

The God Delusion

by Richard Dawkins

I suspect - well, I am sure - that there are lots of people out there who have been brought up in some religion or other, are unhappy in it, don't believe it, or are worried about the evils that are done in its name; people who feel vague yearnings to leave their parents' religion and wish they could, but just don't realize that leaving is an option.

If you are one of them, this book is for you. It is intended to raise consciousness - raise consciousness to the fact that to be an atheist is a realistic aspiration, and a brave and splendid one. you can be an atheist who is happy, balanced, moral, and intellectually fulfilled.

That is the first of my consciousness raising messages. I also want to raise consciousness in three other ways. Imagine, with John Lennon, a world with no religion. Imagine no suicide bombers, no 9/11, no 7/7, no Crusades, no witch-hunts, no Gunpowder Plot, no Indian partition, no Israeli/Palestinian wars, no Serb/Croat/Muslim massacres, no persecution of Jews as "Christ-killers", no Northern Ireland 'troubles', no 'honor killings', no shiny-suited bouffant-haired televangelists fleecing gullible people of their money - "God wants you to give till it hurts". Imagine no Taliban to blow up ancient statues, no public beheadings of blasphemers, no flogging of female skin for the crime of showing an inch of it.

John Lennon's magnificent song is sometimes performed in America with the phrase 'and no religion too' expurgated. One version even has the effrontery to change it to 'and one religion too'. Perhaps you feel that agnosticism is a reasonable position, but that atheism is just as dogmatic as religious belief?

American polls suggest that atheist and agnostics far out-number religious Jews, and even outnumber most other particular religious groups. Unlike Jews, however, we are notoriously one of the most effective political lobbies in the United States, atheists and agnostics are not organized and therefore exert almost zero influence.

Indeed, organizing atheists has been compared to herding cats, because they tend to think independently and will not conform to authority. But a good first step would be to build up a critical mass of those willing to 'come out', thereby encouraging others to do so. Even if they can't be herded, cats in sufficient numbers can make a lot of noise and they cannot be ignored.

The word 'delusion' has disquieted some psychiatrists who regard it as a technical term, not to be bandied about. The Penguin English Dictionary defines a delusion as 'a false belief or impression'. The dictionary supplied with Microsoft Word defines a delusion as 'a persistent false belief held in the face of strong contradictory evidence'. This captures religious faith perfectly.

If this book works as intended, religious readers who open it will be atheists when they put it down. Of course, dyed-in-the-wool faith-heads are immune to argument, their resistance built up over years of childhood indoctrination using methods that took centuries to mature.

Among the more effective immunological devices is a dire warning to avoid even opening a book like this, which is surely a work of Satan. But I believe there are plenty of openminded people out there: people whose childhood indoctrination was not too insidious or whose native intelligence is strong enough to overcome it.

Such free spirits should need only a little encouragement to break free of the vice of religion altogether. At the very least, I hope that nobody who reads this book will be able to say, 'I didn't know I could'.

A Deeply Religious Non-Believer

All Carl Sagan's books touch nerve-endings of transcendent wonder that religion monopolized in past centuries. My own books have the same aspiration. Consequently I hear myself often described as a deeply religious man. But is "religious" the right word? I don't think so (p12).

If the word "God" is not to become completely useless, it should be used in the way people have generally understood it: to denote a supernatural creator that is 'appropriate for us to worship'. Much unfortunate confusion is caused by failure to distinguish what can be called Einsteinian religion from supernatural religion. Einstein sometimes invoked the name of God inviting misunderstanding by supernaturalists eager to misunderstand and claim so illustrious a thinker as their own (p13).

The dramatic ending of Stephen Hawking's A Brief History of Time, "For then we should know the mind of God", is notoriously misconstrued. It has led people to believe, mistakenly of course, that Hawking is a religious man (p13).

The cell biologist Ursula Goodenough, in the Sacred Depths of Nature, sounds more religious than Hawking or Einstein. She loves churches, mosques and temples, and numerous passages in her book beg to be taken out of context and used as ammunition for supernatural religion. She goes so far as to call herself a 'religious naturalist'. Yet a careful reading of her book shows that she is really as staunch an atheist as I am (p13).

Human thoughts and emotions emerge from exceedingly complex interconnections of physical entities within the brain. An atheist in this sense of philosophical naturalist is somebody who believes there is nothing beyond the natural, physical world, no supernatural creative intelligence lurking behind the observable universes, no soul that outlasts the body and no miracles - except in the sense of natural phenomena that we don't yet understand (p14).

If there is something that appears to lie beyond the natural world as it is now imperfectly understood, we hope eventually to understand it and embrace it within the natural. As ever when we unweave a rainbow, it will not become less wonderful (p14).

Great scientists of our time who sound religious usually turn out not to be when you examine their beliefs more deeply. This is certainly true of Einstein and Hawking. Religion may provide a good discipline to help us give structure to life and lead a good one. But that, of course, has not the smallest bearing on the truth value of any of its supernatural claims (p14).

Some people simply believe in belief (p14). One of Einstein's most eagerly quoted remarks is "Science without religion is lame, religion without science is blind". But he also said "It was, of course, a lie what you read about my religious conviction, a lie which is being systematically repeated. I do not believe in a personal God and I have never denied this but have expressed it clearly. If something is in me which can be called religious then it is the unbounded admiration for the structure of the world so far as our science can reveal it" (p15).

Here are some more quotations from Einstein, to give a flavour of Einsteinian religion:

"I am a deeply religious nonbeliever. This is a somewhat new kind of religion".

“I have never imputed to Nature a purpose or a goal, or anything that could be understood as anthropomorphic. What I see in Nature is a magnificent structure that we can comprehend only very imperfectly, and that must fill a thinking person with a feeling of humility. This is a genuinely religious feeling that has nothing to do with mysticism.” (p 15)

“The idea of a personal God is quite alien to me and seems even naïve”.

In greater numbers since his death, religious apologists understandably try to claim Einstein as one of their own (p15).

In 1940 Einstein wrote a famous paper justifying his statement “I do not believe in a personal God”. This and similar statements provoked a storm of letters from the religiously orthodox, many of them alluding to Einstein’s Jewish origins (p16).

The Roman Catholic Bishop of Kansas City said: “It is sad to see a man, who comes from the race of the Old Testament and its teaching, deny the great tradition of that race”. Other clergymen chimed in: “There is no other God but a personal God... Einstein does not know what he is talking about. He is all wrong. Some men think that because they have achieved a high degree of learning in some field, they are qualified to express opinions in all” (p16).

The notion that religion is a proper field, in which one might claim expertise, is one that should not go unquestioned. That clergyman presumably would not have deferred to the expertise of a claimed “fairytologist” on the exact shape and colour of fairy wings (p16).

Both he and the bishop thought that Einstein, being theologically untrained, had misunderstood the nature of God. On the contrary, Einstein understood very well exactly what he was denying. An American Roman Catholic lawyer, working on behalf of an ecumenical coalition, wrote to Einstein (p16):

“We deeply regret that you made your statement... in which you ridicule the idea of a personal God. Conceding your right to free speech, I still say that your statement constitutes you as one of the greatest sources of discord in America” (p16).

The one thing all his theistic critics got right was that Einstein was not one of them. He was repeatedly indignant at the suggestion that he was a theist. Let’s remind ourselves of the terminology. A theist believes in a supernatural intelligence who, in addition to his main work of creating the universe in the first place, is still around to oversee and influence the subsequent fate of his initial creation (p18).

In many theistic belief systems, the deity is intimately involved in human affairs. He answers prayers; forgives and punishes sins, intervenes in the world by performing miracles; frets about good and bad deeds, and knows when we do them or even think of doing them (p18).

Einstein was using “God” in a purely metaphorical, poetic sense. So is Stephen Hawking, and so are most of those physicists who occasionally slip into the language of religious metaphor. Einstein also said “I prefer not to call myself religious because it is misleading. It is destructively misleading because, for the vast majority of people, “religion” implies “supernatural” (p18).

Carl Sagan put it well “if by ‘God’ one means the set of physical laws that govern the universe then clearly there is such a God. This God is emotionally unsatisfying... it does not make much sense to pray to the law of gravity” (p18).

There is nothing comical about Einstein's beliefs. Nevertheless, I wish that physicists would refrain from using the word God in their special metaphorical sense. The metaphorical God of the physicists is light years away from the interventionist, miracle-wreaking, thought-reading, sin-punishing, prayer-answering God of the Bible, of priests, mullahs and rabbis, and of ordinary language. Deliberately to confuse the two, is, in my opinion, an act of intellectual high treason (p19).

Undeserved Respect

My title, *The God Delusion*, does not refer to the God of Einstein and the other enlightened scientists. That is why I needed to get Einsteinian religion out of the way to begin with. In the rest of this book I am talking only about supernatural gods, of which the most familiar to readers will be Yahweh, the God of the Old Testament (p20).

It is possible that religious readers will be offended by what I have to say, and will find in these pages insufficient respect for their own particular beliefs. It would be a shame if such offence prevented them from reading on, so I want to sort it out here, at the outset (p20).

A widespread assumption, which nearly everybody in our society accepts, is that religious faith is especially vulnerable to offence and should be protected by an abnormally thick wall of respect.

Whenever a controversy arises over sexual or reproductive morals, you can bet that religious leaders from several different faith groups will be prominently represented on influential committees, or on panel discussions on radio or television (p22).

I'm not suggesting that we should go out of our way to censor the views of these people. But why does our society beat a path to their door, as though they had some expertise comparable to that of, say, a moral philosopher, a family lawyer or a doctor (p22)?

Hate only has to prove it is religious and it no longer counts as hate. The legal case in favour of discrimination against homosexuals is being mounted as a counter-suit against alleged religious discrimination! And the law seems to respect this (p22).

You can't get away with saying, "If you try to stop me from insulting homosexuals it violates my freedom of prejudice". But you can get away with saying, "It violates my freedom of religion". Yet again, religion trumps all (p24).

If you don't take Islam seriously and accord it proper respect you are physically threatened, on a scale that no other religion has aspired to since the Middle Ages. Decent liberal newspapers express 'respect' and 'sympathy' for the deep 'offence' and 'hurt' that Muslims 'suffer' (p27).

I am not in favour of offending or hurting anyone just for the sake of it. But I am intrigued and mystified by the disproportionate privileging of religion in our otherwise secular societies. All politicians must get used to disrespectful cartoons of their faces, and nobody riots in their defence. What is so special about religion that we grant it such uniquely privileged respect (p27).

As H.L. Mencken said: "We must respect the other fellow's religion, but only in the sense and to the extent that we respect his theory that his wife is beautiful and his children smart" (p27).

It is in the light of the unparalleled presumption of respect for religion that I make my own disclaimer for this book. I shall not go out of my way to offend, but nor shall I don kid gloves to handle religion any more gently than I would handle anything else (p27).

Dawkins, Richard (2006) *The God Delusion*. Bantam Press, London.

The God Hypothesis

“The religion of one age is the literary entertainment of the next” - Ralph Waldo Emerson.

The God of the Old Testament is arguably the most unpleasant character in all fiction: jealous and proud of it; a petty, unjust, unforgiving control-freak; a vindictive, bloodthirsty ethnic cleanser; a misogynistic, homophobic, racist, infanticidal, genocidal, filicidal, pestilential, megalomaniacal, sadomasochistic, capriciously malevolent bully (p31).

Those of us schooled from infancy in his ways can become desensitized to their horror. The God Hypothesis is that there exists a superhuman, supernatural intelligence who deliberately designed and created the universe and everything in it, including us (p31).

This book will advocate an alternative view: any creative intelligence, of sufficient complexity to design anything, comes into existence only as the end product of an extended process of gradual evolution. Creative intelligences, being evolved, necessarily arrive late in the universe, and therefore cannot be responsible for designing it. God in the sense defined, is a delusion; and, as later chapters will show, a pernicious delusion (p31).

Not surprisingly, since it is founded on local traditions of private revelation rather than evidence, the God Hypothesis comes in many versions (p32).

