

Richard Dawkins  
The God Delusion  
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CHAPTER 3  
Arguments for  
God's existence

*A professorship of theology should have no place  
in our institution.*  
THOMAS JEFFERSON

Arguments for the existence of God have been codified for centuries by theologians, and supplemented by others, including purveyors of misconceived 'common sense'.

## THOMAS AQUINAS' 'PROOFS'

The five 'proofs' asserted by Thomas Aquinas in the thirteenth century don't prove anything, and are easily – though I hesitate to say so, given his eminence – exposed as vacuous. The first three are just different ways of saying the same thing, and they can be considered together. All involve an infinite regress – the answer to a question raises a prior question, and so on *ad infinitum*.

- 1 *The Unmoved Mover*. Nothing moves without a prior mover. This leads us to a regress, from which the only escape is God. Something had to make the first move, and that something we call God.
- 2 *The Unc caused Cause*. Nothing is caused by itself. Every effect has a prior cause, and again we are pushed back into regress. This has to be terminated by a first cause, which we call God.
- 3 *The Cosmological Argument*. There must have been a time when no physical things existed. But, since physical things exist now, there must have been something non-physical to bring them into existence, and that something we call God.

All three of these arguments rely upon the idea of a regress and invoke God to terminate it. They make the entirely unwarranted assumption that God himself is immune to the regress. Even if we allow the dubious luxury of arbitrarily conjuring up a terminator to an infinite regress and giving it a name, simply because we need one, there is absolutely no reason to endow that terminator with any of the properties normally ascribed to God: omnipotence, omniscience, goodness, creativity of design, to say nothing of such human attributes as listening to prayers, forgiving sins and reading

innermost thoughts. Incidentally, it has not escaped the notice of logicians that omniscience and omnipotence are mutually incompatible. If God is omniscient, he must already know how he is going to intervene to change the course of history using his omnipotence. But that means he can't change his mind about his intervention, which means he is not omnipotent. Karen Owens has captured this witty little paradox in equally engaging verse:

Can omniscient God, who  
Knows the future, find  
The omnipotence to  
Change His future mind?

To return to the infinite regress and the futility of invoking God to terminate it, it is more parsimonious to conjure up, say, a 'big bang singularity', or some other physical concept as yet unknown. Calling it God is at best unhelpful and at worst perniciously misleading. Edward Lear's Nonsense Recipe for Crumbobulous Cutlets invites us to 'Procure some strips of beef, and having cut them into the smallest possible pieces, proceed to cut them still smaller, eight or perhaps nine times.' Some regresses do reach a natural terminator. Scientists used to wonder what would happen if you could dissect, say, gold into the smallest possible pieces. Why shouldn't you cut one of those pieces in half and produce an even smaller smidgen of gold? The regress in this case is decisively terminated by the atom. The smallest possible piece of gold is a nucleus consisting of exactly seventy-nine protons and a slightly larger number of neutrons, attended by a swarm of seventy-nine electrons. If you 'cut' gold any further than the level of the single atom, whatever else you get it is not gold. The atom provides a natural terminator to the Crumbobulous Cutlets type of regress. It is by no means clear that God provides a natural terminator to the regresses of Aquinas. That's putting it mildly, as we shall see later. Let's move on down Aquinas' list.

4 *The Argument from Degree.* We notice that things in the world differ. There are degrees of, say, goodness or perfection. But we judge these degrees only by comparison with a maximum.

Humans can be both good and bad, so the maximum goodness cannot rest in us. Therefore there must be some other maximum to set the standard for perfection, and we call that maximum God.

That's an argument? You might as well say, people vary in smelliness but we can make the comparison only by reference to a perfect maximum of conceivable smelliness. Therefore there must exist a pre-eminently peerless stinker, and we call him God. Or substitute any dimension of comparison you like, and derive an equivalently fatuous conclusion.

5 *The Teleological Argument, or Argument from Design.* Things in the world, especially living things, look as though they have been designed. Nothing that we know looks designed unless it is designed. Therefore there must have been a designer, and we call him God. \* Aquinas himself used the analogy of an arrow moving towards a target, but a modern heat-seeking anti-aircraft missile would have suited his purpose better.

The argument from design is the only one still in regular use today, and it still sounds to many like the ultimate knockdown argument. The young Darwin was impressed by it when, as a Cambridge undergraduate, he read it in William Paley's *Natural Theology*. Unfortunately for Paley, the mature Darwin blew it out of the water. There has probably never been a more devastating rout of popular belief by clever reasoning than Charles Darwin's destruction of the argument from design. It was so unexpected. Thanks to Darwin, it is no longer true to say that nothing that we know looks designed unless it is designed. Evolution by natural selection produces an excellent simulacrum of design, mounting prodigious heights of complexity and elegance. And among these eminences of pseudo-design are nervous systems which – among their more modest accomplishments – manifest goal-seeking behaviour that, even in a tiny insect, resembles a sophisticated heat-seeking missile more than a simple arrow on target. I shall return to the argument from design in Chapter 4.

\* I cannot help being reminded of the immortal syllogism that was smuggled into a Euclidean proof by a schoolfriend, when we were studying geometry together: 'Triangle ABC looks isosceles. Therefore . . .'

## THE ONTOLOGICAL ARGUMENT AND OTHER A PRIORI ARGUMENTS

Arguments for God's existence fall into two main categories, the *a priori* and the *a posteriori*. Thomas Aquinas' five are *a posteriori* arguments, relying upon inspection of the world. The most famous of the *a priori* arguments, those that rely upon pure armchair ratiocination, is the *ontological argument*, proposed by St Anselm of Canterbury in 1078 and restated in different forms by numerous philosophers ever since. An odd aspect of Anselm's argument is that it was originally addressed not to humans but to God himself, in the form of a prayer (you'd think that any entity capable of listening to a prayer would need no convincing of his own existence).

It is possible to conceive, Anselm said, of a being than which nothing greater can be conceived. Even an atheist can conceive of such a superlative being, though he would deny its existence in the real world. But, goes the argument, a being that doesn't exist in the real world is, by that very fact, less than perfect. Therefore we have a contradiction and, hey presto, God exists!

Let me translate this infantile argument into the appropriate language, which is the language of the playground:

'Bet you I can prove God exists.'

'Bet you can't.'

'Right then, imagine the most perfect perfect *perfect* thing possible.'

'Okay, now what?'

'Now, is that perfect perfect *perfect* thing real? Does it exist?'

'No, it's only in my mind.'

'But if it was real it would be even more perfect, because a really really perfect thing would have to be better than a silly old imaginary thing. So I've proved that God exists. Nur Nurny Nur Nur. All atheists are fools.'

I had my childish wisecrack choose the word 'fools' advisedly. Anselm himself quoted the first verse of Psalm 14, 'The fool hath

said in his heart, There is no God,' and he had the cheek to use the name 'fool' (Latin *insipiens*) for his hypothetical atheist:

Hence, even the fool is convinced that something exists in the understanding, at least, than which nothing greater can be conceived. For, when he hears of this, he understands it. And whatever is understood, exists in the understanding. And assuredly that, than which nothing greater can be conceived, cannot exist in the understanding alone. For, suppose it exists in the understanding alone: then it can be conceived to exist in reality; which is greater.

