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Quotes: If I quote someone, it does not necessarily mean that I agree with what they have said. Quotes and notes have been added to provoke thought.
Preface

Fear. Hatred. Suffering. War. Destruction. Death... Religions cause these things. Yet religions are false. This situation is utterly unacceptable. We must come to understand the nature of religious beliefs, their relationships and alternatives in order to bring about an end to this madness, rampant within our species.

A Note on Terminology

There are three terms that we should discuss before beginning our investigation: religion, agnosticism and atheism. Each represents a different position regarding the existence of a god or gods – and for the purposes of this text spirits, ghosts, living ancestors or any similar set of supernatural beings or forces. Religious people generally believe in one or more of these, or some other selection of supernatural ideas, thinking that basing their actions upon these beliefs and an associated doctrine is appropriate and usually that it can be rewarding. The religious peoples of the world include Christians, Muslims, Hindus, some Buddhists, Taoists and very many smaller groups, though these smaller religions frequently have millions of adherents. While it may seem crude to sort such profoundly divergent beliefs into the single category of ‘religions’, it seems practical to do so here, as I will be discussing and arguing against all of them.

Atheism and agnosticism sit closely together in terms of how they influence other thoughts, as they are both forms of non-belief in gods – which I shall extend to the supernatural etc for convenience – and consequently both atheism and agnosticism lead to similar levels of intellectual freedom from religious dogma. I shall define agnosticism as the position that it is impossible to know anything about gods or supernatural objects including whether or not they exist. Agnosticism is similar to simply not knowing, a position of professed ignorance that is respectable for its

Atheism, Agnosticism and Religion: Throughout this text, my intention is that the meanings of these words should be extended further than strict convention might allow. Particularly where ‘Atheism’ is concerned I will be arguing against all religions and not just the existence of gods. In any case, our thoughts should not be restricted by mere semantics.
honesty at least. An agnostic does not claim to prove or disprove religious belief. They cannot test the existence of gods, nor gain any empirical data relating to them directly, so they believe that a decision cannot reasonably be made as to whether or not there are any. Compared to both religion and atheism, agnosticism is a very strong position to argue from, as it doesn’t make any claims about the supernatural that can’t be tested. While the agnostic is able to think and act as they please, independently of religion, I will be arguing that it is both justifiable and desirable to make the bolder claim of atheism.

Many have noted that atheism is somewhat akin to religion as it makes the untestable claim that there are no gods, whilst religions make the untestable claim that there are gods or at least supernatural forces. However there are many atheists that continue to make their untestable claim; presumably in light of what they view to be evidence sufficient to support it completely. Again, as I intend that this book should counter all forms of belief in the supernatural, whether or not they involve the belief in gods, a more appropriate title might have been ‘Secular Naturalism’ or some such. However at the time of writing, the majority of the world’s population seems to at least ostensibly worship at least one god, so along with this preface the title *Atheism* offers a more functional reflection of my opposition to religious belief.

**Why Atheism?**

For as long as I can remember and in spite of a vaguely religious upbringing, I have been convinced that atheism is the only truly accurate position a person can hold regarding gods and religion. My mother recounts a tale of my informing my Christian Sunday School teacher that I didn’t believe in a god when I was five years old. Yet since then I have encountered many other religions and have often been impressed by their adherents’ works and philosophy or architecture and art; the diversity of mankind can be both a strength and source of great beauty. Far more frequently than

You may interpret what I say in any way you wish, however doing so will make neither one of us right or wrong.
not, religion has seemed to be no more than a harmless delusion. What reason is there now that I should go to the trouble of trying to convince others that atheism is the only genuinely accurate position and furthermore that they should adopt it?

Of the three viewpoints given above, atheism, agnosticism or one of the many religions or sects that exist or could exist in the world, almost every last one is exclusive of the others and only one position can actually be correct, as there is only one reality to interpret. It must be the case that only one position is true, particularly as each makes the claim that the others are either entirely false or that they are only a part of the truth. The largest group of religions, the Judeo-Christian faiths, made up of Jews, Christians and Muslims, is completely riddled with such stark divisions. When we consider that each religion or sect also contains a different set of instructions as to how a person must live their life in order to receive the benefits of their religion, there appears a massive potential for conflict in human interaction. This is of course more than just a potential, but indeed a reality; mankind has waged war upon itself in the name of religion well into prehistoric times.