Polytheism

It is not clear why the change from polytheism to monotheism should be assumed to be a self-evidently progressive improvement. Monotheism is in its turn doomed to subtract one more god and become atheism. The Catholic Encyclopedia dismisses polytheism and atheism in the same breath (p32).

Monotheistic chauvinism was until recently written into the charity law of both England and Scotland, discriminating against polytheistic religions in granting tax-exempt status., while allowing an easy ride to charities whose object was to promote monotheistic religion (p32).

It would be a good idea to abandon the promotion of religion altogether as grounds for charitable status. The benefits of this to society would be great, especially in the United States, where the sums of tax-free money sucked in by churches, reach levels that could fairly be described as obscene (p32).

Oral Roberts once told his television audience that God would kill him unless they gave him 8 million dollars. Almost unbelievably, it worked. Tax-free! Rivers of medieval ink, not to mention blood, have been squandered over the “mystery” of the Trinity, and in suppressing deviations such as the Arian heresy (p32).

Arius of Alexandria, in the fourth century AD, denied that Jesus was consubstantial i.e. of the same substance or essence, with God. What on earth could that possibly mean, you are probably asking? Substance? What substance? What exactly do you mean by “essence” (p32).

Very little seems the only reasonable reply. Splitting Christendom by splitting hairs - such has ever been the way of theology. Do we have one God in three parts, or three Gods in one? The Catholic Encyclopedia clears up the matter for us, in a masterpiece of theological close reasoning: (p32)

“In the Unity of the Godhead there are three persons, the father, the Son, and the Holy Spirit, these Three Persons being truly distinct one from another. Thus, in the words of the Athanasian Creed: ‘the father is god, the son is god, and the holy spirit is god, and yet there are not three gods but one god’ (p32).

Whatever miracles may have earned St Gregory his nickname, they were not miracles of honest lucidity. His words convey the characteristically obscurantist flavour of theology, which, unlike science or most other branches of human scholarship - has not moved on in eighteen centuries.

Thomas Jefferson, as so often, got it right when he said, “Ridicule is the only weapon which can be used against unintelligible propositions. Ideas must be distinct before reason can act upon them; and no man ever had a distinct idea of the trinity. It is the mere Abracadabra of the mountebanks calling themselves the priests of Jesus”.

The other thing I cannot help remarking upon is the over-weening confidence with which the religious assert minute details for which they neither have, nor could have, any evidence. Perhaps it is the very fact that there is no evidence to support theological opinions, either way, that fosters the characteristic draconian hostility towards those of slightly different opinion.

It is especially the Roman Catholic branch of Christianity that pushes its recurrent flirtation with polytheism towards runaway inflation. The trinity is joined by Mary, ‘Queen of Heaven’, a goddess in all but name, who surely runs God himself a close second as a target of prayers.

The pantheon is further swollen by an army of saints, whose intercessory power makes them, if not demigods, well worth approaching on their own specialist subjects. The Catholic Community Forum helpfully lists 5,120 saints, together with their expertise including abdominal pains, abuse victims, anorexia, arms dealers, blacksmiths, broken bombs, bomb technicians and bowel disorders, to venture no further than the Bs.

What impresses me about Catholic mythology is partly its tasteless kitsch but mostly the airy nonchalance with which these people make up the details as they go along. It is all just shamelessly invented.

Pope John Paul II created more saints than all his predecessors of the past several centuries put together, and he had a special affinity with the Virgin Mary. His polytheistic hankerings were dramatically demonstrated in 1981 when he suffered an assassination attempt in Rome, and he attributed his survival to intervention by Our Lady of Fatima: “A maternal hand guided the bullet”. One cannot help wondering why she didn’t guide it to miss him altogether.

Others might think the team of surgeons who operated on him for six hours deserved at least a share of the credit; but perhaps their hands, too, were maternally guided. The relevant point is that it wasn’t just our lady who, in the Pope’s opinion, guided the bullet, but specifically our lady of Fatima.

Presumably Our Lady of Lourdes, Our Lady of Guadalupe, Our Lady of Medjugorje, Our Lady of Akita, Our Lady of Zeitoun, Our Lady of Garabandal and our lady of Knock were busy on other errands at the time. Life is too short to bother with distinction between one figment of the imagination and many. For brevity I shall refer to all deities, whether poly- or monotheistic, as simply ‘God’.

More sophisticated theologians proclaim the sexlessness of God, while some feminist theologians seek to redress historic injustices by designating her female. But what, after all, is the difference between a non-existent female and a non-existent male?

I know you don't believe in an old bearded man sitting on a cloud, so let's not waste any more time on that. I am not attacking any particular version of God or gods. I am attacking God, all gods, anything and everything supernatural, wherever and whenever they have been or will be invented.

Monotheism

The oldest of the three abrahamic religions, and the clear ancestor of the other two, is Judaism: originally a tribal cult of a single fiercely unpleasant God, morbidly obsessed with sexual restrictions, with the smell of charred flesh, with his own superiority over rival gods and with the exclusiveness of his chosen desert tribe.

Islam was founded upon a new holy book, the Koran, adding a powerful ideology of military conquest to spread the faith. Christianity too was spread by the sword, wielded first by roman hands, then by the Crusaders, and later by the conquistadores and other European invaders and colonists, with missionary accompaniment.

There is something to be said for treating belief systems not as religions at all but as ethical systems or philosophies of life. Compared with the Old Testament's psychotic delinquent, the deist God of the eighteenth century Enlightenment is an altogether grander being: worthy of his cosmic creation, loftily unconcerned with human affairs, sublimely aloof from our private thoughts and hopes, caring nothing for our messy sins or mumbled contritions.

The deist God is a physicist to end all physics, the alpha and omega of mathematicians, the apotheosis of designers; a hyper-engineer who set up the laws and constants of the universe, fine-tuned them with exquisite precision and foreknowledge, detonated what we would now call the big bang, retired and was never heard from again.

Secularism, the founding fathers, and religion of America

The religious views of the Founding Fathers are of great interest to propagandists of today's American right, anxious to push their version of history. Contrary to their view, the fact that the United States was not founded as a Christian nation was early stated in the terms of a treaty with Tripoli, drafted in 1796 under George Washington.

The paradox has often been noted that the United States, founded in secularism, is now the most religious country in Christendom, while England, with an established church headed by its constitutional monarch, is among the least.

Precisely because America is legally secular, religion has become free enterprise. Rival churches compete for congregations, and the competition is waged with all the aggressive hard-sell techniques of the marketplace.

What works for soap flakes works for God, and the result is something approaching religious mania among today's less educated classes. In England, by contrast, religion under the aegis of the established church has become little more than a pleasant social pastime, scarcely reoginizable as religious at all. The genie of religioius fanaticism is rampant in present-day America, and the Founding Fathers would have been horrified. The Founders most certainly were secularists who believed in keeping religion out of politics.

Remarks of Thomas Jefferson's such as "Christianity is the most perverted sytem that ever shone on man" are compatible with atheism. Whether Jefferson and his colleagues were theists, deists, agnostics

Dawkins, Richard (2006) *The God Delusion*. Bantam Press, London.

or atheists, they were also passionate secularists who believed that the religious opinions of a President, or lack of them, were entirely his own business.

Natalie Angier's "Confessions of a lonely atheist" is a sad and moving description, in the New York Times, of her feelings of isolation as an atheist in today's America. But the isolation of American atheists is an illusion, assiduously cultivated by prejudice.

Atheists in America are more numerous than most people realize. As mentioned, American atheists far outnumber Jews, yet the Jewish lobby is notoriously one of the most formidably influential in Washington. What might American atheists achieve if they organized themselves properly?

It is virtually impossible for an honest atheist to win a public election in America. Assuming that the majority of the 535 individuals elected in the United States are an educated sample of the population, it is statistically all but inevitable that a substantial number of them must be atheists.

They must have lied, or concealed their true feelings, in order to get elected. Who can blame them, given the electorate they had to convince? It is universally accepted that an admission of atheism would be instant political suicide for any presidential candidate.

These facts about today's political climate in the United States, and what they imply, would have horrified Jefferson, Washington, Madison, Adams and all their friends. The deist God is certainly an improvement over the monster of the Bible. Unfortunately it is scarcely more likely that he exists, or ever did.

The Poverty of Agnosticism

There is nothing wrong with being agnostic in cases where we lack evidence one way or the other. It is the reasonable position. Carl Sagan was proud to be agnostic when asked whether there was life elsewhere in the universe. It's OK to reserve judgement until the evidence is in. The question of extraterrestrial life is open.

How about the question of God? Should we be agnostic about him too? Many have said definitely yes, often with an air of conviction that verges on protesting too much. Are they right? Some scientists often make the illogical deduction that the hypothesis of God's existence, and the hypothesis of his non-existence, have exactly equal probability of being right.

Either God exists or he doesn't. It is a scientific question; one day we may know the answer, and meanwhile we can say something pretty strong about the probability. The fact that we can neither prove nor disprove the existence of something does not put existence and non-existence on an even footing. The existence of God is a scientific hypothesis like any other.

God's existence or non-existence is a scientific fact about the universe, discoverable in principle if not in practice. If he existed and chose to reveal it, God himself could clinch the argument, noisily and unequivocally, in his favour.

and even if God's existence is never proved or disproved with certainty one way or the other, available evidence and reasoning may yield an estimate of probability that is far from 50 percent. Let us then take the idea of a spectrum of probabilities seriously and place human judgement about the existence of God along it, between two extremes of opposite certainty.

The spectrum is continuous but it can be represented by the following seven milestones along the way: Dawkins, Richard (2006) *The God Delusion*. Bantam Press, London.

1. Strong theist. 100 percent probability of God.
2. Very high probability but short of 100 percent. De facto theist. 'I cannot know for certain, but I strongly believe in God, and live my life on the assumption that he is there.'
3. Higher than 50 percent but not very high. Technically agnostic but leaning towards theism. 'I am very uncertain, but I am inclined to believe in God'.
4. Exactly 50 percent. Completely impartial agnostic. 'God's existence and non-existence are exactly equiprobable.'
5. Lower than 50 percent but not very low. Technically agnostic but leaning towards atheism. 'I don't know whether God exists but I'm inclined to be sceptical.'
6. Very low probability, but short of zero. De facto atheist. 'I cannot know for certain but I think God is very improbable, and I live my life on the assumption that he is not there.'
7. Strong atheist. 'I know there is no God'.

It is in the nature of faith that one is capable of holding a belief without adequate reason to do so. I count myself in category 6 but leaning towards 7. I am agnostic only to the extent that I am agnostic about fairies at the bottom of the garden.

A friend, who was brought up a Jew and still observes the sabbath and ot her Jewish customs out of loyaty to his heritage, describes himself as a 'tooth fairy agnostic'. He regards God as no more probable than the tooth fairy.

The great American lawyer Clarence Darrow said, "I don't believe in God as I don't believe in mother goose". Bertrand Russel's point about the teapot orbiting the sun is that the burden of proof rests with the believers, not the non-believers.

My point is the related point that the odds in favour of the teapot are not equal to the odds against it. The fact that orbiting teapots and tooth fairies are undisprovable is not felt, by any reasonable person, to be the kind of fact that settles any interesting argument.

None of us feels the obligation to disprove any of the millions of far-fetched things that a fertile or facetious imagination might dream up. I have found it an amusing strategy, when asked whether I am an atheist, to point out that the questioner is also an atheist when considering Zeus, Apollo, Amon Ra, Mithras, Baal, Thor, or the Golden Calf and the Flying Spaghetti Monster. I just go one god further. All of us feel entitled to express extreme scepticism to the point of outright disbelief - except that in the case of unicorns, tooth fairies and the Gods of Greece, Rome and Egypt, there is, nowadays, no need to bother.

In the case of the Abrahamic God, however, there is need to bother, because a substantial proportion of people with whom we share the planet do believe strongly in his existence. That you cannot prove God's non-existence is accepted and trivial, if only in the sense that we can never absolutely prove the non-existence of anything.

