity of the “dead end” hypothesis. For in fact *Megaloceros giganteus* (the giant elk's posh name) shows in the fossil record from 400,000BC to 8,000BC. That longevity in itself undermines any idea of a failed experiment. More significantly still, there seems to be no actual evidence that their antlers actually did increase in size over that time. The whole argument, it seems, was simply, “Those antlers look too big to work. And the elk's extinct. They must have evolved gradually because everything does. Therefore they just got too large and the experiment failed.”

But in fact, it looks as if giant elks died out because of the usual issues of lack of the right food when the ice-age ended, perhaps aided by human spears and arrows. It was just another example of the common mortality of the created realm.

Merciless waste

Critics point to the vast reproductive rates, and almost equally vast mortalities, of certain species as evidence of criminal waste in the world. Examples might be the immense numbers of mosquitoes devoured annually by migrant birds in Siberia; or the huge clouds of plankton consumed by shoals of

¹⁴ Gould, S J, *The origin and function of 'bizarre' structures: antler size and skull size in the 'Irish Elk', Megaloceros giganteus* (*Evolution* vol.28 No. 2) pp.191-220.

billions of sardines that, in turn, largely succumb to predators like dolphins, sharks and gannets; or of course the prodigality of seed production in many plants. This is said to be a “merciless” waste (and, of course, agonising all round).

Needless to say, this is pure anthropomorphism. We humans produce a few children – each a rational soul – and hope all will live long and prosper to change the world, and perhaps even to gain eternal life. These other species were created, and/or evolved, as the basis of the food chain. If they expected anything in life, it would be that most of their offspring would be food, except for those destined to propagate the race.

As an analogy, imagine I produce 1000 advertising handbills, in the expectation of one profitable sale. I budget for the fact that 999 bills will become shopping lists or packing materials – partly because I use everybody else's useful handbills that way myself.

The idea of “waste” is plausible only because of the biologist's artificial focus on the individual struggle to survive. But ecologically nothing whatsoever is wasted, since everything depends on everything else (including plankton species recycling dolphin and shark waste). Even the profligate “waste” of seed production is the reason for beautiful finches. God's perspective likewise is to provide for his whole *oikonomos*, not just maximise individual survival. As for the prey species, we have no evidence that they prefer the biologist's perspective to God's or the ecologist's.

It is only humans who leave behind mountains of waste to pollute the earth, and shoals of plastic bags to choke turtles. Nature has successfully recycled everything for 4 billion years.

Arms races

An evolutionary “arms race” is seen as the progressive mutual adaption of a predator and its prey, and therefore as textbook evidence for adaptive evolution. With respect to Creation, it's almost enough simply to hint at such an image of the eastern and western blocs developing mutually assured nuclear destruction to set theodical pulses racing.

A common example is the cheetah and Thompson's gazelle, whose evolution has increased the speed and agility of both, it is said. This process is, somehow, seen as evidence against God as Creator:

*The cheetah, if we are going to talk design at all, is superbly designed for killing gazelles. But the very same designer has equally evidently strained every nerve to design a gazelle that is superbly equipped to escape from those very same cheetahs. For heaven's sake, whose side is the designer on?*¹⁵

The first thing to say is that evolution adds absolutely nothing to what observing the created order itself shows: you can go out to Africa and see a fast cheetah hunt a fast gazelle. Each wins about 50% of the time. It's not controversial that slow individuals on either side will probably do less well.

We have also seen previously that the biblical God claims actually to find prey for the lions, so presumably for cheetahs too; and in the same passage he plays midwife to the mountain goats, so

¹⁵ Dawkins, Richard, *The Greatest Show on Earth* (Simon and Schuster, 2009)p.384.

presumably to the gazelle as well¹⁶. The “designer” is therefore on the side of both species, for the good of all – and that has been known from antiquity – and if that troubles our human sensibilities that is our problem. One might as well worry whether God is on the side of both squirrels and nuts, giving one teeth and the other a shell.