The very idea that grand conclusions could follow from such logomachist trickery offends me aesthetically, so I must take care to refrain from bandying words like 'fool'. Bertrand Russell (no fool) interestingly said, 'It is easier to feel convinced that [the ontological argument] must be fallacious than it is to find out precisely where the fallacy lies.' Russell himself, as a young man, was briefly convinced by it:

I remember the precise moment, one day in 1894, as I was walking along Trinity Lane, when I saw in a flash (or thought I saw) that the ontological argument is valid. I had gone out to buy a tin of tobacco; on my way back, I suddenly threw it up in the air, and exclaimed as I caught it: 'Great Scott, the ontological argument is sound!'

Why, I wonder, didn't he say something like: 'Great Scott, the ontological argument seems to be plausible. But isn't it too good to be true that a grand truth about the cosmos should follow from a mere word game? I'd better set to work to resolve what is perhaps a paradox like those of Zeno.' The Greeks had a hard time seeing through Zeno's 'proof' that Achilles would never catch the tortoise.\* But they had the sense not to conclude that therefore

\* Zeno's paradox is too well known for the details to be promoted out of a footnote. Achilles can run ten times as fast as the tortoise, so he gives the animal, say, 100 yards' start. Achilles runs 100 yards, and the tortoise is now 10 yards ahead. Achilles runs the 10 yards and the tortoise is now 1 yard ahead. Achilles runs the 1 yard, and the tortoise is still a tenth of a yard ahead . . . and so on *ad infinitum*, so Achilles never catches the tortoise.

Achilles really would fail to catch the tortoise. Instead, they called it a paradox and waited for later generations of mathematicians to explain it (with, as it turned out, the theory of infinite series converging on a limiting value). Russell himself, of course, was as well qualified as anyone to understand why no tobacco tins should be thrown up in celebration of Achilles' failure to catch the tortoise. Why didn't he exercise the same caution over St Anselm? I suspect that he was an exaggeratedly fair-minded atheist, over-eager to be disillusioned if logic seemed to require it.\* Or perhaps the answer lies in something Russell himself wrote in 1946, long after he had rumbled the ontological argument:

The real question is: Is there anything we can think of which, by the mere fact that we can think of it, is shown to exist outside our thought? Every philosopher would like to say yes, because a philosopher's job is to find out things about the world by thinking rather than observing. If yes is the right answer, there is a bridge from pure thought to things. If not, not.

My own feeling, to the contrary, would have been an automatic, deep suspicion of any line of reasoning that reached such a significant conclusion without feeding in a single piece of data from the real world. Perhaps that indicates no more than that I am a scientist rather than a philosopher. Philosophers down the centuries have indeed taken the ontological argument seriously, both for and against. The atheist philosopher J. L. Mackie gives a particularly

\* We might be seeing something similar today in the over-publicized tergiversation of the philosopher Antony Flew, who announced in his old age that he had been converted to belief in some sort of deity (triggering a frenzy of eager repetition all around the Internet). On the other hand, Russell was a great philosopher: Russell won the Nobel Prize. Maybe Flew's alleged conversion will be rewarded with the Templeton Prize. A first step in that direction is his ignominious decision to accept, in 2006, the 'Phillip E. Johnson Award for Liberty and Truth'. The first holder of the Phillip E. Johnson Award was Phillip E. Johnson, the lawyer credited with founding the Intelligent Design 'wedge strategy'. Flew will be the second holder. The awarding university is BIOLA, the Bible Institute of Los Angeles. One can't help wondering whether Flew realizes that he is being used. See Victor Stenger, 'Flew's flawed science', *Free Inquiry* 25: 2, 2005, 17-18; [www.secularhumanism.org/index.php?section=library&page=stenger\\_25\\_2](http://www.secularhumanism.org/index.php?section=library&page=stenger_25_2).

clear discussion in *The Miracle of Theism*. I mean it as a compliment when I say that you could almost define a philosopher as someone who won't take common sense for an answer.

The most definitive refutations of the ontological argument are usually attributed to the philosophers David Hume (1711-76) and Immanuel Kant (1724-1804). Kant identified the trick card up Anselm's sleeve as his slippery assumption that 'existence' is more 'perfect' than non-existence. The American philosopher Norman Malcolm put it like this: 'The doctrine that existence is a perfection is remarkably queer. It makes sense and is true to say that my future house will be a better one if it is insulated than if it is not insulated; but what could it mean to say that it will be a better house if it exists than if it does not?'<sup>6</sup> Another philosopher, the Australian Douglas Gasking, made the point with his ironic 'proof' that God does *not* exist (Anselm's contemporary Gaunilo had suggested a somewhat similar *reductio*).

- 1 The creation of the world is the most marvellous achievement imaginable.
- 2 The merit of an achievement is the product of (a) its intrinsic quality, and (b) the ability of its creator.
- 3 The greater the disability (or handicap) of the creator, the more impressive the achievement.
- 4 The most formidable handicap for a creator would be non-existence.
- 5 Therefore if we suppose that the universe is the product of an existent creator we can conceive a greater being – namely, one who created everything while not existing.
- 6 An existing God therefore would not be a being greater than which a greater cannot be conceived because an even more formidable and incredible creator would be a God which did not exist.

Ergo:

- 7 God does not exist.



## THE ARGUMENT FROM BEAUTY

Another character in the Aldous Huxley novel just mentioned proved the existence of God by playing Beethoven's string quartet no. 15 in A minor ('*heiliger Dankgesang*') on a gramophone. Unconvincing as that sounds, it does represent a popular strand of argument. I have given up counting the number of times I receive the more or less truculent challenge: 'How do you account for Shakespeare, then?' (Substitute Schubert, Michelangelo, etc. to taste.) The argument will be so familiar, I needn't document it further. But the logic behind it is never spelled out, and the more you think about it the more vacuous you realize it to be. Obviously Beethoven's late quartets are sublime. So are Shakespeare's sonnets. They are sublime if God is there and they are sublime if he isn't. They do not prove the existence of God; they prove the existence of Beethoven and of Shakespeare. A great conductor is credited with saying: 'If you have Mozart to listen to, why would you need God?'

I once was the guest of the week on a British radio show called *Desert Island Discs*. You have to choose the eight records you would take with you if marooned on a desert island. Among my choices was '*Mache dich mein Herze rein*' from Bach's *St Matthew Passion*. The interviewer was unable to understand how I could choose religious music without being religious. You might as well say, how can you enjoy *Wuthering Heights* when you know perfectly well that Cathy and Heathcliff never really existed?

But there is an additional point that I might have made, and which needs to be made whenever religion is given credit for, say, the Sistine Chapel or Raphael's *Annunciation*. Even great artists have to earn a living, and they will take commissions where they are to be had. I have no reason to doubt that Raphael and Michelangelo were Christians – it was pretty much the only option in their time – but the fact is almost incidental. Its enormous wealth had made the Church the dominant patron of the arts. If history had worked out differently, and Michelangelo had been commissioned to paint a ceiling for a giant Museum of Science, mightn't he have produced something at least as inspirational as the Sistine Chapel? How sad that we shall never hear Beethoven's *Mesozoic Symphony*, or Mozart's opera *The Expanding Universe*.