What matters is not whether God is disprovable, he isn't, but whether his existence is probable. That is another matter. Some disprovable things are sensibly judged far less probable than other undisprovable things. There is no reason to regard God as immune from consideration along the spectrum of probabilities.

Dawkins, Richard (2006) *The God Delusion*. Bantam Press, London.

And there is certainly no reason to suppose that, just because God can be neither proved nor disproved, his probability of existence is 50 percent. On the contrary, as we shall see.

NOMA

What expertise can theologians bring to deep cosmological questions that scientists cannot? Why are scientists so cravenly respectful towards the ambitions of theologians, over questions that theologians are certainly no more qualified to answer than scientists themselves?

It is a tedious cliché that science concerns itself with how questions, but only theology is equipped to answer why questions. What on Earth is a why question? The fact that a question can be phrased in a grammatically correct English sentence doesn't make it meaningful, or entitle it to our serious attention.

Nor, even if the question is a real one, does the fact that science cannot answer it imply that religion can. Perhaps there are some genuinely profound and meaningful questions that are forever beyond the reach of science. Maybe quantum theory is already knocking on the door of the unfathomable.

But if science cannot answer some ultimate question, what makes anybody think religion can? I have yet to see any good reason to suppose that theology is a subject at all. Similarly, we can all agree that science's entitlement to advise us on moral values is problematic. But do we really want to cede to religion the right to tell us what is good and what is bad?

The fact that it has nothing else to contribute to human wisdom is no reason to hand religion a free licence to tell us what to do. Which religion anyway? The one in which we happen to have been brought up? To which chapter, then, of which book of the bible should we turn?

They are far from unanimous and some of them are odious by any reasonable standards. How many literists have read enough of the Bible to know that the death penalty is prescribed for adultery, for gathering sticks on the sabbath and for cheeking your parents?

If we reject Deuteronomy and Leviticus, as all enlightened moderns do, by what criteria do we then decide which of religion's moral values to accept? Or should we pick and choose among the world's religions until we find one whose moral teaching suits us?

And if we have independent criteria for choosing among religious moralities, why not cut out the middle man and go straight for the moral choice without religion? We have all been guilty of bending over backwards to be nice to an unworthy but powerful opponent.

The God Hypothesis suggests that the reality we inhabit also contains a supernatural agent who designed the universe and maintains it and even intervenes in it with miracles, which are temporary violations of his own otherwise grandly immutable laws.

The presence or absence of a creative super-intelligence is unequivocally a scientific question, even if it is not in practice a decided one. So also is the truth or falsehood of every one of the miracle stories that religions rely upon to impress multitudes of the faithful.

Did Jesus have a human father, or was his mother a virgin at the time of his birth? Whether or not there is enough surviving evidence to decide it, this is still a strictly scientific question with a definite answer in principle: yes or no. Did Jesus raise Lazarus from the dead? Did he himself come alive again, three days after being crucified?

There is an answer to every such question, whether or not we can discover it in practice, and it is a strictly scientific answer. Miracles provide the strongest reason many believers have for their faith; and miracles, by definition, violate the principles of science.

The moment religion steps on science's turf and starts to meddle in the real world with miracles, it ceases to be religion. A universe in which we are alone except for other slowly evolved intelligences is a very different universe from one with an original guiding agent whose intelligent design is responsible for its very existence.

The Great Prayer Experiment

An amusing, if rather pathetic, case study in miracles is the Great Prayer Experiment: does praying for patients help them recover? Prayers are commonly offered for sick people, both privately and in formal places of worship.

The patients were assigned, strictly at random, to an experimental group who received prayers and a control group who received no prayers. Neither the patients, nor their doctors or caregivers were allowed to know which patients were being prayed for and which patients were controls.

The results, reported in the American Heart Journal of April 2006 were clear-cut. There was no difference between those who were prayed for and those who were not. What a surprise. There was a difference between those who knew they had been prayed for and those who did not know, but it went in the wrong direction.

Those who knew they had been the beneficiaries of prayer suffered significantly more complications than those who did not. Was God doing a bit of smiting, to show his disapproval for the whole barney enterprise?

It seems more probable that those patients who knew they were being prayed for suffered additional stress in consequence: 'performance anxiety' as the experimenters put it. It will be no surprise that this study was opposed by theologians, perhaps anxious about its capacity to bring ridicule upon religion.

If God wanted to demonstrate his own existence he would find better ways to do it than slightly biasing the recovery statistics of experimental versus control groups of heart patients. If God existed and wanted to convince us of it, he could fill the world with super-miracles.

But too much evidence might not be good for us. Get that! Too much evidence might not be good for us. Needless to say, the negative results of the experiment will not shake the faithful.

The Neville Chamberlain School of Evolutionists

In parts of the United States, science is under attack from well-organized, politically well-connected and, above all, well-financed opposition, and the teaching of evolution is in the front-line trench. Scientists could be forgiven for feeling threatened, because most research money comes ultimately from government, and elected representatives have to answer to the ignorant and prejudiced, as well as to the well-informed, among their constituents.

In response to such threats, an evolution defence lobby has sprung up, most notably represented by the National Center for Science Education, NCSE. One of NCSE's main political objectives is to court and Dawkins, Richard (2006) *The God Delusion*. Bantam Press, London.

mobilize 'sensible' religious opinion: mainstream churchmen and women who have no problem with evolution and may regard it as irrelevant to their faith.

Far from respecting the separateness of science's turf, creationists like nothing better than to trample their dirty hobnails all over it. And they fight dirty too.

Little Green Men

Suppose Bertrand Russell's parable had concerned not a teapot in outer space but life in outerspace. Once again we cannot disprove it, and the only strictly rational stance is agnosticism. But the hypothesis is no longer frivolous.

We would be outraged if our government invested in expensive telescopes for the sole purpose of searching for orbiting teapots. But we can appreciate the case for spending money on SETI - the Search for Extraterrestrial Intelligence, using radio telescopes to scan the skies in the hope of picking up signals from intelligent aliens.

Today's estimates of the ubiquity of solar systems are no longer based on the principle of mediocrity; they are informed by direct evidence. Our telescopes are scarcely powerful enough to see planets around other stars directly.

Science can chip away at agnosticism. Science can make at least probabilistic inroads into the territory of agnosticism. A pardonable reaction to life on other planets would be something akin to worship, for any civilization capable of broadcasting a signal over such an immense distance is likely to be greatly superior to ours.

Whether we ever get to know about them or not, there are very probably alien civilizations that are superhuman, to the point of being god-like in ways that exceed anything a theologian could possibly imagine.

Their technical achievements would seem as supernatural to us as ours would seem to a Dark Age peasant transported to the twenty-first century. Imagine his response to a laptop computer, a mobile phone, a hydrogen bomb or a jumbo jet.

As Arthur C. Clarke put it - "Any sufficiently advanced technology is indistinguishable from magic". The miracles wrought by our technology would have seemed to the ancients no less remarkable than the tales of Moses parting the waters, or Jesus walking upon them.

The aliens of our SETI signal would be to us like gods, just as missionaries were treated as gods, and exploited the undeserved honour to the hilt, when they turned up in Stone Age cultures bearing guns, telescopes and matches.

The crucial difference between gods and god-like extraterrestrials lies not in their properties but in their provenance or their origin. Entities that are complex enough to be intelligent are products of an evolutionary process.

No matter how goodlike they seem when we encounter them, they didn't start that way. The laws of probability forbid all notions of their spontaneously appearing without simpler antecedents. Natural selection is the champion crane of all time.

It has lifted life from primeval simplicity to the dizzy heights of complexity, beauty and apparent design that dazzle us today.

Dawkins, Richard (2006) *The God Delusion*. Bantam Press, London.

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".

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.

The Design Argument goes something like this: 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.

The argument from design is the only one still in regular use today, and it sounds to many like the ultimate knockdown argument. 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.

Philosophers down the centuries have indeed taken the ontological argument seriously, both for and against.

I have given up counting the number of times I receive the more or less truculent challenge: "How do you account for Shakespeare, then?". 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"? Even great artists have to earn a living, and they take commissions where they are to be had. I have no reason to doubt that Raphael and Michaelangelo 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 Michaelangelo 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?

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!

Many people believe in God because they believe they have seen a vision of him 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.

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. It's 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. The brain's simulation software is well capable of constructing 'visions' and 'visitations'. 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.

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 hallucination. 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.

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 multitude', 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. 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.

There are still some people who are persuaded by scriptural evidence to believe in God. 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.

All were then copied and recopied, through many different 'Chinese Whispers generations' by fallible scribes who, in any case, had their own religious agendas. Sophisticated Christians do not need George Gershwin to convince them that 'the things that you're liable 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.

Dawkins, Richard (2006) *The God Delusion*. Bantam Press, London.

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? In any case, if Jesus was really born of a virgin, Joseph's ancestry is irrelevant and cannot be used to fulfil the Old Testament prophecy that the Messiah should be descended from David.

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, Phillip, Bartholomew and Mary Magdalen.

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.

Much of what the four evangelists 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 Jesus must fulfil Old Testament prophecies.

It is even possible to mount a serious historical case that Jesus never lived at all. Although Jesus probably existed, reputable biblical scholars do not in general regard the New Testament as a reliable record of what actually happened in history.

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, aroused huge controversy in church circles. Christians were encouraged to boycott the film and picket cinemas that showed it. It was 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.

Bertrand Russell once wrote: "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". Newton did indeed claim to be religious. So did almost everybody until 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.

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.

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. Nevertheless, there are some genuine specimens of good scientists who are sincerely religious in the full, traditional sense.

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. 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 Nobelists. 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'.

A study in the leading journal *Nature* by Larson and Witham in 1998 showed that those American scientists considered eminent enough by their peers to have been elected to the National Academy of Sciences only about 7 percent believe in a personal God.

This overwhelming preponderance of atheists is almost the exact opposite of the profile of the American population at large, of whom 90 percent are believers in some sort of super-natural being. 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.

The overwhelming majority of US Academicians are atheists. Several research studies have been published on the statistical relationship between religiosity and educational level, or religiosity and IQ. Religiosity is 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. Sociologist studying British children found that only about one in twelve break away from their parents' religious beliefs.

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 educational level, the less likely one is to be religious or hold 'beliefs' of any kind.

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. Believing is not something you decide to do as a matter of policy. At least, it is not something I can decide to do as an act of will. 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?

Dawkins, Richard (2006) *The God Delusion*. Bantam Press, London.

What if God is a scientist who regards honest seeking after truth as a 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 reply. Mighten't God respect Russell for his courageous scepticism?

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.

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.

Why There Almost Certainly Is No God

The argument from improbability is the big one. The probability of life originating on earth is no greater than the chance that a hurricane, sweeping through a scrapyard, would have the luck to assemble a Boeing 747.

The odds against assembling a fully functioning horse, beetle or ostrich by randomly shuffling its parts are up there in the 747 territory. This, in a nutshell is the creationist's favourite argument - an argument that could only be made by somebody who doesn't understand the first thing about natural selection. Darwinian natural selection is the only known solution to the otherwise unanswerable riddle of where the information in living organisms comes from. God is the Ultimate Boeing 747.

Feminism shows us the power of consciousness-raising. Natural selection not only explains the whole of life; it also raises our consciousness to the power of science to explain how organized complexity can emerge from simple beginnings without any deliberate guidance.

Who, before Darwin, could have guessed that something so apparently designed as a dragonfly's wing or an eagle's eye was really the end product of a long sequence of non-random but purely natural causes? It is surprising how necessary such consciousness-raising is, even in the minds of excellent scientists in fields other than biology.

You need to be steeped in natural selection, immersed in it, swim about in it, before you can truly appreciate its power. Other sciences raise our consciousness in different ways. Astronomy puts us in our place, metaphorically as well as literally, scaling down our vanity to fit the tiny stage on which we play out our lives - our speck of debris from the cosmic explosion.

Geology reminds us of our brief existence both as individuals and as a species. Evolution does the same thing for our sense of time - not surprisingly, since it works on a geological timescale. But Darwinian evolution, specifically natural selection, does something more.