Conflicts stemming from religious differences are not only military but also occur in many other situations, such as in governmental elections. If you are living in a country where the government or people make decisions based upon a religion that you may or may not be part of, it may be decidedly inconvenient for you; whether this means that you may not dress as you please, must bear the child of a rapist or are simply buried in a mass grave along with the rest of the heathens. Religion has for millennia proven to be a catalyst for conflict; its removal from our minds would not eradicate conflict entirely of course, but it is difficult to deny that the end of religious belief would be a productive step in the significant reduction of conflicts between people. While it’s not as great a problem as procreation, nationalism or biological disease, religion is certainly one of the greatest avoidable causes of pain, death and suffering in human history.

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Any religion that removes the fear of death can logically lead its followers to value religion more than life.
Only one view can be right, and having multiple views causes unimaginable pain and suffering for mankind; either there are supernatural forces or there are not. It makes sense, if possible, to determine which of these positions is correct and for all people to base their subsequent thoughts and actions upon that position. This book shall thus contain an explanation of my reasons for being an atheist; however I would not want to force my views upon others even if I were able to do so, as totalitarian mentalities of this kind are themselves a cause of much horrific behaviour between humans. Somewhat ironically, I find myself in a similar position to many religious visionaries of the past, seeking to bring peace to mankind through unity of belief.

As a final note to the reader then, now that you are aware that my intention in writing this text is to assist in ending religious belief for the benefit of all humans, please also note that it is not my intention to offend - even if our ideas conflict, know that I’m trying to help *us*, so please try to think with me. Furthermore I would ask that you try to distance yourself from bias and emotion as far as you are able, if possible reading the entire book before you pass judgment upon its value. In examining each topic, it may be productive to imagine that you don’t know whether religious ideas are true or not, suspending your beliefs or disbeliefs in order to treat each topic area objectively. Likewise, I shall endeavour to be as honest as I am able, although you would do well to be aware of my aims and biases, as even I may not be entirely.

**Critical Thinking**

If we aim to pursue truth, an attitude of critical or evaluative thought should be applied as regularly as is practical to every text or piece of information we receive or possess, including of course this book. This attitude entails maintaining an awareness of the potential inaccuracies of all the ideas that we hold, along with all

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One of the greatest problems with and for religious mindsets is that they often discourage genuine critical thought.
the information that we encounter. I shall discuss thought in greater depth later on; for now some examples of the sorts of questions we might ask to help address any given piece of information are as follows:

😊 Why are you telling me this?
😊 Is this the whole story or are other facts and factors involved?
😊 Is your claim evidence based or is it just hearsay?
😊 Are there other possible explanations? Read, research or explore as many alternative perspectives as possible so that you can compare them.
😊 What other beliefs might have led you or me to this conclusion?
😊 Has this information been changed since it was first written?
😊 If all the people on earth have believed this for three thousand years or more, is it necessarily correct?
😊 If I’ve believed this all my life, is it necessarily true?
😊 If it feels right or wrong to me is it necessarily right or wrong?
😊 Non-sequiturs: Is this conclusion quite connected or am I being misdirected?
😊 Do I have enough information to make a decision?
😊 Perhaps this idea is actually true; let me entertain it for now.

*"When we meet a man, we do not view him as a human being, but we put a label on him, such as English, French, German, American or Jew, and regard him with all the prejudices associated with that label in our mind. Yet he may be completely free from those attributes which we have put on him." Walpola Rahula.*
Argument Outline

- Religion causes massive suffering and death.*
- Religion also causes desirable things, however these are either illusory and thus worthless in reality, or retain their worth independently of religion.
- Therefore in reality, religion produces a net loss for humanity.
- Any beliefs in the supernatural, including religious beliefs are false.
- Religious belief is thus incorrect and undesirable.

*Non-religious forces, such as nationalistic and totalitarian ideologies often combine with religion and also cause suffering and death. These forces should likewise be subjected to critical examination and perhaps be undone or modified, but they are separate topics. This text focuses upon religion and its nature, however many of the ideas conveyed here have a range of potential applications.