And what a shame that we are deprived of Haydn's *Evolution Oratorio* – but that does not stop us from enjoying his *Creation*. To approach the argument from the other side, what if, as my wife chillingly suggests to me, Shakespeare had been obliged to work to commissions from the Church? We'd surely have lost *Hamlet*, *King Lear* and *Macbeth*. And what would we have gained in return? Such stuff as dreams are made on? Dream on.

If there is a logical argument linking the existence of great art to the existence of God, it is not spelled out by its proponents. It is simply assumed to be self-evident, which it most certainly is not. Maybe it is to be seen as yet another version of the argument from design: Schubert's musical brain is a wonder of improbability, even more so than the vertebrate's eye. Or, more ignobly, perhaps it's a sort of jealousy of genius. How dare another human being make such beautiful music/poetry/art, when I can't? It must be God that did it.

## THE ARGUMENT FROM PERSONAL 'EXPERIENCE'

One of the cleverer and more mature of my undergraduate contemporaries, who was deeply religious, went camping in the Scottish isles. In the middle of the night he and his girlfriend were woken in their tent by the voice of the devil – Satan himself, there could be no possible doubt: the voice was in every sense diabolical. My friend would never forget this horrifying experience, and it was one of the factors that later drove him to be ordained. My youthful self was impressed by his story, and I recounted it to a gathering of zoologists relaxing in the Rose and Crown Inn, Oxford. Two of them happened to be experienced ornithologists, and they roared with laughter. 'Manx Shearwater?' they shouted in delighted chorus. One of them added that the diabolical shrieks and cackles of this species have earned it, in various parts of the world and various languages, the local nickname 'Devil Bird'.

Many people believe in God because they believe they have seen

a vision of him – or of an angel or a virgin in blue – with their own eyes. Or he speaks to them inside their heads. This argument from personal experience is the one that is most convincing to those who claim to have had one. But it is the least convincing to anyone else, and anyone knowledgeable about psychology.

You say you have experienced God directly? Well, some people have experienced a pink elephant, but that probably doesn't impress you. Peter Sutcliffe, the Yorkshire Ripper, distinctly heard the voice of Jesus telling him to kill women, and he was locked up for life. George W. Bush says that God told him to invade Iraq (a pity God didn't vouchsafe him a revelation that there were no weapons of mass destruction). Individuals in asylums think they are Napoleon or Charlie Chaplin, or that the entire world is conspiring against them, or that they can broadcast their thoughts into other people's heads. We humour them but don't take their internally revealed beliefs seriously, mostly because not many people share them. Religious experiences are different only in that the people who claim them are numerous. Sam Harris was not being overly cynical when he wrote, in *The End of Faith*:

We have names for people who have many beliefs for which there is no rational justification. When their beliefs are extremely common we call them 'religious'; otherwise, they are likely to be called 'mad', 'psychotic' or 'delusional' . . . Clearly there is sanity in numbers. And yet, it is merely an accident of history that it is considered normal in our society to believe that the Creator of the universe can hear your thoughts, while it is demonstrative of mental illness to believe that he is communicating with you by having the rain tap in Morse code on your bedroom window. And so, while religious people are not generally mad, their core beliefs absolutely are.

I shall return to the subject of hallucinations in Chapter 10.

The human brain runs first-class simulation software. Our eyes don't present to our brains a faithful photograph of what is out there, or an accurate movie of what is going on through time. Our brains construct a continuously updated model: updated by coded

pulses chattering along the optic nerve, but constructed nevertheless. Optical illusions are vivid reminders of this.<sup>47</sup> A major class of illusions, of which the Necker Cube is an example, arise because the sense data that the brain receives are compatible with two alternative models of reality. The brain, having no basis for choosing between them, alternates, and we experience a series of flips from one internal model to the other. The picture we are looking at appears, almost literally, to flip over and become something else.

The simulation software in the brain is especially adept at constructing faces and voices. I have on my windowsill a plastic mask of Einstein. When seen from the front, it looks like a solid face, not surprisingly. What is surprising is that, when seen from behind – the hollow side – it also looks like a solid face, and our perception of it is very odd indeed. As the viewer moves around, the face seems to follow – and not in the weak, unconvincing sense that the Mona Lisa's eyes are said to follow you. The hollow mask really *really* looks as though it is moving. People who haven't previously seen the illusion gasp with amazement. Even stranger, if the mask is mounted on a slowly rotating turntable, it appears to turn in the correct direction when you are looking at the solid side, but in the *opposite* direction when the hollow side comes into view. The result is that, when you watch the transition from one side to the other, the coming side appears to 'eat' the going side. It is a stunning illusion, well worth going to some trouble to see. Sometimes you can get surprisingly close to the hollow face and still not see that it is 'really' hollow. When you do see it, again there is a sudden flip, which may be reversible.

Why does it happen? There is no trick in the construction of the mask. Any hollow mask will do it. The trickery is all in the brain of the beholder. The internal simulating software receives data indicating the presence of a face, perhaps nothing more than a pair of eyes, a nose and a mouth in approximately the right places. Having received these sketchy clues, the brain does the rest. The face simulation software kicks into action and it constructs a fully solid model of a face, even though the reality presented to the eyes is a hollow mask. The illusion of rotation in the wrong direction comes about because (it's quite hard, but if you think it through carefully you will confirm it) reverse rotation is the only way to

make sense of the optical data when a hollow mask rotates while being perceived to be a solid mask.<sup>48</sup> It is like the illusion of a rotating radar dish that you sometimes see at airports. Until the brain flips to the correct model of the radar dish, an incorrect model is seen rotating in the wrong direction but in a weirdly cock-eyed way.

I say all this just to demonstrate the formidable power of the brain's simulation software. It is well capable of constructing 'visions' and 'visitations' of the utmost veridical power. To simulate a ghost or an angel or a Virgin Mary would be child's play to software of this sophistication. And the same thing works for hearing. When we hear a sound, it is not faithfully transported up the auditory nerve and relayed to the brain as if by a high-fidelity Bang and Olufsen. As with vision, the brain constructs a sound model, based upon continuously updated auditory nerve data. That is why we hear a trumpet blast as a single note, rather than as the composite of pure-tone harmonics that gives it its brassy snarl. A clarinet playing the same note sounds 'woody', and an oboe sounds 'reedy', because of different balances of harmonics. If you carefully manipulate a sound synthesizer to bring in the separate harmonics one by one, the brain hears them as a combination of pure tones for a short while, until its simulation software 'gets it', and from then on we experience only a single note of pure trumpet or oboe or whatever it is. The vowels and consonants of speech are constructed in the brain in the same kind of way, and so, at another level, are higher-order phonemes and words.

Once, as a child, I heard a ghost: a male voice murmuring, as if in recitation or prayer. I could almost, but not quite, make out the words, which seemed to have a serious, solemn timbre. I had been told stories of priest holes in ancient houses, and I was a little frightened. But I got out of bed and crept up on the source of the sound. As I got closer, it grew louder, and then suddenly it 'flipped' inside my head. I was now close enough to discern what it really was. The wind, gusting through the keyhole, was creating sounds which the simulation software in my brain had used to construct a model of male speech, solemnly intoned. Had I been a more impressionable child, it is possible that I would have 'heard' not just unintelligible speech but particular words and even sentences. And

had I been both impressionable and religiously brought up, I wonder what words the wind might have spoken.