It shatters the illusion of design within the domain of biology, and teaches us to be suspicious of any kind of design hypothesis in physics and cosmology as well. I am continually astonished by those theists who, far from having their consciousness raised in the way that I propose, seem to rejoice in natural selection as 'God's way of achieving his creation'. They note that evolution by natural selection would be a very easy and neat way to achieve a world full of life. God wouldn't need to do anything at all!

It is impossible to exaggerate the magnitude of the problem that Darwin solved. Chance is not the likely designer. That is one thing on which we can all agree. The greater the statistical improbability, the less plausible is chance as a solution: that is what improbable means.

But the candidate solutions to the riddle of improbability are not, as is falsely implied, design and chance. They are design and natural selection. Chance is not a solution, given the high levels of improbability we see in living organisms, and no sane biologist ever suggested that it was.

Intelligent design suffers from exactly the same objection as chance. It is simply not a plausible solution to the riddle of statistical improbability. And the higher the improbability, the more implausible intelligent design becomes.

The designer himself, herself, itself, immediately raises the bigger problem of his own origin. Far from terminating the vicious regress, God aggravates it with a vengeance. Creationist 'logic' is always the same. Some natural phenomenon is too statistically improbable, too complex, too beautiful, too awe-inspiring to have come into existence by chance. Design is the only alternative to chance that the creationists can imagine.

Therefore a designer must have done it. And science's answer to this faulty logic is also always the same. Design is not the only alternative to chance. Natural selection is a better alternative. Indeed, design is not a real alternative at all because it raises an even bigger problem than it solves: who designed the designer?

Natural selection is a real solution. It is the only workable solution that has ever been suggested. And it is not only a workable solution, it is a solution of stunning elegance and power. What is it that makes natural selection succeed as a solution to the problem of improbability, where chance and design both fail at the starting gate?

The answer is that natural selection is a cumulative process, which breaks the problem of improbability up into small pieces. Each of the small pieces is slightly improbable but not prohibitively so. When large numbers of these slightly improbable events are stacked up in series, the end product of the accumulation is very improbable indeed, improbable enough to be far beyond the reach of chance.

It is these end products that form the subjects of the creationist's wearisomely recycled argument. The creationist completely misses the point because creationists insist on treating the genesis of statistical improbability as a single, one-off event. They don't understand the power of accumulation.

Creationists who attempt to deploy the argument from improbability in their favour always assume that biological adaptation is a question of the jackpot or nothing.

We shouldn't declare things to be irreducibly complex; the chances are that we haven't looked carefully enough at the details, or thought carefully enough about them. On the other hand, we on the science side must not be too dogmatically confident. Maybe there is something out there in nature that really does preclude, by its genuinely irreducible complexity, the smooth gradient of Mount Improbable.

The creationists are right that, if genuinely irreducible complexity could be properly demonstrated, it would wreck Darwin's theory. Darwin himself said as much:

"If it could be demonstrated that any complex organ existed which could not possibly have been formed by numerous, successive, slight modifications, my theory would absolutely break down. But I can find no such case".

Darwin could find no such case, and nor has anybody since Darwin's time, despite strenuous, indeed desperate efforts. Many candidates for this holy grail of creationism have been proposed. none has stood up to analysis.

However little we know about God, the one thing we can be sure of is that he would have to be very very complex and presumably irreducibly so! Creationists eagerly seek a gap in present-day knowledge or understanding.

If an apparent gap is found it is assumed that God, by default, must fill it. What worries thoughtful theologians is that gaps shrink as science advances, and God is threatened with eventually having nothing to do and nowhere to hide.

What worries scientists is something else. It is an essential part of the scientific enterprise to admit ignorance, even to exult in ignorance as a challenge to future conquests. Most scientists are bored by what they have already discovered. It is ignorance that drives them on.

Mystics exult in mystery and want it to stay mysterious. Scientists exult in mystery for a different reason: it gives them something to do. One of the truly bad effects of religion is that it teaches us that it is a virtue to be satisfied with not understanding.

Admissions of ignorance and temporary mystification are vital to good science. It is unfortunate that the main strategy of creation propagandists is the negative one of seeking out gaps in scientific knowledge and claiming to fill them with 'intelligent design' by default.

Intelligent design is granted a Get Out of Jail Free card - a charmed immunity to the rigorous demands made of evolution. The creationist ploy undermines the scientist's natural, indeed necessary, rejoicing in temporary uncertainty.

Science methodologically seeks out areas of ignorance in order to target research, and intelligent design needs to seek out areas of ignorance in order to claim victory by default. Intelligent design has no evidence of its own, but thrives like a weed in gaps left by scientific knowledge.

Therefore, science finds itself in alliance with sophisticated theologians, united against the common enemies of naïve, populist theology and the gap theology of intelligent design. The creationist's love affair with 'gaps' in the fossil record symbolizes their whole gap theology. Creationists adore 'gaps' in the fossil record, just as they adore gaps generally.

If there are no fossils to document a postulated evolutionary transition, the default assumption is that there was no evolutionary transition, therefore god must have intervened. It is utterly illogical to demand complete documentation of every step of any narrative, whether in evolution or any other science.

You might as well demand, before convicting somebody of murder, a complete cinematic record of the murderer's every step leading up to the crime, with no missing frames. Only a tiny fraction of corpses fossilize, and we are lucky to have as many intermediate fossils as we do.

We could easily have had no fossils at all, and still the evidence for evolution from other sources, such as molecular genetics and geographical distribution, would be overwhelmingly strong. On the other hand, evolution makes the strong prediction that if a single fossil turned up in the wrong geological stratum, the theory would be blown out of the water.

Gaps, by default in the mind of the creationist, are filled by God. Areas where there is a lack of data, or a lack of understanding, are automatically assumed to belong, by default, to God. The reasoning that underlies "intelligent design" theory is lazy and defeatist.

Those people who leap from personal bafflement at a natural phenomenon straight to a hasty invocation of the supernatural are no better than the fools who see a conjuror bending a spoon and leap to the conclusion that it is 'paranormal'.

Dawkins, Richard (2006) *The God Delusion*. Bantam Press, London.

The key to demonstrating irreducible complexity is to show that none of the parts could have been useful on its own. They all needed to be in place before any of them could do any good. A lot more work needs to be done, of course, and I am sure it will be. Such work would never be done if scientists were satisfied with a lazy default such as 'intelligent design theory' would encourage.

If the history of science shows us anything, it is that we get nowhere by labelling our ignorance "God".

Darwinism raises our consciousness in other ways. Evolved organs, elegant and efficient as they often are, also demonstrate revealing flaws - exactly as you'd expect if they have an evolutionary history, and exactly as you would not expect if they were designed.

Two main explanations have been offered for our planet's peculiar friendliness to life. The design theory says that God made the world and deliberately set up the details for our benefit. The anthropic principle, like natural selection, is an alternative to the design hypothesis. It provides a rational, design-free explanation for the fact that we find ourselves in a situation propitious to our existence.

Darwinian evolution proceeds merrily once life has originated. But how does life get started? The origin of life was the event or series of events whereby the vital conditions for natural selection came about. Once the vital ingredient - some kind of genetic molecule - is in place, true Darwinian natural selection can follow, and complex life emerges as the eventual consequence.

But the spontaneous arising by chance of the first hereditary molecule strikes many as improbable.

Maybe it is - very very improbable. The origin of life is a flourishing, if speculative, subject for research.

The expertise required for it is chemistry.

However improbable the origin of life might be, we know it happened on Earth because we are here. The design approach postulates that a God who wrought a deliberate miracle, struck the prebiotic soup with divine fire and launched DNA, or something equivalent, on its momentous career.

It has been estimated that there are between 1 billion and 30 billion planets in our galaxy, and about 100 billion galaxies in the universe. Therefore a billion billion is a conservative estimate of the number of available planets in the universe.

If the odds of life originating spontaneously on a planet were a billion to one against, nevertheless that stupefyingly improbable event would still happen on a billion planets. The chance of finding any one of those billion life-bearing planets recalls the proverbial needle in a haystack.

Some planets are more Earth-like than others. This should give encouragement to our chemists trying to recreate the event in the lab. Even a chemical model with odds of success as low as one in a billion would still predict that life would arise on one billion planets in the universe.

We live on a planet where we are surrounded by perhaps ten million species, each one of which independently displays a powerful illusion of apparent design. Each species is well fitted to its particular way of life.

The evolution of life is a completely different case from the origin of life because the origin of life was a unique event which had to happen only once. The adaptive fit of species to their separate environments, on the other hand, is millionfold, and ongoing.

We can safely predict that, if we wait another ten million years, a whole new set of species will be as well adapted to their ways of life as today's species are to theirs. Thanks to Darwin, we know how it is brought about: by natural selection.

Natural selection is emphatically not a matter of luck. Physicists have calculated that, if the laws and constants of physics had been even slightly different, the universe would have developed in such a way that life would have been impossible.

The theist says that God, when setting up the universe, tuned the fundamental constants of the universe so that each one lay in the right zone for the production of life. As ever, the theist's answer is deeply unsatisfying, because it leaves the existence of God unexplained.

It follows that the theist's answer has utterly failed to make any headway towards solving the problem at hand. I see no alternative but to dismiss it, while at the same time marvelling at the number of people who can't see the problem and seem genuinely satisfied by God as the answer.

Many people have not had their consciousness raised, as biologists have, by natural selection and its power to tame improbability. We are more inclined to mistake a shadow for a burglar than a burglar for a shadow. A false positive could be a waste of time. A false negative could be fatal.

In our ancestral past, our greatest challenge in our environment came from each other. We have a great deal of difficulty seeing anything other than human causation. We naturally generalized that to divine intention.

Our universe may be destined to expand indefinitely, or it may stabilize at an equilibrium, or the expansion may reverse itself and go into contraction, culminating in the so-called 'big crunch'. Some big crunch models have the universe then bouncing back into expansion, and so on indefinitely, with say a 20 billion year cycle time.

The standard model of our universe says that time itself began in the big bang, along with space, some 13 billion years ago. Any God capable of designing a universe, carefully and foresightfully tuned to lead to our evolution, must be a supremely complex and improbable entity who needs an even bigger explanation than the one he is supposed to provide.

A God capable of continuously monitoring and controlling the individual status of every particle in the universe cannot be simple. His existence is going to need a mammoth explanation in its own right. Worse, from the point of view of simplicity, other corners of God's giant consciousness are simultaneously preoccupied with the doings and emotions and prayers of every single human being - and whatever intelligent aliens there might be on other planets in this and 100 billion other galaxies. If God answered most prayers for a relative to recover from cancer, then cancer would no longer be a problem for humans to solve. The remarkable suggestion that God is simple can be found in other modern theological writings.

If God really did communicate with humans that fact would emphatically not lie outside science. A God who is capable of sending intelligible signals to millions of people simultaneously, and of receiving messages from all of them simultaneously, cannot be, whatever else he might be, simple. Such bandwidth!

God may not have a brain made of neurones, or a CPU made of silicon, but if he has the powers attributed to him he must have something far more elaborately and non-randomly constructed than the largest brain or the largest computer we know.

“Do you believe Jesus was born of a virgin?” Think about why it is impolite to ask such direct, factual questions of religious people today. It is because it is embarrassing! But it is the answer that is embarrassing, if it is yes.

The nineteenth century is the last time when it was possible for an educated person to admit to believing in miracles like the virgin birth without embarrassment. When pressed, many educated Christians today are too loyal to deny the virgin birth and the resurrection.

But it embarrasses them because their rational minds know it is absurd, so they would much rather not be asked. One of the greatest challenges to the human intellect, over the centuries, has been to explain how the complex, improbable appearance of design in the universe arises.

The natural temptation is to attribute the appearance of design to actual design itself. In the case of a man-made artefact such as a watch, the designer really was an intelligent engineer. It is tempting to apply the same logic to an eye or a wing, a spider or a person.

The temptation is a false one, because the designer hypothesis immediately raises the larger problem of who designed the designer. It is obviously no solution to postulate something even more improbable.

The most ingenious and powerful idea so far discovered is Darwinian evolution by natural selection.