These issues shall all be addressed in the coming pages, although they have been rearranged into four parts, for your reading pleasure.

1. Part one on Conflict, discusses the problems caused by religion, forming our motivation.
2. Part two, investigates The Mind, in order to provide a context for our understanding of religious belief.
3. Part three, titled Reality, aims to develop our understanding of the realities of religion, thus concluding my discussion of atheism.

Can you remember your caregiver saying something like ‘If you can’t play nicely, then you won’t play at all,’ before taking your toys away? I can’t either, but it certainly rings a bell. It is well past time for mankind to stop playing its religious games.
4. Part four, *The Void*, discusses a few of the important features of secular life, including what we may make of it, how we might interact with others and a brief mention of the secular value of religions.
1. Conflict

"I verily believe that the great good which has been effected in the world by Christianity has been largely counteracted by the pestilent doctrine on which all the churches have insisted, that honest disbelief in their more or less astonishing creeds is a moral offense, indeed a sin of thedeepest dye, deserving and involving the same future retribution as murder and robbery. If we could only see, in one view, the torrents of hypocrisy and cruelty, the lies, the slaughter, the violations of every obligation of humanity, which have flowed from this source along the course of the history of Christian nations, our worst imaginations of hell would pale beside the vision." Thomas Huxley.
Religion and Violent Conflict

The fact that religions cause ‘problems’ is not in and of itself a sufficient reason for me to argue against them. People, cars and knives cause problems and I have no wish to argue for their eradication at any level, quite the opposite in fact; people, cars and knives are either ends in themselves or have real intrinsic value. As in my view, religions are based upon purely fictional, imaginary ideas, they should be treated as such; any genuine value that these imaginary ideas do possess can be extracted from them and treated with the same sort of criticism as any other idea. You may take in inspiration from religion that which is of value and beauty, much as one might take inspiration from art or poetry; however religious belief itself must be voluntarily dismissed from the minds of mankind, for our collective benefit.

Of course if a particular religious belief were provably correct, it would not be reasonable for me to argue against the belief itself, regardless of the problems that it caused. Yet as we shall see, I find all religions to be incorrect and in fact that it is largely the unreasonable nature of religious belief that allows religion to cause such a great many problems for so much of the human race. Accordingly, it is both reasonable to argue against the practicing of religions on the basis that they are invalid, and desirable for me to argue against them, based on my subjective view of what is desirable, that is in this case to put an end to the conflict that religion continually brings to the world.

In this chapter then, I shall explore some of the ways in which it is desirable for humanity that all people should choose to extinguish their religious beliefs. What remains of religion can be maintained as a cultural wealth of art, philosophy and myth; but given the evidence against religious beliefs, to treat them as realities is inappropriate, irresponsible and dangerous. I shall explore some of the evidence for the invalidity of religious beliefs themselves in the later chapters of this book. For now

Religion is no more justified by its historical role in producing progress than war is.
we shall be focusing upon examples of religious conflict, in the context of which it is important to note that I am making the claim that religiousness frequently causes and contributes to conflict, not that it is necessarily the sole cause in every case.

**Religion’s Violent History**

Historically, there is colossal evidence to support the claim that religion has been a cause of conflict. Possibly the most famous example of a definitively religious conflict is the crusades of Christian Europe against the Judeo-Christian Holy Land, which started a little under a thousand years ago. Essentially, Jerusalem was held by Muslims at the time of the first Crusade in 1096 CE, with Christian pilgrims having been prevented from traveling to Jerusalem and Islamic forces having defeated Christians in Eastern Europe.\(^1\)\(^2\) The Christian Pope Urban II sent many thousands of Christians on a holy war through Europe to capture Jerusalem. On the way they slaughtered tens of thousands of Jews, Muslims and ironically also Christians including women and children. At the time, the Catholic Church instructed its followers that any believer killed during the crusade would automatically go directly to their heaven – to them, the only eternal paradise.