On another occasion, when I was about the same age, I saw a giant round face gazing, with unspeakable malevolence, out through the window of an otherwise ordinary house in a seaside village. In trepidation, I approached until I was close enough to see what it really was: just a vaguely face-like pattern created by the chance fall of the curtains. The face itself, and its evil mien, had been constructed in my fearful child's brain. On 11 September 2001, pious people thought they saw the face of Satan in the smoke rising from the Twin Towers: a superstition backed by a photograph which was published on the Internet and widely circulated.

Constructing models is something the human brain is very good at. When we are asleep it is called dreaming; when we are awake we call it imagination or, when it is exceptionally vivid, hallucination. As Chapter 10 will show, children who have 'imaginary friends' sometimes see them clearly, exactly as if they were real. If we are gullible, we don't recognize hallucination or lucid dreaming for what it is and we claim to have seen or heard a ghost; or an angel; or God; or – especially if we happen to be young, female and Catholic – the Virgin Mary. Such visions and manifestations are certainly not good grounds for believing that ghosts or angels, gods or virgins, are actually there.

On the face of it mass visions, such as the report that seventy thousand pilgrims at Fatima in Portugal in 1917 saw the sun 'tear itself from the heavens and come crashing down upon the multitudes',<sup>49</sup> are harder to write off. It is not easy to explain how seventy thousand people could share the same hallucination. But it is even harder to accept that it really happened without the rest of the world, outside Fatima, seeing it too – and not just seeing it, but feeling it as the catastrophic destruction of the solar system, including acceleration forces sufficient to hurl everybody into space. David Hume's pithy test for a miracle comes irresistibly to mind: 'No testimony is sufficient to establish a miracle, unless the testimony be of such a kind, that its falsehood would be more miraculous than the fact which it endeavours to establish.'

It may seem improbable that seventy thousand people could simultaneously be deluded, or could simultaneously collude in a

mass lie. Or that history is mistaken in recording that seventy thousand people claimed to see the sun dance. Or that they all simultaneously saw a mirage (they had been persuaded to stare at the sun, which can't have done much for their eyesight). But any of those apparent improbabilities is far more probable than the alternative: that the Earth was suddenly yanked sideways in its orbit, and the solar system destroyed, with nobody outside Fatima noticing. I mean, Portugal is not that isolated.\*

That is really all that needs to be said about personal 'experiences' of gods or other religious phenomena. If you've had such an experience, you may well find yourself believing firmly that it was real. But don't expect the rest of us to take your word for it, especially if we have the slightest familiarity with the brain and its powerful workings.

## THE ARGUMENT FROM SCRIPTURE

There are still some people who are persuaded by scriptural evidence to believe in God. A common argument, attributed among others to C. S. Lewis (who should have known better), states that, since Jesus claimed to be the Son of God, he must have been either right or else insane or a liar: 'Mad, Bad or God'. Or, with artless alliteration, 'Lunatic, Liar or Lord'. The historical evidence that Jesus claimed any sort of divine status is minimal. But even if that evidence were good, the trilemma on offer would be ludicrously inadequate. A fourth possibility, almost too obvious to need mentioning, is that Jesus was honestly mistaken. Plenty of people are. In any case, as I said, there is no good historical evidence that he ever thought he was divine.

The fact that something is written down is persuasive to people not used to asking questions like: 'Who wrote it, and when?' 'How did they know what to write?' 'Did they, in their time, really mean what we, in our time, understand them to be saying?' 'Were they unbiased observers, or did they have an agenda that coloured their writing?' Ever since the nineteenth century, scholarly theologians have made an overwhelming case that the gospels are not reliable

accounts of what happened in the history of the real world. All were written long after the death of Jesus, and also after the epistles of Paul, which mention almost none of the alleged facts of Jesus' life. All were then copied and recopied, through many different 'Chinese Whispers generations' (see Chapter 5) by fallible scribes who, in any case, had their own religious agendas.

A good example of the colouring by religious agendas is the whole heart-warming legend of Jesus' birth in Bethlehem, followed by Herod's massacre of the innocents. When the gospels were written, many years after Jesus' death, nobody knew where he was born. But an Old Testament prophecy (Micah 5: 2) had led Jews to expect that the long-awaited Messiah would be born in Bethlehem. In the light of this prophecy, John's gospel specifically remarks that his followers were surprised that he was *not* born in Bethlehem: 'Others said, This is the Christ. But some said, Shall Christ come out of Galilee? Hath not the scripture said, That Christ cometh of the seed of David, and out of the town of Bethlehem, where David was?'

Matthew and Luke handle the problem differently, by deciding that Jesus *must* have been born in Bethlehem after all. But they get him there by different routes. Matthew has Mary and Joseph in Bethlehem all along, moving to Nazareth only long after the birth of Jesus, on their return from Egypt where they fled from King Herod and the massacre of the innocents. Luke, by contrast, acknowledges that Mary and Joseph lived in Nazareth before Jesus was born. So how to get them to Bethlehem at the crucial moment, in order to fulfil the prophecy? Luke says that, in the time when Cyrenius (Quirinius) was governor of Syria, Caesar Augustus decreed a census for taxation purposes, and everybody had to go 'to his own city'. Joseph was 'of the house and lineage of David' and therefore he had to go to 'the city of David, which is called Bethlehem'. That must have seemed like a good solution. Except that historically it is complete nonsense, as A. N. Wilson in *Jesus* and Robin Lane Fox in *The Unauthorized Version* (among others) have pointed out. David, if he existed, lived nearly a thousand years before Mary and Joseph. Why on earth would the Romans have required Joseph to go to the city where a remote ancestor had lived a millennium earlier? It is as though I were required to specify, say,

\* Although admittedly my wife's parents once stayed in a Paris hotel called the *Hôtel de l'Univers et du Portugal*.

Ashby-de-la-Zouch as my home town on a census form, if it happened that I could trace my ancestry back to the Seigneur de Dakeyne, who came over with William the Conqueror and settled there.

Moreover, Luke screws up his dating by tactlessly mentioning events that historians are capable of independently checking. There was indeed a census under Governor Quirinius – a local census, not one decreed by Caesar Augustus for the Empire as a whole – but it happened too late: in AD 6, long after Herod's death. Lane Fox concludes that 'Luke's story is historically impossible and internally incoherent', but he sympathizes with Luke's plight and his desire to fulfil the prophecy of Micah.