Darwin and his successors have shown how living creatures, with their spectacular statistical improbability and appearance of design, have evolved by slow, gradual degrees from simple beginnings. We can now safely say that the illusion of design in living creatures is just that - an illusion.

Some kind of multiverse theory could in principle do for physics the same explanatory work as Darwinism does for biology. This kind of explanation is superficially less satisfying than the biological version of Darwinism, because it makes heavier demands on luck.

God almost certainly does not exist. This is the main conclusion of this book so far.

The Darwinian Imperative

Everybody has their own pet theory of where religion comes from and why all human cultures have it. It gives consolation and comfort. It fosters togetherness in groups. It satisfies our yearning to understand why we exist.

Knowing that we are products of Darwinian evolution, we should ask what pressure or pressures exerted by natural selection originally favoured the impulse to religion. If a wild animal habitually performs some useless activity, natural selection will favour rival individuals who devote the time and energy, instead, to surviving and reproducing.

Ruthless utilitarianism trumps in nature, even if it doesn't always seem that way. Religious behavior is time-consuming, energy-consuming, often as extravagantly ornate as the plumage of a bird of paradise. Religion can endanger the life of the pious individual, as well as the lives of others.

Thousands of people have been tortured for their loyalty to a religion, persecuted by zealots for what is in many cases scarcely distinguishable alternative faith. Religion devours resources, sometimes on a massive scale.

Sacred music and devotional paintings largely monopolized medieval and Renaissance talent. Devout people have died for their gods and killed for them; whipped blood from their backs, sworn themselves to a lifetime of celibacy or to lonely silence, all in the service of religion. What is it all for? What is the benefit of religion.

By 'benefit' the Darwinian normally means some enhancement to the survival of the individual's genes. There are three possible alternative targets of benefit. One arises from the theory of group selection. The second follows from the theory : the individual you are watching may be working under the manipulative influence of genes in another individual, perhaps a parasite.

Plenty of examples are known of animals manipulated into behaving in such a way as to benefit the transmission of a parasite to its next host. Third, the 'central theorem' may substitute for 'genes' the more general term 'replicator'. The fact that religion is ubiquitous probably means that it has worked to the benefit of something, but it may not be us or our genes.

It may be to the benefit only the religious ideas themselves, to the extent that they behave in a somewhat gene-like way, as replicators. Though the details differ across the world, no known culture lacks some version of the time-consuming, wealth-consuming, hostility-provoking rituals, the anti-factual, counter-productive fantasies of religion.

Some educated individuals may have abandoned religion, but all were brought up in a religious culture from which they usually had to make a conscious decision to depart. Why do humans fast, kneel, genuflect, self-flagellate, nod maniacally towards a wall, crusade, or otherwise indulge in costly practices that can consume life and, in extreme cases, terminate it?

There is little evidence that religious belief protects people from stress-related diseases. The evidence is not strong, but it would not be surprising if it were true, for the same kind of reason as faith-healing might turn out to work in a few cases.

Such beneficial effects in no way boost the truth value of religion's claims. In George Bernard Shaw's words 'The fact that a believer is happier than a skeptic is no more to the point than the fact that a drunken man is happier than a sober one'.

Part of what a doctor can give a patient is consolation and reassurance. This is not to be dismissed out of hand. The placebo effect is well documented and not even very mysterious. Dummy pills, with no pharmacological activity at all, demonstrably improve health.

Is religion a placebo that prolongs life by reducing stress? Possibly. But I don't think the reason we have religion is that it reduced the stress levels of our ancestors. Religion is a large phenomenon and it needs a large theory to explain it.

If neuroscientists find a 'god centre' in the brain, Darwinian scientist will still want to understand the natural selection pressure that favoured it. Nor are Darwinians satisfied by political explanations, such as 'Religion is a tool used by the ruling class to subjugate the underclass'.

It is surely true that black slaves in America were consoled by promises of another life, which blunted their dissatisfaction with this one and thereby benefited their owners. The Darwinian still wants to know why people are vulnerable to the charms of religion and therefore open to exploitation by priests, politicians and kings.

A cynical manipulator might use sexual lust as a tool of political power, but we still need the Darwinian explanation of why it works. Group selection is the controversial idea that Darwinian selection chooses among species or other groups of individuals.

Christianity survived by a form of group selection because it fostered the idea of in-group loyalty and in-group brotherly love, and this helped religious groups to survive at the expense of less religious groups. Here's an invented example, to show what a group-selection theory of religion might look like.

A tribe with a stirringly belligerent 'god of battles' wins wars against rival tribes whose gods urge peace and harmony, or tribes with no gods at all. Warriors who unshakeably believe that a martyr's death will send them straight to paradise fight bravely, and willingly give up their lives.

So tribes with this kind of religion are more likely to survive in inter-tribal warfare, steal the conquered tribe's livestock and seize their women as concubines. Such successful tribes prolifically spawn daughter tribes that go off and propagate more daughter tribes, all worshipping the same tribal god.

The question is whether group selection amounts to a significant force in evolution. In our hypothetical tribe, imagine a single self-interested warrior who hangs back in battle to save his own skin. He is more likely to reproduce than the rest of the martyrs in the tribe. Hence tendencies towards martyrdom will decline in future generations.

Darwin's model is more like the spread of the grey squirrel in Britain at the expense of the red: ecological replacement, not true group selection. Perhaps religion doesn't have a direct survival value of its own, but is a by-product of something else that does.

We observe large numbers of people - in many areas it amounts to 100 percent - who hold beliefs that flatly contradict demonstratable scientific facts as well as rival religions followed by others. If, then, religion is a by-product of something else, what is that something else?

More than any other species, we survive by the accumulated experience of previous generations, and that experience needs to be passed on to children for their protection and well-being. There will be a selective advantage to child brains that possess the rule of thumb: believe, without question, whatever your grown-ups tell you.

Obey your parents, obey the tribal elders. This is a generally valuable rule for a child, but it can go wrong. Computers do what they are told. They slavishly obey any instructions given in their own programming language. This is how they do useful things like word processing and spreadsheet calculations.

They have no way of telling whether an instruction will have a good effect or a bad. They simply obey, as soldiers are supposed to. You have probably, by now, completed my argument about child brains and religion. Natural selection builds child brains with a tendency to believe whatever their parents and tribal elders tell them.

Such trusting obedience is valuable for survival. But the flip side of trusting obedience is slavish gullibility. The inevitable by-product is vulnerability to infection by mind viruses. For excellent reasons related to Darwinian survival, child brains need to trust parents, and elders whom parents tell them to trust.

An automatic consequence is that the truster has no way of distinguishing good advice from bad. And, very likely, when the child grows up and has children of her own, she will naturally pass the whole lot on to her own children - nonsense as well as sense - using the same infectious gravitas of manner.

On this model we should expect that different arbitrary beliefs, none of which have any factual basis, will be handed down, to be believed with the same conviction as useful pieces of traditional wisdom such as the belief that manure is good for crops.

We should also expect that superstitious and other non-factual beliefs will locally evolve. Religious leaders are well aware of the vulnerability of the child brain, and the importance of getting the indoctrination in early.

The Jesuit boast 'Give me the child for his first seven years, and I'll give you the man', is no less accurate, or sinister, for being hackneyed. The idea of psychological by-products grows naturally out of the important and developing field of evolutionary psychology.

Evolutionary psychologists suggest that the brain is a collection of organs or modules for dealing with a set of specialist data-processing needs. Religion can be seen as a by-product of the misfiring of several of these modules, for example the modules for forming theories of other minds, for formulating coalitions, and for discriminating in favour of in-group members and against strangers.

Our innate dualism prepares us to believe in a 'soul' which inhabits the body rather than being integrally part of the body. Such a disembodied spirit can easily be imagined to move on somewhere else after the death of the body.

We are biologically programmed to impute intentions to entities whose behavior matters to us. Children are especially likely to adopt the intentional stance. Children, and primitive peoples, impute intentions to the weather, to waves and currents, to falling rocks.

All of us are prone to do the same thing with machines, especially when they let us down. We hyperactively detect agents where there are none, and this makes us suspect malice or benignity where, in fact, nature is only indifferent.

Could irrational religion be a by-product of the irrationality mechanisms that were originally built into the brain by selection for falling in love? Certainly, religious faith has something of the same character as falling in love - both have many of the attributes of being high on an addictive drug.

The fact that 'homeopathic magic' is so widespread suggests that the nonsense that infects vulnerable brains is not entirely random, arbitrary nonsense. It is possible that a form of natural selection, coupled with the fundamental uniformity of human psychology, sees to it that the diverse religions share significant features in common.

Many religions, for example, teach the objectively implausible but subjectively appealing doctrine that our personalities survive our bodily death. The idea of immortality itself survives and spreads because it caters to wishful thinking. And wishful thinking counts, because human psychology has a near-universal tendency to let belief be coloured by desire.

Darwinian natural selection abhors waste, so any ubiquitous feature of a species - such as religion - must have conferred some advantage or it wouldn't have survived. Memes are units of cultural inheritance. If we are to understand memes, we have first to look a little more carefully at exactly how natural selection works.

Those varieties of replicator that happen to be good at getting copied become more numerous at the expense of alternative replicators that are bad at getting copied. That, at its most rudimentary, is natural selection.

Some religious ideas, like some genes, might survive because of absolute merit. The following is a partial list of religious memes that might plausibly have survival value in the meme pool:

You will survive your own death.

If you die a martyr, you will go to an especially wonderful part of paradise where you will enjoy seventy-two virgins, spare a thought for the unfortunate virgins.

Heretics, blasphemers and apostates should be killed.

Belief in God is a supreme virtue. If you find your belief wavering, work hard at restoring it, and beg God to help your unbelief.

Faith, belief without evidence, is a virtue. The more your beliefs defy the evidence, the more virtuous you are.

Everybody, even those who do not hold religious beliefs, must respect them with a higher level of automatic and unquestioned respect than that accorded to other kinds of belief.

There are some weird things, such as the Trinity, transubstantiation, incarnation, that we are not meant to understand. Learn to gain fulfillment in calling them mysteries.

Beautiful music, art and scriptures are themselves self-replicating tokens of religious ideas.

Even where religions have been exploited and manipulated to the benefit of powerful individuals, the strong possibility remains that the detailed form of each religion has been largely shaped by unconscious

evolution. Not by genetic natural selection, which is too slow to account for the rapid evolution and divergence of religions.

Memetic natural selection of some kind seems to offer a plausible account of the detailed evolution of particular religions. In the early stages of a religion's evolution, before it becomes organized, simple memes survive by virtue of their universal appeal to human psychology.

Religions probably are, at least in part, intelligently designed, as are schools and fashions in art. One religion that was intelligently designed, almost in its entirety, is Scientology.

The Roots of Morality: Why Are We Good?

Many religious people find it hard to imagine how, without religion, one can be good, or would even want to be good. But the doubts go further, and drive some religious people to hatred against those who don't share their faith. Is God thought to need such ferocious defense?

One might have supposed him amply capable of looking after himself. On the face of it, the Darwinian idea that evolution is driven by natural selection seems ill-suited to explain such goodness as we possess, or our feelings of morality, decency, empathy and pity.

Natural selection can easily explain hunger, fear and sexual lust, all of which straightforwardly contribute to our survival or the preservation of our genes. But what about the wrenching compassion we feel when we see an orphaned child weeping, an old widow in despair from loneliness, or an animal whimpering in pain?

What gives us the powerful urge to send an anonymous gift of money or clothes to tsunami victims on the other side of the world whom we shall never meet, and who are highly unlikely to return the favour.

Where does the good samaritan in us come from.

There are circumstances - not particularly rare - in which genes ensure their own selfish survival by influencing organisms to behave altruistically. In human society, with language and gossip, reputation is important. One individual may have a reputation for kindness and generosity. Another individual may have a reputation for unreliability, for cheating and reneging on deals.

The unadorned theory of reciprocal altruism expects animals of any species to base their behavior upon unconscious responsiveness to such traits in their fellows. In human societies we add the power of language to spread reputations, usually in the form of gossip.