If science could validly study design motives (as Dawkins seems wrongly to assume in the very act of dismissing design) we might well suggest that God used the speed of the gazelle to *limit* its predation to cheetahs alone (good for both), except that the evidence is more complicated than that. The existence of the arms race seems to provide evidence for adaptive evolution, but once more, what evidence exists for the arms race itself? In fact it stands on pretty speculative ground. Cheetahs don't have an intimate predator relationship with one species at all (clearly a necessity for an arms race), but hunt getting on for thirty species, based mainly on size rather than agility. They even occasionally hunt ostriches.

It's also matter of dispute whether the cheetah evolved in America or East Asia, but one thing is sure from genetics: it faced two population bottlenecks at around 100,000 and 10-20,000 years ago that left it with such low genetic variability that skin grafts “take” on unrelated cheetahs as if they were identical twins. There *can* have been no arms race since the ice age, because they remain the same species, and entirely lack the necessary variation. Furthermore if they came from America, they can't have hunted gazelles, because there weren't any there, nor even antelope apart from the saiga, which they don't hunt now. In fact, the fossils suggest that cheetahs haven't changed appreciably since they first appeared in the fossil record.¹⁷ The facts surely need to be true before we worry about the theodicy.

“Evil” design

In even attempting to answer the question of the “wicked” behaviour of many creatures, I'm aware of being vigorously opposed not only by atheists and theistic evolutionists like those quoted above, but by Creationists who believe they see the effects of sin in nature. Carnivores are bad enough, but parasites are worse, as are spiders eating their mates or lions their rivals' cubs, bonobos being promiscuous, chimps waging war, and (I suppose) Venus fly traps inverting the Genesis 1.18 command by eating animals.

But beauty is in the eye of the beholder. I saw a film documentary on tapeworms once, in which an expert was asked if she did not find studying such horrible parasites distasteful. She was genuinely hurt, and replied, “But they're wonderful creatures!” And so they are, especially if one believes that God made them for a purpose. One such purpose, only recently fully recognised, is that such parasites play the same role as top-level predators in many ecosystems, keeping their numbers in balance. Parasites are not optional to this created order.

A noted theistic evolutionist once dared me to claim that the exquisite design of pathological viruses was God's work, rather than that of a fallen evolutionary process (a second demiurgic Creator in other words!). That seems unanswerable, until one notes the increasing evidence that viruses may

¹⁶ Jb. 38.

¹⁷ <https://en.wikipedia.org/wiki/Cheetah> accessed 19/12/2015.

be one of the major sources of genetic innovation in nature¹⁸. Just as the rain may be used by God to bless or harm us, as we saw in the Chapter 1, so may viruses. Both, indeed, may strengthen us spiritually through hardship.

We also often exhibit a double standard based on mere prejudice. If I describe a creature that fools the mother of another species into feeding it instead of her own young, whilst the interloper callously disposes of the real offspring, I may be describing the European cuckoo, *Cuculus canorus*. New Atheist evolutionary biologist Jerry Coyne holds this species up to his shocked students (along with the cheetah arms race, in fact) as an example “*showing nature in all its red toothiness and clawdom*”.¹⁹ His squeamish biology students clearly never read nature books in kindergarten.

But *exactly* the same description applies equally well to dairy farmers (like Abel?) who routinely kill male calves and submit their mothers to a lifetime of feeding their milk to humans like you. Only *you* have a choice, and the cuckoo doesn't. The dairy farmer along our lane is, nevertheless, a very friendly and upright chap – I don't know any cuckoos personally to compare.

Theologically, the key to all this is to understand what theologians like Augustine knew long ago - that the moral law given to us by God was just that – given to *us*. It was the law suited specifically to our *human* nature, which had we not sinned would have been natural to us still, as those made after the image and likeness of Christ, and which will again become natural once our salvation is complete. It is the law of human nature, as that nature was created to be.