In the December 2004 issue of *Free Inquiry*, Tom Flynn, the Editor of that excellent magazine, assembled a collection of articles documenting the contradictions and gaping holes in the well-loved Christmas story. Flynn himself lists the many contradictions between Matthew and Luke, the only two evangelists who treat the birth of Jesus at all.<sup>50</sup> Robert Goolbsy shows how all the essential features of the Jesus legend, including the star in the east, the virgin birth, the veneration of the baby by kings, the miracles, the execution, the resurrection and the ascension are borrowed – every last one of them – from other religions already in existence in the last one of them – from other religions already in existence in the Mediterranean and Near East region. Flynn suggests that Matthew's desire to fulfil messianic prophecies (descent from David, birth in Bethlehem) for the benefit of Jewish readers came into headlong collision with Luke's desire to adapt Christianity for the Gentiles, and hence to press the familiar hot buttons of pagan Hellenistic religions (virgin birth, worship by kings, etc.). The resulting contradictions are glaring, but consistently overlooked by the faithful.

Sophisticated Christians do not need George Gershwin to convince them that 'The things that you're li'ble / To read in the Bible / It ain't necessarily so'. But there are many unsophisticated Christians out there who think it absolutely is necessarily so – who take the Bible very seriously indeed as a literal and accurate record of history and hence as evidence supporting their religious beliefs. Do these people never open the book that they believe is the literal truth? Why don't they notice those glaring contradictions?

Shouldn't a literalist worry about the fact that Matthew traces Joseph's descent from King David via twenty-eight intermediate generations, while Luke has forty-one generations? Worse, there is almost no overlap in the names on the two lists! In any case, if Jesus really was born of a virgin, Joseph's ancestry is irrelevant and cannot be used to fulfil, on Jesus' behalf, the Old Testament prophecy that the Messiah should be descended from David.

The American biblical scholar Bart Ehrman, in a book whose subtitle is *The Story Behind Who Changed the New Testament and Why*, unfolds the huge uncertainty befogging the New Testament texts.\* In the introduction to the book, Professor Ehrman movingly charts his personal educational journey from Bible-believing fundamentalist to thoughtful sceptic, a journey driven by his dawning realization of the massive fallibility of the scriptures. Significantly, as he moved up the hierarchy of American universities, from rock bottom at the 'Moody Bible Institute', through Wheaton College (a little bit higher on the scale, but still the alma mater of Billy Graham) to Princeton in the world-beating class at the top, he was at every step warned that he would have trouble maintaining his fundamentalist Christianity in the face of dangerous progressivism. So it proved; and we, his readers, are the beneficiaries. Other refreshingly iconoclastic books of biblical criticism are Robin Lane Fox's *The Unauthorized Version*, already mentioned, and Jacques Berlinerblau's *The Secular Bible: Why Nonbelievers Must Take Religion Seriously*.

The four gospels that made it into the official canon were chosen, more or less arbitrarily, out of a larger sample of at least a dozen including the Gospels of Thomas, Peter, Nicodemus, Philip, Bartholomew and Mary Magdalen.<sup>51</sup> It is these additional gospels that Thomas Jefferson was referring to in his letter to his nephew:

I forgot to observe, when speaking of the New Testament, that you should read all the histories of Christ, as well of

\* I give the subtitle because that is all I am confident of. The main title of my copy of the book, published by Continuum of London, is *Whose Word Is It?* I can find nothing in this edition to say whether it is the same book as the American publication by Harper San Francisco, which I haven't seen, whose main title is *Misquoting Jesus*. I presume they are the same book, but why do publishers do this kind of thing?

those whom a council of ecclesiastics have decided for us, to be Pseudo-evangelists, as those they named Evangelists. Because these Pseudo-evangelists pretended to inspiration, as much as the others, and you are to judge their pretensions by your own reason, and not by the reason of those ecclesiastics.

The gospels that didn't make it were omitted by those ecclesiastics perhaps because they included stories that were even more embarrassingly implausible than those in the four canonical ones. The Gospel of Thomas, for example, has numerous anecdotes about the child Jesus abusing his magical powers in the manner of a mischievous fairy, impishly transforming his playmates into goats, or turning mud into sparrows, or giving his father a hand with the carpentry by miraculously lengthening a piece of wood.\* It will be said that nobody believes crude miracle stories such as those in the Gospel of Thomas anyway. But there is no more and no less reason to believe the four canonical gospels. All have the status of legends, as factually dubious as the stories of King Arthur and his Knights of the Round Table.

Most of what the four canonical gospels share is derived from a common source, either Mark's gospel or a lost work of which Mark is the earliest extant descendant. Nobody knows who the four evangelists were, but they almost certainly never met Jesus personally. Much of what they wrote was in no sense an honest attempt at history but was simply rehashed from the Old Testament, because the gospel-makers were devoutly convinced that the life of

\* A. N. Wilson, in his biography of Jesus, casts doubt on the story that Joseph was a carpenter at all. The Greek word *tekton* does indeed mean carpenter, but it was translated from the Aramaic word *naggar*, which could mean craftsman or learned man. This is one of several constructive mistranslations that bedevil the Bible, the most famous being the mistranslation of Isaiah's Hebrew for young woman (*almah*) into the Greek for virgin (*parthenos*). An easy mistake to make (think of the English words 'maid' and 'maiden' to see how it might have happened), this one translator's slip was to be wildly inflated and give rise to the whole preposterous legend of Jesus' mother being a virgin! The only competitor for the title of champion constructive mistranslation of all time also concerns virgins. Ibn Warraq has hilariously argued that in the famous promise of seventy-two virgins to every Muslim martyr, 'virgins' is a mistranslation of 'white raisins of crystal clarity'. Now, if only that had been more widely known, how many innocent victims of suicide missions might have been saved? (Ibn Warraq, 'Virgins? What virgins?', *Free Inquiry* 26: 1, 2006, 45-6.)

Jesus must fulfil Old Testament prophecies. It is even possible to mount a serious, though not widely supported, historical case that Jesus never lived at all, as has been done by, among others, Professor G. A. Wells of the University of London in a number of books, including *Did Jesus Exist?*

Although Jesus probably existed, reputable biblical scholars do not in general regard the New Testament (and obviously not the Old Testament) as a reliable record of what actually happened in history, and I shall not consider the Bible further as evidence for any kind of deity. In the farsighted words of Thomas Jefferson, writing to his predecessor, John Adams, 'The day will come when the mystical generation of Jesus, by the Supreme Being as his father, in the womb of a virgin, will be classed with the fable of the generation of Minerva in the brain of Jupiter.'

Dan Brown's novel *The Da Vinci Code*, and the film made from it, are arousing huge controversy in church circles. Christians are encouraged to boycott the film and picket cinemas that show it. It is indeed fabricated from start to finish: invented, made-up fiction. In that respect, it is exactly like the gospels. The only difference between *The Da Vinci Code* and the gospels is that the gospels are ancient fiction while *The Da Vinci Code* is modern fiction.

## THE ARGUMENT FROM ADMIRED RELIGIOUS SCIENTISTS

*The immense majority of intellectually eminent men disbelieve in Christian religion, but they conceal the fact in public, because they are afraid of losing their incomes.*

BERTRAND RUSSELL

Newton was religious. Who are you to set yourself up as superior to Newton, Galileo, Kepler, etc. etc.? If God was good enough for the likes of them, just who do you think you are? Not that it makes much difference to such an already bad argument, some

apologists even add the name of Darwin, about whom persistent, but demonstrably false, rumours of a deathbed conversion continually come around like a bad smell,\* ever since they were deliberately started by a certain 'Lady Hope', who spun a touching yarn of Darwin resting against the pillows in the evening light, leafing through the New Testament and confessing that evolution was all wrong. In this section I shall concentrate mostly on scientists, because – for reasons that are perhaps not too hard to imagine – those who trot out the names of admired individuals as religious exemplars very commonly choose scientists.