Through most of our prehistory, humans lived under conditions that would have strongly favoured the evolution of all kinds of altruism. But why, now that most of us live in big cities where we are no longer surrounded by kin, are we still good to each other?

In ancestral times, we had the opportunity to be altruistic only towards those kin and potential reciprocators. Nowadays that restriction is no longer there, but the rule of thumb persists. Such rules of thumb influence us still - filtered through the civilizing influences of literature and custom, law and tradition - and of course, Religion.

If there is no God, why be good? Is the only reason we do good to gain God's approval - looking over our shoulder at the great surveillance camera in the sky? Quite a lot of religious people think religion is what motivates them to be good, especially if they belong to one of those faiths that systematically exploits personal guilt.

It requires quite a low self-regard to think that, should belief in God suddenly vanish from the world, we would all become callous and selfish hedonists. People say we need religion when what they really mean is that we need police.

Humanism, the ethical system that often goes with atheism probably increases morality. Most thoughtful people would agree that morality in the absence of policing is somehow more truly moral than the kind

of false morality that vanishes as soon as the police go on strike or the spy camera is switched off, whether the spy camera is a real one monitored in the police station or an imaginary one in the heavens. If it were true that we need God to be moral, it would of course not make God's existence more likely, merely more desirable. Fortunately, morals do not have to be absolute. Not all absolutism is derived from religion. Nevertheless, it is pretty hard to defend absolutist morals on grounds other than religious ones.

The only competitor I can think of is patriotism, especially in times of war. God and Country are an unbeatable team; they break all records for oppression and bloodshed. It is hard to get much more absolute than the "My country right or wrong" of the professional soldier, for the slogan commits you to kill whomever the politicians of some future date might choose to call enemies.

A soldier who allows his own thought of morality to persuade him not to go over the top would likely find himself court-martialled and even executed. People who claim to derive their morals from scripture do not really do so in practice.

The 'Good' Book and the Changing Moral Zeitgeist

There are two ways in which scripture might be a source of morals or rules for living. One is by direct instruction, for example through the Ten Commandments. The other is by example: God, or some other biblical character, might serve as a role model. Both scriptural routes, if followed through religiously, encourage a system of morals which any civilized modern person, whether religious or not, would find obnoxious.

To be fair, much of the Bible is not systematically evil but just plain weird, as you would expect of a chaotically cobbled-together anthology of disjointed documents, composed by hundreds of anonymous authors, spanning nine centuries.

But unfortunately it is this same weird volume that religious zealots hold up to us as the inerrant source of our morals and rules for living. Those who wish to base their morality literally on the Bible have either not read it or not understood it.

Irritated theologians will protest that we don't take the book of Genesis literally any more. But that is my whole point! We pick and choose which bits of scripture to believe, which bits to write off as symbols and allegories.

Such picking and choosing is a matter of personal decision, just as much as the atheist's decision to follow this moral precept or that. A frighteningly large number of people still do take their scriptures, including the story of Noah, literally. They include approximately 50 per cent of the electorate.

Why should a divine being, with creation and eternity on his mind, care a fig for petty human malefactions? We humans give ourselves such airs, even aggrandizing our poky little 'sins' to the level of cosmic significance!

The Reverend Pat Robertson, one of America's best-known televangelists and a former presidential candidate, was reported as blaming hurricane Katrina on a lesbian comedian who happened to live in New Orleans.

You'd think an omnipotent God would adopt a slightly more targeted approach to zapping sinners: a judicious heart attack, perhaps, rather than the wholesale destruction of an entire city just because it happened to be the domicile of one lesbian comedian.

Pat Robertson would be harmless comedy, were he less typical of those who today hold power and influence in the United States. The misogynistic ethos always comes through in organized religion. Once again, modern theologians will protest that the story of Abraham sacrificing Isaac should not be taken as literal fact.

But many, many people, even to this day, do take the whole of their scripture to be literal fact, and they have a great deal of political power over the rest of us, especially in the United States and the Islamic world.

If not as literal fact, how should we take the story? As an allegory? Then an allegory for what? Surely nothing praiseworthy. As a moral lesson? But what kind of morals could one derive from this appalling story. We pick and choose among the scriptures for the nice bits and reject the nasty.

But then we must have some independent criterion for deciding which are the moral bits.

Dawkins, Richard (2006) *The God Delusion*. Bantam Press, London.

Modern morality, wherever else it comes from, does not come from the Bible. By what criteria do you decide which passages of the Bible are symbolic, and which literal? The political power of America's Ten Commandment tablet-toters is especially regrettable in that great republic whose constitution, after all, was drawn up by men of the Enlightenment in explicitly secular terms.

Religion is an insult to human dignity. With or without it, you'd have good people doing good things and evil people doing evil things. But for good people to do evil things, it takes religion. Men never do evil so completely and cheerfully as when they do it with religious conviction.

There is no denying that, from a moral point of view, Jesus is a huge improvement over the cruel ogre of the Old Testament. Indeed, Jesus, if he existed was surely one of the great ethical innovators of history. The Sermon on the Mount is way ahead of its time. His 'turn the other cheek' anticipated Gandhi and Martin Luther King by two thousand years.

Jesus was not content to derive his ethics from the scriptures of his upbringing. He explicitly departed from them, for example when he deflated the dire warnings about breaking the sabbath. But there are other teachings in the New Testament that no good person should support.

Atonement for original sin is an example. Original sin itself comes straight from the Old Testament myth of Adam and Eve. Their sin - eating the fruit of a forbidden tree - seems mild enough to merit a mere reprimand.

It is, when you think about it, remarkable that a religion should adopt an instrument of torture and execution as its sacred symbol, often worn around the neck. If Jesus had been killed twenty years ago, Catholic school children would be wearing little electric chairs around their necks instead of crosses. If Jesus wanted to be betrayed and then murdered, in order that he could redeem us all, isn't it rather unfair of those who consider themselves redeemed to take it out on Judas and on Jews down through the ages?

Atonement, the central doctrine of Christianity, is vicious, sado-masochistic and repellent. We should dismiss it as barking mad, but for its ubiquitous familiarity which has dulled our objectivity. If God wanted to forgive our sins, why not just forgive them, without having himself tortured and executed in payment.

Of course, the story of Adam and Eve was only ever symbolic, wasn't it? Symbolic? So, in order to impress himself, Jesus had himself tortured and executed, in vicarious punishment, for a symbolic sin committed by a non-existent individual?

Jesus limited his in-group of the saved strictly to Jews, in which respect he was following the Old Testament tradition, which was all he knew. 'Thou shalt not kill' meant thou shalt not kill Jews. And all those commandments that make reference to 'thy neighbour' are equally exclusive to Jews.

Our morals, whether we are religious or not, come from another source; and that other source, whatever it is, is available to all of us, regardless of religion or lack of it. Religion is undoubtedly a divisive force, and this is one of the main accusations levelled against it.

Without religion there would be no labels by which to decide whom to oppress and whom to avenge.

Without religion, and religiously segregated education, many of the divides in the world simply would not be there.

Dawkins, Richard (2006) *The God Delusion*. Bantam Press, London.

Look carefully at any region of the world where you find intractable enmity and violence between rival groups and it is a very good bet you'll find religions as the dominant labels for in-groups and out-groups. Children are described as "catholic children" or "protestant children" from an early age, are certainly far too young to have made up their own minds on what they think about religion.

It is not an exaggeration to say that the troubles in Northern Ireland would disappear in a generation if segregated schooling were abolished.

Even if religion did no other harm in itself, its wanton and carefully nurtured divisiveness would be enough to make it a significant force for evil in the world. We do not, even the religious among us, ground our morality in holy books, no matter what we may fondly imagine.

How, then, do we decide what is right and what is wrong? Here is one set of 'New ten commandments' from today from an atheist website:

1. Do not do to others what you would not want them to do to you.
2. In all things, strive to cause no harm.
3. Treat your fellow human beings, your fellow living things, and the world in general with love, honesty, faithfulness and respect.
4. Do not overlook evil or shrink from administering justice, but always be ready to forgive wrongdoing freely admitted and honestly regretted.
5. Live life with a sense of joy and wonder.
6. Always seek to be learning something new.
7. Test all things; always check your ideas against the facts, and be ready to discard even a cherished belief if it does not conform to them.
8. Never seek to censor or cut yourself off from dissent; always respect the right of others to disagree with you.
9. Form independent opinions on the basis of your own reason and experience; do not allow yourself to be led blindly by others.
10. Question everything.

This little collection is not the work of a great sage or prophet or professional ethicist. It is just one ordinary web logger's rather endearing attempt to summarize the principles of the good life today. It is the sort of list that any ordinary, decent person today would come up with.

Not everyone would home in on exactly the same list of ten. In my own amended Ten Commandments, I would choose some of the above, but I would also try to find room for, among others:

- Enjoy your own sex life and leave others to enjoy theirs in private whatever their inclinations, which are none of your business.
- Do not discriminate or oppress on the basis of sex, race or species.
- Do not indoctrinate your children. Teach them to think for themselves, how to evaluate evidence, and how to disagree with you.
- Value the future on a timescale longer than your own.

The point is that we have almost all moved on, and in a big way, since biblical times. Slavery, which was taken for granted in the Bible and throughout most of history, was abolished in civilized countries in the nineteenth century.

All civilized nations now accept what was denied up to the 1920s, that a woman's vote, in an election or on a jury, is the equal of a man's. In today's enlightened societies, a category that manifestly does not include, for example, Saudi Arabia, women are no longer regarded as property, as they clearly were in biblical times.

Any modern legal system would have prosecuted Abraham for child abuse. And if he had actually carried through his plan to sacrifice Isaac, we would have convicted him of first-degree murder. Yet, according to the mores of his time, his conduct was entirely admirable, obeying God's commandment.

Religious or not, we have all changed massively in our attitude to what is right and what is wrong. In the early part of the twentieth century, almost everybody in Britain, and in other countries too, would be judged racist by today's standards. Most white people believed that black people were inferior to white people in almost all respects except - patronizingly - sense of rhythm.

Wildlife observation and the conservation of the environment have become accepted values with the same moral status as was once accorded to keeping the sabbath and shunning graven images. The American invasion of Iraq is widely condemned for its civilian casualties, yet these casualty figures are orders of magnitude lower than comparable numbers of the second world war.

There seems to be a steadily shifting standard of what is morally acceptable. All these shifts have happened in spite of religion, not because of it. The shift is in a recognizably consistent direction, which most of us would judge as improvement. Even Adolf Hitler, widely regarded as pushing the envelope of evil into uncharted territory, would not have stood out in the time of Caligula or of Genghis Khan.

Hitler no doubt killed more people than Genghis, but he had twentieth century technology at his disposal. Hitler seems especially evil only by the more benign standards of our time.

We are forced to realize that Hitler, appalling though he was, was not quite as far outside the Zeitgeist of his time as he seems from our vantage-point today. How swiftly the Zeitgeist changes - and it moves in parallel, on a broad front, throughout the educated world.

The Zeitgeist spreads itself from mind to mind through conversations in bars and at dinner parties, through books and book reviews, through newspapers and broadcasting, and nowadays through the Internet.

Some of us lag behind the advancing wave of the changing moral Zeitgeist and some of us are slightly ahead. But most of us in the twenty-first century are bunched together and way ahead of our counterparts in the Middle Ages, or even as recently as the 1920s.

There are local and temporary setbacks such as the United States suffering from its government in the early 2000s. But over the longer timescale, the progressive trend is unmistakable and it will continue. Martin Luther King was a Christian, he derived his philosophy of non-violent civil disobedience directly from Gandhi, who was not. Then, too, there is improved education and, in particular, the increased understanding that each of us shares a common humanity with members of other races and with the other sex.

Dawkins, Richard (2006) *The God Delusion*. Bantam Press, London.

One reason black people and women and, in Nazi Germany, Jews and gypsies have been treated badly is that they were not perceived as fully human. The Zeitgeist is not driven by religion and certainly not by scripture.