But though it expresses, in human terms, God's love and righteousness (and so was seen to be completely fulfilled in the true man, Jesus Christ), it is not the law *of* God, in the sense that God should be bound by it. How could he be? We must honour our father and mother, but he has no parents. We are forbidden to take human life – but “our times are in his hands”.²⁰ We must not steal, whereas “the Lord gives, and the Lord takes away”.²¹ We must not covet – but he *cannot*, for all things are his anyway.²²

And if he is so much higher than us that the law of our lowly nature does not reach up to him, why should we expect our moral law to apply to lower natures? We saw in Chapter 1 that all creatures obey God, and they obey him through the sometimes strange and exotic natures he has given them, be they the natures of sloths, parasitic wasps, squid or *Yersinia pestis* (*contra* Falk and Giberson) each with its own unique law. In that restricted sense the creatures are literally “autonomous”, that is, governed by their “own law” from God. The Church Fathers and Thomas Aquinas taught that each creature reflects some aspect of God's mystery and glory; and we saw in Chapter 1 to what unexpected creatures the Lord compares himself, from the hen to the lion.

There is something of this sense inherent in Paul's teaching on the resurrection body in 1 Cor. 15:

¹⁸ Cf the researchers interviewed in several chapters of Mazur, Suzan, *The Paradigm Shifters* (New York, Caswell, 2015).

¹⁹ <https://whyevolutionistrue.wordpress.com/2011/03/04/mimicry-the-nefarious-cuckoo/> accessed 06/01/2016.

²⁰ Ps. 31.15.

²¹ Jb. 1.21.

²² Deut. 10.14.

*Not all flesh is the same: people have one kind of flesh, animals have another, birds another and fish another. There are also heavenly bodies and there are earthly bodies; but the splendour of the heavenly bodies is one kind, and the splendour of the earthly bodies is another. The sun has one kind of splendour, the moon another and the stars another; and star differs from star in splendour.*²³

“Flesh” surely means more than simply the flavour (or genetics) of meat, but rather the varying characteristics God has given to all mortal creatures. As N T Wright comments on this passage:

*Just because it is part of the “glory” of a star that it shines, that does not mean that everything else must have “glory” of that sort. It is no shame to a dog that it does not shine, or to a star that it does not bark.*²⁴

Yet it is highly significant that in this passage the creatures of the present age are not referred to in terms of shame at all, but in terms of their own individual kinds of *glory* from God. It may not even be coincidental that the passage goes on, in talking about human resurrection, to speak of our present bodies in terms *other* than glory:

*So will it be with the resurrection of the dead. The body that is sown is perishable, it is raised imperishable; it is sown in dishonour, it is raised in glory; it is sown in weakness, it is raised in power; it is sown a natural body, it is raised a spiritual body.*²⁵

Human glory was always intended to coincide with immortality through the Spirit, and the presence of sin and death *in us* means dishonour, the opposite of glory. The glory of the earthly and heavenly creatures was never comparable to that God purposed for mankind – but in Paul’s cosmology it appears to remain undiminished by our sad failure. Whether it will be transformed to greater glory in the light of our own final transformation remains to be seen – Romans 8, which we examined in Chapter 3, might indicate that this, too, was always God’s intention. Meanwhile, however, beasts are still mortal, and are still beasts.

We do not, of course, have to imitate the example of the beasts – their law is not our law. We may even, like some Bible writers and many mediaevals, use them proverbially as examples to emulate or avoid²⁶. But “evil”? In God’s good creation? Perhaps we should remember the words of God to Peter: “Do not call anything impure that God has made clean.”²⁷ Especially when he long ago pronounced it “very good.”²⁸

²³ 1 Cor. 15.39-41.

²⁴ Wright, N T, *The Resurrection of the Son of God* (London, SPCK, 2003) p.345-346.

²⁵ 1 Cor. 15.42-44.

²⁶ The mediaeval bestiaries make an interesting study on how one can study nature in a manner conceptually far removed from modern science, thus revealing the parochial nature of our whole worldview.

²⁷ Acts 10.13-15.

²⁸ Gen. 1.31.