Newton did indeed claim to be religious. So did almost everybody until – significantly I think – the nineteenth century, when there was less social and judicial pressure than in earlier centuries to profess religion, and more scientific support for abandoning it. There have been exceptions, of course, in both directions. Even before Darwin, not everybody was a believer, as James Haught shows in his *2000 Years of Disbelief: Famous People with the Courage to Doubt*. And some distinguished scientists went on believing after Darwin. We have no reason to doubt Michael Faraday's sincerity as a Christian even after the time when he must have known of Darwin's work. He was a member of the Sandemanian sect, which believed (past tense because they are now virtually extinct) in a literal interpretation of the Bible, ritually washed the feet of newly inducted members and drew lots to determine God's will. Faraday became an Elder in 1860, the year after *The Origin of Species* was published, and he died a Sandemanian in 1867. The experimentalist Faraday's theorist counterpart, James Clerk Maxwell, was an equally devout Christian. So was that other pillar of nineteenth-century British physics, William Thomson, Lord Kelvin, who tried to demonstrate that evolution was ruled out for lack of time. That great thermodynamicist's erroneous datings assumed that the sun was some kind of fire, burning fuel which would have to run out in tens of millions of years, not thousands of millions. Kelvin obviously could not be expected to know about

\* Even I have been honoured by prophecies of deathbed conversion. Indeed, they recur with monotonous regularity (see e.g. Steer 2003), each repetition trailing dewy fresh clouds of illusion that it is witty, and the first I should probably take the precaution of installing a tape-recorder to protect my posthumous reputation. Lalla Ward adds, 'Why mess around with deathbeds? If you're going to sell out, do it in good time to win the Templeton Prize and blame it on senility.'

nuclear energy. Pleasingly, at the British Association meeting of 1903, it fell to Sir George Darwin, Charles's second son, to vindicate his un-knighted father by invoking the Curries' discovery of radium, and confound the earlier estimate of the still living Lord Kelvin.

Great scientists who profess religion become harder to find through the twentieth century, but they are not particularly rare. I suspect that most of the more recent ones are religious only in the Einsteinian sense which, I argued in Chapter 1, is a misuse of the word. Nevertheless, there are some genuine specimens of good scientists who are sincerely religious in the full, traditional sense. Among contemporary British scientists, the same three names crop up with the likeable familiarity of senior partners in a firm of Dickensian lawyers: Peacocke, Stannard and Polkinghorne. All three have either won the Templeton Prize or are on the Templeton Board of Trustees. After amicable discussions with all of them, both in public and in private, I remain baffled, not so much by their belief in a cosmic lawgiver of some kind, as by their belief in the details of the Christian religion: resurrection, forgiveness of sins and all.

There are some corresponding examples in the United States, for example Francis Collins, administrative head of the American branch of the official Human Genome Project.\* But, as in Britain, they stand out for their rarity and are a subject of amused bafflement to their peers in the academic community. In 1996, in the gardens of his old college at Cambridge, Clare, I interviewed my friend Jim Watson, founding genius of the Human Genome Project, for a BBC television documentary that I was making on Gregor Mendel, founding genius of genetics itself. Mendel, of course, was a religious man, an Augustinian monk; but that was in the nineteenth century, when becoming a monk was the easiest way for the young Mendel to pursue his science. For him, it was the equivalent of a research grant. I asked Watson whether he knew many religious scientists today. He replied: 'Virtually none. Occasionally I meet them, and I'm a bit embarrassed [laughs] because, you know, I can't believe anyone accepts truth by revelation.'

Francis Crick, Watson's co-founder of the whole molecular genetics revolution, resigned his fellowship at Churchill College,

\* Not to be confused with the unofficial human genome project, led by that brilliant (and non-religious) 'buccaneer' of science, Craig Venter.

Cambridge, because of the college's decision to build a chapel (at the behest of a benefactor). In my interview with Watson at Clare, I conscientiously put it to him that, unlike him and Crick, some people see no conflict between science and religion, because they claim science is about how things work and religion is about what it is all for. Watson retorted: 'Well I don't think we're for anything. We're just products of evolution. You can say, "Gee, your life must be pretty bleak if you don't think there's a purpose." But I'm anticipating having a good lunch.' We did have a good lunch, too.

The efforts of apologists to find genuinely distinguished modern scientists who are religious have an air of desperation, generating the unmistakably hollow sound of bottoms of barrels being scraped. The only website I could find that claimed to list 'Nobel Prize-winning Scientific Christians' came up with six, out of a total of several hundred scientific Nobelists. Of these six, it turned out that four were not Nobel Prize-winners at all; and at least one, to my certain knowledge, is a non-believer who attends church for purely social reasons. A more systematic study by Benjamin Beit-Hallahmi 'found that among Nobel Prize laureates in the sciences, as well as those in literature, there was a remarkable degree of irreligiosity, as compared to the populations they came from'.<sup>52</sup>

A study in the leading journal *Nature* by Larson and Witham in 1998 showed that of those American scientists considered eminent enough by their peers to have been elected to the National Academy of Sciences (equivalent to being a Fellow of the Royal Society in Britain) only about 7 per cent believe in a personal God.<sup>53</sup> This overwhelming preponderance of atheists is almost the exact opposite of the profile of the American population at large, of whom more than 90 per cent are believers in some sort of supernatural being. The figure for less eminent scientists, not elected to the National Academy, is intermediate. As with the more distinguished sample, religious believers are in a minority, but a less dramatic minority of about 40 per cent. It is completely as I would expect that American scientists are less religious than the American public generally, and that the most distinguished scientists are the least religious of all. What is remarkable is the polar opposition between the religiosity of the American public at large and the atheism of the intellectual elite.<sup>54</sup>

It is faintly amusing that the leading creationist website, 'Answers in Genesis', cites the Larson and Witham study, not in evidence that there might be something wrong with religion, but as a weapon in their internal battle against those rival religious apologists who claim that evolution is compatible with religion. Under the headline 'National Academy of Science is Godless to the Core',<sup>55</sup> 'Answers in Genesis' is pleased to quote the concluding paragraph of Larson and Witham's letter to the editor of *Nature*:

As we compiled our findings, the NAS [National Academy of Sciences] issued a booklet encouraging the teaching of evolution in public schools, an ongoing source of friction between the scientific community and some conservative Christians in the United States. The booklet assures readers, 'Whether God exists or not is a question about which science is neutral.' NAS president Bruce Alberts said: 'There are many very outstanding members of this academy who are very religious people, people who believe in evolution, many of them biologists.' Our survey suggests otherwise.

Alberts, one feels, embraced 'NOMA' for the reasons I discussed in 'The Neville Chamberlain school of evolutionists' (see Chapter 2). 'Answers in Genesis' has a very different agenda.