Whatever its cause, the manifest phenomenon of Zeitgeist progression is more than enough to undermine the claim that we need god in order to be good, or to decide what is good. The Zeitgeist may move, and move in a generally progressive direction, but there have been some appalling reversals.

Outstanding reversals, deep and terrible ones, are provided by the dictators of the twentieth century. Hitler and Stalin, were, by any standards, spectacularly evil men. "Hitler and Stalin were atheists. What have you got to say about that?" The question comes up after just about every public lecture that I give in the subject of religion.

The interesting question is not whether evil, or good, individual human beings were religious or were atheists. But whether atheism systematically influences people to do bad things. There is not the smallest evidence that it does.

Stalin was scathing about the Russian Orthodox Church, and about Christianity and religion in general. But there is no evidence that his atheism motivated his brutality. Hitler never formally renounced his Catholicism, and there are indications throughout his life that he remained religious.

For example, he stated in *Mein Kampf* that, when he heard the news of the declaration of the First World War, 'I sank down on my knees and thanked Heaven out of the fullness of my heart for the favour of having been permitted to live in such a time'. But that was 1914, when he was still only twenty-five. Perhaps he changed after that.

But as late as 1941 he told his adjunct, General Gerhard Engel, 'I shall remain a catholic for ever'. It could be argued that despite his own words, Hitler was not really religious but just cynically exploiting the religiosity of his audience.

He may have agreed with Napoleon, who said, 'Religion is excellent stuff for keeping common people quiet' and with Seneca the younger - 'Religion is regarded by the common people as true, by the wise as false, and by the rulers as useful'.

Even when he was railing against Christianity, Hitler never ceased using the language of Providence: a mysterious agency which, he believed, had singled him out for a divine mission to lead Germany. He sometimes called it Providence, at other times God.

Individual atheists may do evil things but they don't do evil things in the name of atheism. Religious wars really are fought in the name of religion, and they have been horribly frequent in history. By contrast, why would anyone go to war for the sake of an absence of belief?

What's Wrong With Religion? Why Be So Hostile?

Religion has actually convinced people that there's an invisible man, living in the sky, who watches everything you do, every minute of the day. and the invisible man has a special list of ten things he does not want you to do. And if you do any of these ten things, he has a special place, full of fire and smoke and burning and torture and anguish, where he will send you to live and suffer and burn and choke and scream and cry forever and ever 'til the end of time. But he loves you! - George Carlin.

Fundamentalists know that they are right because they have read the truth in a holy book and the know, in advance, that nothing will budge them from their belief. The book is true, and if the evidence seems to contradict it, it is the evidence that must be thrown out, not the book.

Books about evolution are believed not because they are holy. They are believed because they present overwhelming quantities of mutually buttressed evidence. In principle, any reader can go and check that evidence. When a science book is wrong, somebody eventually discovers the mistake and it is corrected in subsequent books. That conspicuously doesn't happen with holy books.

Philosophers, especially amateurs with a little philosophical learning, may raise a tiresome red herring at this point: a scientist's belief in evidence is itself a matter of fundamentalist faith. Maybe scientists are fundamentalist when it comes to defining in some abstract way what is meant by 'truth'. But so is everybody else.

We believe in evolution because the evidence supports it, and we would abandon it overnight if new evidence arose to disprove it. No real fundamentalist would ever say anything like that. It is all too easy to confuse fundamentalism with passion. I may appear passionate when I defend evolution against fundamentalist creationists, but this is not because of a rival fundamentalism of my own.

It is because the evidence for evolution is overwhelmingly strong and I am passionately distressed that my opponent can't see it, or more usually, refuses to look at it because it contradicts his holy book. My belief in evolution is not fundamentalism, and it is not faith, because I know what it would take to change my mind, and I would gladly do so if the necessary evidence were forthcoming.

As a scientist, I am hostile to fundamentalist religion because it actively debauches the scientific enterprise. It teaches us not to change our minds, and not to want to know exciting things that are available to be known. It subverts science and saps the intellect.

Fundamentalist religion is hell-bent on ruining the scientific education of countless thousands of innocent, well-meaning, eager young minds. Non-fundamentalist 'sensible' religion may not be doing that. But it is making the world safe for fundamentalism by teaching children, from their earliest years, that unquestioning faith is a virtue.

Absolutism is far from dead. It rules the minds of a great number of people in the world today, most dangerously in the Muslim world and in the incipient American theocracy. Such absolutism nearly always results from strong religious faith, and it constitutes a major reason for suggesting that religion can be a force for evil in the world.

Dawkins, Richard (2006) *The God Delusion*. Bantam Press, London.

One of the fiercest penalties in the Old Testament is the one exacted for blasphemy. It is still in force in certain countries. In 2006 in Afghanistan, Abdul Rahman was sentenced to death for converting to Christianity. Did he kill anyone, hurt anybody, steal anything, damage anything? No. All he did was change his mind.

Internally and privately, he changed his mind. He entertained certain thoughts which were not to the liking of the ruling party in his country. And this, remember, is not the Afghanistan of the Taliban but the 'liberated' Afghanistan of Hamid Karzai, set up by the American-led coalition.

Mr Rahman finally escaped execution, but only on a plea of insanity, and only after intense international pressure. He has now sought asylum in Italy, to avoid being murdered by zealots eager to do their Islamic duty.

I once had a televised encounter with Sir Iqbal Sacranie as Britain's leading 'moderate' Muslim. I challenged him on the death penalty as punishment for apostasy. He wriggled and squirmed, but was unable either to deny or decry it. He kept trying to change the subject, saying it was an unimportant detail.

This is a man who has been knighted by the British government for promoting good 'interfaith relations'. But let's have no complacency in Christianity. As recently as 1922 in Britain, John William Gott was sentenced to nine months' hard labour for blasphemy: he compared Jesus to a clown.

Almost unbelievably the crime for blasphemy is still on the statute book in Britain. In Afghanistan under the Taliban, the official punishment for homosexuality was execution, by the tasteful method of burial alive under a wall pushed over on top of the victim. The 'crime' itself being a private act, performed by consenting adults who were doing nobody else any harm, we again have here the classic hallmark of religious absolutism.

My own country has no right to be smug. Private homosexuality was a criminal offence in Britain up until, astonishingly - 1967. The attitude of the "American Taliban" towards homosexuality epitomizes their religious absolutism. Listen to the Reverend Jerry Falwell, founder of Liberty University: 'AIDS is not just God's punishment for homosexuals; it is God's punishment for a society that tolerates homosexuals'. The thing I notice first about such people is their wonderful Christian charity.

Gary Potter, President of Catholics for Christian Political Action, had this to say: 'When the Christian majority takes over this country, there will be no satanic churches, no more free distribution of pornography, no more talk of rights for homosexuals.

"After the Christian majority takes control, pluralism will be seen as immoral and evil and the state will not permit anybody the right to practice evil." 'Evil', as is very clear from the quotation, doesn't mean doing things that have bad consequences for people. It means private thoughts and actions that are not to the 'Christian majority's' private liking.

Attitudes to homosexuality reveal much about the sort of morality that is inspired by religious faith. An equally instructive example is abortion and the sanctity of human life. Human embryos are examples of human life. Therefore, by absolutist religious lights, abortion is simply wrong: full-fledged murder.

The obvious ground for opposing the death penalty is respect for human life. Since 1976, when the Supreme Court reversed the ban on the death penalty, Texas has been responsible for more than one-third of all executions in all fifty states of the Union.

George W. Bush presided over more executions in Texas than any other governor in the state's history, averaging one death every nine days. CNN journalist Tucker Carlson was shocked by Bush's 'humorous' imitation of a female prisoner on death row, pleading to the Governor for a stay of execution: "Please", bush whimpers, his lips pursed in mock desperation, "Don't kill me".

Perhaps this woman would have met with more sympathy if she had pointed out that she had once been an embryo.

Mother Teresa of Calcutta actually said, in her speech accepting the Nobel Peace Prize, 'The greatest destroyer of peace is abortion.' What? How can a woman with such cock-eyed judgement be taken seriously on any topic, let alone be thought seriously worthy of a Nobel Prize?

The ambition to achieve what can only be called a Christian fascist state is entirely typical of the American Taliban. It is an almost exact mirror image of the Islamic fascist state so ardently sought by many people in other parts of the world.

A consequentialist or utilitarian is likely to approach the abortion question with the question: 'Does the embryo suffer?'. Presumably not if it is aborted before it has a nervous system; and even if it is old enough to have a nervous system it surely suffers less than, say, an adult cow in a slaughterhouse.

Does the pregnant woman, or her family, suffer if she does not have an abortion?

Very possibly so; and, in any case given that the embryo lacks a nervous system, shouldn't the mother's well-developed nervous system have the choice?

For thirty-five years, IVF has been a standard procedure for bringing joy into the lives of childless couples. Religious absolutists, however, can have problems with I V F. A certain kind of religious mind cannot see the moral difference between killing a microscopic cluster of cells on the one hand, and killing a full-grown doctor on the other.

There are people who, because of their religious convictions, think abortion is murder and are prepared to kill in defence of embryos, which they choose to call 'babies'. Strong opponents of abortion are almost all deeply religious.

In illustration of the dark side of absolutism, I mentioned the Christians in America who blow up abortion clinics, and the Taliban in Afghanistan, whose list of cruelties, especially to women, I find too painful to recount. I could have expanded upon Iran under the ayatollahs, or Saudi Arabia under the Saud princes, where women cannot drive, and are in trouble if they even leave their homes without a male relative. The best way to undermine the jihadists is to trigger a rebellion of Muslim women.

Or switching to Christianity, I could have cited those American 'rapture' Christians whose powerful influence on American Middle Eastern policy is governed by their biblical belief that Israel has a God-given right to all the lands of Palestine.

Some rapture Christians go further and actually yearn for nuclear war because they interpret it as the 'Armageddon' which, according to their bizarre but disturbingly popular interpretation of the book of Revelation, will hasten the Second Coming.

Dawkins, Richard (2006) *The God Delusion*. Bantam Press, London.

The fact that nearly half of the American population apparently believes this, purely on the basis of religious dogma, should be considered a moral and intellectual emergency. Even mild and moderate religion helps to provide the climate of faith in which extremism naturally flourishes.

Only religious faith is a strong enough force to motivate such utter madness as suicide bombing in otherwise sane and decent people. Why did nineteen well-educated middle-class men trade their lives in this world for the privilege of killing thousands of our neighbours on September 11 2001? Because they believed that they would go straight to paradise for doing so.

It is rare to find the behavior of humans so fully and satisfactorily explained. Why have we been so reluctant to accept this explanation? Our Western politicians avoid mentioning the R word - religion, and instead characterize their battle as a war against 'terror' as though terror were a kind of spirit or force, with a will and a mind of its own.

Or they characterize terrorists as motivated by pure 'evil'. But they are not motivated by evil. However misguided we may think them, they are motivated, like the Christian murderers of abortion doctors, by what they perceive to be righteousness, faithfully pursuing what their religion tells them.

They are not psychotic; they are religious idealists who, by their own lights, are rational. They perceive their acts to be good, not because of some warped personal idiosyncrasy, and not because they have been possessed by Satan, but because they have been brought up, from the cradle, to have total and unquestioning faith.

The take-home message is that we should blame religion itself, not religious extremism - as though that were some kind of terrible perversion of real, decent religion. As long as we accept the principle that religious faith must be respected simply because it is religious faith, it is hard to withhold respect from the faith of suicide bombers.

The alternative is to abandon the principle of automatic respect for religious faith. The teachings of 'moderate' religion, though not extremist in themselves, are an open invitation to extremism. It might be said that there is nothing special about religious faith here. Patriotic love of country or ethnic group can also make the world safe for its own version of extremism.

But religious faith is an especially potent silencer of rational calculation, which usually seems to trump all others. This is mostly because of the easy and beguiling promise that death is not the end, and that a martyr's heaven is especially glorious.

But it is also partly because it discourages questioning, by its very nature. Christianity, just as much as Islam, teaches children that unquestioned faith is a virtue. You don't have to make the case for what you believe.