The equivalent of the US National Academy of Sciences in Britain (and the Commonwealth, including Canada, Australia, New Zealand, India, Pakistan, anglophone Africa, etc.) is the Royal Society. As this book goes to press, my colleagues R. Elisabeth Cornwall and Michael Stirrat are writing up their comparable, but more thorough, research on the religious opinions of the Fellows of the Royal Society (FRS). The authors' conclusions will be published in full later, but they have kindly allowed me to quote preliminary results here. They used a standard technique for scaling opinion, the Likert-type seven-point scale. All 1,074 Fellows of the Royal Society who possess an email address (the great majority) were polled, and about 23 per cent responded (a good figure for this kind of study). They were offered various propositions, for example: 'I believe in a personal God, that is one who takes an interest in

individuals, hears and answers prayers, is concerned with sin and transgressions, and passes judgement.' For each such proposition, they were invited to choose a number from 1 (strong disagreement) to 7 (strong agreement). It is a little hard to compare the results directly with the Larson and Witham study, because Larson and Witham offered their academicians only a three-point scale, not a seven-point scale, but the overall trend is the same. The overwhelming majority of FRS, like the overwhelming majority of US Academicians, are atheists. Only 3.3 per cent of the Fellows agreed strongly with the statement that a personal god exists (i.e. chose 7 on the scale), while 78.8 per cent strongly disagreed (i.e. chose 1 on the scale). If you define 'believers' as those who chose 6 or 7, and if you define 'unbelievers' as those who chose 1 or 2, there were a massive 213 unbelievers and a mere 12 believers. Like Larson and Witham, and as also noted by Beir-Hallahmi and Argyile, Cornwall and Surrat found a small but significant tendency for biological scientists to be even more atheistic than physical scientists. For the details, and all the rest of their very interesting conclusions, please refer to their own paper when it is published.<sup>56</sup>

Moving on from the elite scientists of the National Academy and the Royal Society, is there any evidence that, in the population at large, atheists are likely to be drawn from among the better educated and more intelligent? Several research studies have been published on the statistical relationship between religiosity and educational level, or religiosity and IQ. Michael Shermer, in *How We Believe: The Search for God in an Age of Science*, describes a large survey of randomly chosen Americans that he and his colleague Frank Sulloway carried out. Among their many interesting results was the discovery that religiosity is indeed negatively correlated with education (more highly educated people are less likely to be religious). Religiosity is also negatively correlated with interest in science and (strongly) with political liberalism. None of this is surprising, nor is the fact that there is a positive correlation between religiosity and parents' religiosity. Sociologists studying British children have found that only about one in twelve break away from their parents' religious beliefs.

As you might expect, different researchers measure things in different ways, so it is hard to compare different studies. Meta-

analysis is the technique whereby an investigator looks at all the research papers that have been published on a topic, and counts up the number of papers that have concluded one thing, versus the number that have concluded something else. On the subject of religion and IQ, the only meta-analysis known to me was published by Paul Bell in *Mensa Magazine* in 2002 (Mensa is the society of individuals with a high IQ, and their journal not surprisingly includes articles on the one thing that draws them together).<sup>57</sup> Bell concluded: 'Of 43 studies carried out since 1927 on the relationship between religious belief and one's intelligence and/or educational level, all but four found an inverse connection. That is, the higher one's intelligence or education level, the less one is likely to be religious or hold "beliefs" of any kind.'

A meta-analysis is almost bound to be less specific than any one of the studies that contributed to it. It would be nice to have more studies along these lines, as well as more studies of the members of elite bodies such as other national academies, and winners of major prizes and medals such as the Nobel, the Crafoord, the Field, the Kyoto, the Cosmos and others. I hope that future editions of this book will include such data. A reasonable conclusion from existing studies is that religious apologists might be wise to keep quieter than they habitually do on the subject of admired role models, at least where scientists are concerned.

## PASCAL'S WAGER

The great French mathematician Blaise Pascal reckoned that, however long the odds against God's existence might be, there is an even larger asymmetry in the penalty for guessing wrong. You'd better believe in God, because if you are right you stand to gain eternal bliss and if you are wrong it won't make any difference anyway. On the other hand, if you don't believe in God and you turn out to be wrong you get eternal damnation, whereas if you are right it makes no difference. On the face of it the decision is a no-brainer. Believe in God.

There is something distinctly odd about the argument, however.

Believing is not something you can decide to do as a matter of policy. At least, it is not something I can decide to do as an act of will. I can decide to go to church and I can decide to recite the Nicene Creed, and I can decide to swear on a stack of bibles that I believe every word inside them. But none of that can make me actually believe it if I don't. Pascal's wager could only ever be an argument for *feigning* belief in God. And the God that you claim to believe in had better not be of the omniscient kind or he'd see through the deception. The ludicrous idea that believing is something you can *decide* to do is deliciously mocked by Douglas Adams in *Dirk Gently's Holistic Detective Agency*, where we meet the robotic Electric Monk, a labour-saving device that you buy 'to do your believing for you'. The *de luxe* model is advertised as 'Capable of believing things they wouldn't believe in Salt Lake City'.

But why, in any case, do we so readily accept the idea that the one thing you must do if you want to please God is *believe* in him? What's so special about believing? Isn't it just as likely that God would reward kindness, or generosity, or humility? Or sincerity? What if God is a scientist who regards honest seeking after truth as the supreme virtue? Indeed, wouldn't the designer of the universe *have* to be a scientist? Bertrand Russell was asked what he would say if he died and found himself confronted by God, demanding to know why Russell had not believed in him. 'Not enough evidence, God, not enough evidence,' was Russell's (I almost said immortal) reply. Mightn't God respect Russell for his courageous scepticism (let alone for the courageous pacifism that landed him in prison in the First World War) far more than he would respect Pascal for his cowardly bet-hedging? And, while we cannot know which way God would jump, we don't need to *know* in order to refute Pascal's Wager. We are talking about a bet, remember, and Pascal wasn't claiming that his wager enjoyed anything but very long odds. Would you *bet* on God's valuing dishonestly faked belief (or even honest belief) over honest scepticism?

Then again, suppose the god who confronts you when you die turns out to be Baal, and suppose Baal is just as jealous as his old rival Yahweh was said to be. Mightn't Pascal have been better off wagering on no god at all rather than on the wrong god? Indeed,

doesn't the sheer number of potential gods and goddesses on whom one might bet vitiate Pascal's whole logic? Pascal was probably joking when he promoted his wager, just as I am joking in my dismissal of it. But I have encountered people, for example in the question session after a lecture, who have seriously advanced Pascal's Wager as an argument in favour of believing in God, so it was right to give it a brief airing here.

Is it possible, finally, to argue for a sort of anti-Pascal wager? Suppose we grant that there is indeed some small chance that God exists. Nevertheless, it could be said that you will lead a better, fuller life if you bet on his not existing, than if you bet on his existing and therefore squander your precious time on worshipping him, sacrificing to him, fighting and dying for him, etc. I won't pursue the question here, but readers might like to bear it in mind when we come to later chapters on the evil consequences that can flow from religious belief and observance.

## BAYESIAN ARGUMENTS

I think the oddest case I have seen attempted for the existence of God is the Bayesian argument recently put forward by Stephen Unwin in *The Probability of God*. I hesitated before including this argument, which is both weaker and less hallowed by antiquity than others. Unwin's book, however, received considerable journalistic attention when it was published in 2003, and it does give the opportunity to bring some explanatory threads together. I have some sympathy with his aims because, as argued in Chapter 2, I believe the existence of God as a scientific hypothesis is, at least in principle, investigable. Also, Unwin's quixotic attempt to put a number on the probability is quite agreeably funny.

The book's subtitle, *A Simple Calculation that Proves the Ultimate Truth*, has all the hallmarks of a late addition by the publisher, because such overweening confidence is not to be found in Unwin's text. The book is better seen as a 'How To' manual, a sort of *Bayes' Theorem for Dummies*, using the existence of God as a semi-facetious case study. Unwin could equally well have used a

hypothetical murder as his test case to demonstrate Bayes' Theorem. The detective marshals the evidence. The fingerprints on the revolver point to Mrs Peacock. Quantify that suspicion by slapping a numerical likelihood on her. However, Professor Plum had a motive to frame her. Reduce the suspicion of Mrs Peacock by a corresponding numerical value. The forensic evidence suggests a 70 per cent likelihood that the revolver was fired accurately from a long distance, which argues for a culprit with military training. Quantify our raised suspicion of Colonel Mustard. The Reverend Green has the most plausible motive for murder.\* Increase our numerical assessment of his likelihood. But the long blond hair on the victim's jacket could only belong to Miss Scarlet . . . and so on. A mix of more or less subjectively judged likelihoods churns around in the detective's mind, pulling him in different directions. Bayes' Theorem is supposed to help him to a conclusion. It is a mathematical engine for combining many estimated likelihoods and coming up with a final verdict, which bears its own quantitative estimate of likelihood. But of course that final estimate can only be as good as the original numbers fed in. These are usually subjectively judged, with all the doubts that inevitably flow from that. The GIGO principle (Garbage In, Garbage Out) is applicable here – and, in the case of Unwin's God example, applicable is too mild a word.

Unwin is a risk management consultant who carries a torch for Bayesian inference, as against rival statistical methods. He illustrates Bayes' Theorem by taking on, not a murder, but the biggest test case of all, the existence of God. The plan is to start with complete uncertainty, which he chooses to quantify by assigning the existence and non-existence of God a 50 per cent starting likelihood each. Then he lists six facts that might bear on the matter, puts a numerical weighting on each, feeds the six numbers into the engine of Bayes' Theorem and sees what number pops out. The trouble is that (to repeat) the six weightings are not measured quantities but simply Stephen Unwin's own personal judgements, turned into numbers for the sake of the exercise. The six facts are:

- 1 We have a sense of goodness.
- 2 People do evil things (Hitler, Stalin, Saddam Hussein).
- 3 Nature does evil things (earthquakes, tsunamis, hurricanes).
- 4 There might be minor miracles (I lost my keys and found them again).
- 5 There might be major miracles (Jesus might have risen from the dead).
- 6 People have religious experiences.

For what it is worth (nothing, in my opinion), at the end of a ding-dong Bayesian race in which God surges ahead in the betting, then drops way back, then claws his way up to the 50 per cent mark from which he started, he finally ends up enjoying, in Unwin's estimation, a 67 per cent likelihood of existing. Unwin then decides that his Bayesian verdict of 67 per cent isn't high enough, so he takes the bizarre step of boosting it to 95 per cent by an emergency injection of 'faith'. It sounds like a joke, but that really is how he proceeds. I wish I could say how he justifies it, but there really is nothing to say. I have met this kind of absurdity elsewhere, when I have challenged religious but otherwise intelligent scientists to justify their belief, given their admission that there is no evidence: 'I admit that there's no evidence. There's a *reason* why it's called faith' (this last sentence uttered with almost truculent conviction, and no hint of apology or defensiveness).

Surprisingly, Unwin's list of six statements does not include the argument from design, nor any of Aquinas' five 'proofs', nor any of the various ontological arguments. He has no truck with them: they don't contribute even a minor fillip to his numerical estimate of God's likelihood. He discusses them and, as a good statistician, dismisses them as empty. I think this is to his credit, although his reason for discounting the design argument is different from mine. But the arguments that he does admit through his Bayesian door are, it seems to me, just as weak. That is only to say that the subjective likelihood weightings I would give to them are different from his, and *who cares* about subjective judgements anyway? He thinks the fact that we have a sense of right and wrong counts

\* The Reverend Green is the character's name in the versions of *Cinelo* sold in Britain (where the game originated), Australia, New Zealand, India and all other English-speaking areas except North America, where he suddenly becomes Mr Green. What is that all about?

strongly in God's favour, whereas I don't see that it should really shift him, in either direction, from his initial prior expectation. Chapters 6 and 7 will show that there is no good case to be made for our possession of a sense of right and wrong having any clear connection with the existence of a supernatural deity. As in the case of our ability to appreciate a Beethoven quartet, our sense of goodness (though not necessarily our inducement to follow it) would be the way it is with a God and without a God.

On the other hand, Unwin thinks the existence of evil, especially natural catastrophes such as earthquakes and tsunamis, counts strongly *against* the likelihood that God exists. Here, Unwin's judgement is opposite to mine but goes along with many uncomfortable theologians. 'Theodicy' (the vindication of divine providence in the face of the existence of evil) keeps theologians awake at night. The authoritative *Oxford Companion to Philosophy* gives the problem of evil as 'the most powerful objection to traditional theism'. But it is an argument only against the existence of a good God. Goodness is no part of the *definition* of the God Hypothesis, merely a desirable add-on.

Admittedly, people of a theological bent are often chronically incapable of distinguishing what is true from what they'd like to be true. But, for a more sophisticated believer in some kind of supernatural intelligence, it is childishly easy to overcome the problem of evil. Simply postulate a nasty god – such as the one who stalks every page of the Old Testament. Or, if you don't like that, invent a separate evil god, call him Satan, and blame his cosmic battle against the good god for the evil in the world. Or – a more sophisticated solution – postulate a god with grander things to do than fuss about human distress. Or a god who is not indifferent to suffering but regards it as the price that has to be paid for free will in an orderly, lawful cosmos. Theologians can be found buying into all these rationalizations.

For these reasons, if I were redoing Unwin's Bayesian exercise, neither the problem of evil nor moral considerations in general would shift me far, one way or the other, from the null hypothesis (Unwin's 50 per cent). But I don't want to argue the point because, in any case, I can't get excited about personal opinions, whether Unwin's or mine.

There is a much more powerful argument, which does not depend upon subjective judgement, and it is the argument from improbability. It really does transport us dramatically away from 50 per cent agnosticism, far towards the extreme of theism in the view of many theists, far towards the extreme of atheism in my view. I have alluded to it several times already. The whole argument turns on the familiar question 'Who made God?', which most thinking people discover for themselves. A designer God cannot be used to explain organized complexity because any God capable of designing anything would have to be complex enough to demand the same kind of explanation in his own right. God presents an infinite regress from which he cannot help us to escape. This argument, as I shall show in the next chapter, demonstrates that God, though not technically disprovable, is very very improbable indeed.