If somebody announces that it is part of his faith, the rest of society, whether of the same faith, or another, or of none, is obliged, by ingrained custom to 'respect' it without question - respect it until the day it manifests itself in a horrible massacre like the destruction of the World Trade Center, or the London or Madrid bombings.

Then there is a great chorus of disownings, as clerics and 'community leaders' line up to explain that this extremism is a perversion of the 'true' faith. But how can there be a perversion of faith, if faith, lacking objective justification, doesn't have any demonstrable standard to pervert?

Dawkins, Richard (2006) *The God Delusion*. Bantam Press, London.

Faith is an evil precisely because it requires no justification and brooks no argument. Teaching children that unquestioned faith is a virtue primes them to grow up into potentially lethal weapons for future jihads or crusades.

Immunized against fear by the promise of a martyr's paradise, the authentic faith-head deserves a high place in the history of armaments, alongside the longbow, the warhorse, the tank and the cluster bomb. If children were taught to question and think through their beliefs, instead of being taught the superior virtue of faith without question, it is a good bet that there would be no suicide bombers.

Suicide bombers do what they do because they really believe what they were taught in their religious schools: that duty to God exceeds all other priorities, and that martyrdom in his service will be rewarded in the gardens of Paradise.

And they were taught that lesson not necessarily by extremist fanatics but by decent, gentle, mainstream religious instructors, who lined them up in their madrasas, sitting in rows, rhythmically nodding their innocent little heads up and down while they learned every word of the holy book like demented parrots.

Faith can be very very dangerous and deliberately to implant it into the vulnerable mind of an innocent child is a grievous wrong.

Childhood, Abuse and the Escape From Religion

The story of the Italian inquisition and its attitude to children is particularly revealing of the religious mind, and the evils that arise specifically because it is religious. It is presumptuous for religious people to know without evidence, that the faith of their birth is the one true faith, all others being aberrations or downright false.

It is also presumptuous that a six-year-old child can properly be said to have a religion at all, whether it is Jewish or Christian or anything else. To put it another way, the idea of baptizing an unknowing, uncomprehending child can change him from one religion to another at a stroke seems absurd.

It is always a form of child abuse to label children as possessors of beliefs that they are too young to have thought about. Yet the practice persists to this day, almost entirely unquestioned. Priestly abuse of children is nowadays taken to mean sexual abuse. Others have noted that we live in a time of hysteria about pedophilia, a mob psychology that calls to mind the Salem witch-hunts of 1692.

The house of a hospital pediatrician was attacked by zealots unacquainted with the difference between a pediatrician and a pedophile. The mob hysteria over pedophiles has reached epidemic proportions and driven parents to panic.

The Roman Catholic Church has borne a heavy share of such retrospective opprobrium. Some additional public resentment flows from the hypocrisy of priests whose professional life is largely devoted to arousing guilt about 'sin'.

Then there is the abuse of trust by a figure in authority, whom the child has been trained from the cradle to revere. In the particular case of Ireland, even without the sexual abuse, the brutality of the Christian Brothers, responsible for the education of a significant portion of the male population of the country, is legendary.

And the same could be said of the often sadistically cruel nuns who ran many of Ireland's girl's schools. The Catholic Church worldwide has paid out more than a billion dollars in compensation. You might almost sympathize with them, until you remember where the money came from in the first place. 'Sticks and stones may break my bones, but words can never hurt me'. The adage is true as long as you don't really believe the words. But if your whole upbringing has led you to believe, really believe, utterly and completely, that sinners burn in hell, it is entirely plausible that words could have a more long-lasting and damaging effect than deeds.

Child abuse is no exaggeration when used to describe what teachers and priests are doing to children whom they encourage to believe in something like the punishment of unshriven mortal sins in an eternal hell. The fear of hell-fire can be very real, even among otherwise rational people.

The extreme horribleness of hell, as portrayed by priests and nuns, is inflated to compensate for its implausibility. If hell were plausible, it would only have to be moderately unpleasant in order to deter. Given that it is so unlikely to be true, it has to be advertised as a very very scary place indeed, to balance its implausibility and retain some deterrence value.

The process of leaving a religion can be extraordinarily difficult. You are leaving behind a whole social network, a whole system that you've been practically brought up in. You are leaving behind a belief-system that you have held for years.

I think there are a lot of similarities between raising a child in a religion and child sexual abuse. It is about abuse of trust; it is about denying the child the right to feel free and open and able to relate to the world in a normal way. It's a form of denigration; it's a form of denial of the true self in both cases. I thank my own parents for taking the view that children should be taught not so much what to think as how to think. If, having been fairly and properly exposed to all the scientific evidence, they grow up and decide that the Bible is literally true, that is their privilege.

The important point is that it is their privilege to decide what they shall think, and not their parents' privilege to impose it. And this is especially important when we reflect that children become the parents of the next generation, in a position to pass on whatever indoctrination may have moulded them.

As long as children are young, vulnerable and in need of protection, truly moral guardianship shows itself as an honest attempt to second-guess what they would choose for themselves if they were old enough to do so.

Female circumcision is undoubtedly hideously painful, it sabotages sexual pleasure in women and one half of the decent liberal mind wants to abolish the practice. The other half, however, 'respects' ethnic cultures and feels that we should not interfere if they want to mutilate their girls.

No adult woman who has somehow missed out on circumcision as a child volunteers for the operation later in life. Monks volunteer for the monastic life of their own free will. Religious children never volunteered to be religious; they were born into it and they had no choice.

There is something breathtakingly condescending, as well as inhumane, about the sacrificing of anyone, especially children, on the altar of 'diversity' and the virtue of preserving a variety of religious traditions. How could any decent person think it right to label four-year-old children with the cosmic and theological opinions of their parents?

In Britain where we lack a constitutional separation between church and state, atheist parents usually go with the flow and let schools teach their children whatever religion prevails in the culture. I think we should all wince when we hear a small child being labelled as belonging to some particular religion or other.

Small children are too young to decide their views on the origins of the cosmos, of life and of morals. The very sound of the phrase "Christian child" or "Muslim child" should grate like fingernails on a blackboard.

Our society, including the non-religious sector, has accepted the preposterous idea that it is normal and right to indoctrinate tiny children in the religion of their parents. To slap religious labels on them.

Please, please raise your consciousness about this, and raise the roof whenever you hear it happening. A child is not a Christian child, not a Muslim child, but a child of Christian parents or a child of Muslim parents. A child who is told she is a child "of Muslim parents" will immediately realize that religion is something for her to choose, or reject, when she becomes old enough to do so.

Let children learn about different faiths, let them notice their incompatibility, and let them draw their own conclusions about the consequences of that incompatibility. As for whether any are 'valid', let them make up their own minds when they are old enough to do so.

A Much Needed Gap?

Does religion fill a much needed gap? It is often said that there is a God-shaped gap in the brain which needs to be filled: we have a psychological need for God and the need has to be satisfied whether God really exists or not.

Religion has at one time or another been thought to fill four main roles in human life: explanation, exhortation, consolation and inspiration. Historically, religion aspired to explain our own existence and the nature of the universe in which we find ourselves.

In this role it is now completely superseded by science. Is the imaginary-friend phenomenon a higher illusion, in a different category from ordinary childhood make-believe? Companion and confidant is surely one role that god plays - one gap that might be left if god were to go.

Paedomorphosis is the retention into adulthood of childhood characteristics. It is a well-known pattern in evolution. Many people perceive their own thought processes as a kind of dialogue between the self and another internal protagonist in the head. Nowadays we understand that both 'voices' are our own - or if we don't we are treated as mentally ill.

It is time to face up to the important role that God plays in consoling us; and the humanitarian challenge, if he does not exist, to put something in his place. Many people concede that God probably doesn't exist, and that he is not necessary for morality.

Religion's power to console doesn't make it true. Even if we make a huge concession; even if it were conclusively demonstrated that belief in God's existence is completely essential to human psychological and emotional well-being.

There is a distinction between belief in God and belief in belief: the belief that it is desirable to believe, even if the belief itself is false. The faithful are encouraged to profess belief, whether they are convinced by it or not. Maybe if you repeat something often enough, you will succeed in convincing yourself of its truth.

We all know people who enjoy the idea of religious faith, and resent attacks on it, while reluctantly admitting that they don't have it themselves. There may be statistical evidence bearing on the relationship between happiness and belief or unbelief, but I doubt if it is a strong effect, one way or the other.

It is an understatement to say that one can lead a happy and fulfilled life without supernatural religion. People caught up in a terrible disaster, such as an earthquake, frequently report that they derive consolation from the reflection that it is all part of God's inscrutable plan.

If someone fears death, sincere belief that he has an immortal soul can be consoling - unless, of course, he thinks he is going to hell or purgatory. False beliefs can be every bit as consoling as true ones, right up until the moment of disillusionment. A believer in life after death can never be ultimately disillusioned.

Polls suggest that approximately 95 percent of the population of the United States believe that they will survive their own death. I can't help wondering how many people who claim such belief really, in their heart of hearts, hold it.

Dawkins, Richard (2006) *The God Delusion*. Bantam Press, London.

Our species is the only one not allowed to go to the vet to be painlessly put out of our misery. Why does the most vocal opposition to euthanasia and assisted suicide come from the religious? Wouldn't you expect that religious people would be the least likely to cling unbecomingly to earthly life?

If you meet someone who is passionately opposed to mercy killing, or passionately against assisted suicide, you can bet a good sum that they will turn out to be religious. The official reason may be that all killing is a sin. But why deem it to be a sin if you sincerely believe you are accelerating a journey to heaven?

If your pet is dying in pain, you will be condemned for cruelty if you do not summon the vet to give him a general anesthetic from which he will not come round. But if your doctor performs exactly the same merciful service for you when you are dying in pain, he runs the risk of being prosecuted for murder. For the religious, dying is just a transition from one life to another. If the transition is painful, you should no more wish to undergo it without anaesthetic than you would wish to have your appendix removed without anaesthetic.

It is those of us who see death as terminal rather than transitional who might naively be expected to resist euthanasia or assisted suicide. Yet we are the ones who support it. Purgatory is a sort of divine waiting room where dead souls go if their sins aren't bad enough to send them to hell, but they still need a bit of remedial checking out and purifying before they can be admitted to the sin-free-zone of heaven. In medieval times, the Church used to sell 'indulgences' for money. This amounted to paying for some number of days' remission from purgatory, and the Church literally issued signed certificates specifying the number of days off that had been purchased.

The Roman Catholic Church is an institution for whose gains the phrase 'ill-gotten' might have been specially invented. And of all its money-making rip-offs, the selling of indulgences must surely rank among the greatest con tricks in history.

But what really fascinates me about the doctrine of purgatory is the evidence that theologians have advanced for it: evidence so spectacularly weak that it renders even more comical the airy confidence with which it is asserted.

The evidence is this: if the dead simply went to heaven or hell on the basis of their sins while on Earth, there would be no point in praying for them. And we do pray for the dead, don't we? Therefore purgatory must exist, otherwise our prayers would be pointless!

This seriously is an example of what passes for reasoning in the theological mind.

Many atheists have said that the knowledge that we have only one life should make it all the more precious. The atheist view is life-affirming and life-enhancing, while at the same time never being tainted with self-delusion or wishful thinking, or whingeing self-pity of those who feel that life owes them something.

If the demise of God will leave a gap, different people will fill it in different ways. My way includes a good dose of science, the honest and systematic endeavour to find out the truth about the real world. I see the human effort to understand the universe as a model-building enterprise.

Each of us builds, inside our head, a model of the world in which we find ourselves. The minimal model of the world is the model our ancestors needed in order to survive in it.

Dawkins, Richard (2006) *The God Delusion*. Bantam Press, London.

One of the unhappiest spectacles to be seen on our streets today is the image of a woman swathed in shapeless black from head to toe., peering out at the world through a tiny slit. The burka is not just an instrument of oppression of women and claustal repression of their liberty and their beauty; not just a token of egregious male cruelty. I want to use the narrow slit in the veil as a symbol of something else.