 Estimates of the numbers of people who were killed over the course of the next two centuries of crusading horror range into the millions. This is a simple example of how religion can cause conflict. No doubt there were other factors involved, perhaps such as the pope wishing to reduce violence amongst Christians in Europe at the same time as furthering the Christian empire. One can easily see that many crusaders were probably out to further their own ends by claiming land through force, while justifying this action via religion. It is however quite clear that religious difference, desires to attain the religious goals of reaching heaven and controlling the ‘holy city’ of Jerusalem contributed to these conflicts. The fact that they took place several centuries ago does not change the fact that the crusades stand as an

\(^{1,2}\) I would put it to you that even one death resulting from a false belief could be seen as sufficient justification to bring an end to the belief. The horror of the situation is that religions cause death continually and on a massive scale; the solution however, is the same; these deadly illusions must end.
example of the massive problems that can be caused by religion; the perpetrators were no less human than we are and were very much religiously driven.

While writing of the crusades, I tread on fairly safe ground. I somewhat foolishly like to believe that by now, most people think that the actions of the Christians who participated in the crusades were not desirable, although certainly not everyone thinks this way, even today. Whether or not there were raids on Christian pilgrims before the crusades, the wholesale slaughter of the Jews in Europe, the people of Jerusalem and of the intervening countries was part of a religious ‘solution’ to religious problems. As I hope you are aware, there are still many people who think that the annihilation of people of religions other than their own is desirable. So the mentality of the Crusaders is still prevalent in many religious extremists around the world.

If you find yourself being attacked here, or in one of the following examples, try to look at your situation objectively or from the perspective of an outsider; I am not attacking you, I am attacking the problems that are caused by religion, perhaps you can see some of these problems too. A further caution; history is often clouded by propaganda, misinformation, governmental cover-ups and so on; as such some of the details of these conflicts may not be entirely accurate. The contribution of religion in these conflicts is what we are most concerned with here however, so historical nit picking is less of an issue than it might be otherwise.

On September the 11th 2001, four passenger aircraft were hijacked by nineteen Islamic people in the USA. Two of the jets were flown into the World Trade Centre in New York city and another into the Pentagon in Washington DC. The fourth craft was reported to have crashed into a field when civilians on board tried to recapture it from its hijackers after hearing of the other hijackings. In spite of the mess of misinformation and censorship that might surround these events and whether you think that the acts involved constituted terrorism, war or religious art;

"Men never do evil so completely and cheerfully as when they do it from religious conviction.” Blaise Pascal.
almost three thousand people died that morning. If the people who hijacked the aircraft had not thought that they would go directly to a ‘heaven’ filled with beautiful eyed women and rivers of honey\textsuperscript{v} \textsuperscript{viv} \textsuperscript{viviv} \textsuperscript{viviviv}[\textit{The Koran} 2.191, 44.54, 47.15, 52.20] as a result of their actions, they might not have been so inclined to cause so much death, including the ending of their own lives.

Near the top of the list for most hated personalities of the twentieth century we encounter Herr Adolf Hitler, dictator of one of the more developed countries in the world. During the Second World War he managed to bring about the destruction of perhaps six million – primarily Jewish but also homosexual, gypsy or ‘differently able’ – people within Nazi controlled Europe through gassing with pesticides, mass shootings, poisoning with exhaust fumes, starvation and so on.

It should be noted that both before and after the Nazi holocaust, communist governments with probably atheistic leaders such as Joseph Stalin and Mao Tse Tung, managed separate genocides on even larger scales.\textsuperscript{v,viv} It was the totalitarian regimes of these communists, rather than their atheism that caused the genocides. As atheism has no attached doctrine of intolerance, alone it cannot be used to justify genocide, while a number religions do contain such intolerance and are used to justify killing of various kinds. I do not wish to discuss political ideologies here, but particularly in their more absolute forms, these ideologies often bear significant similarities with fundamentalist religion; absolute belief in a complex yet narrow minded doctrine giving inappropriate weight to its ideas. The existence of non religious, in these cases political genocides does not, however vindicate religion from its contribution to other genocides. Religion alone did not cause the holocaust, but it was an decisive factor in fuelling and justifying the hatred that made Jewish people the prime targets. I might add that it was not Hitler’s love for Wagner’s music or his decision to further develop German transport infrastructure that made him such a

\textsuperscript{viv} Religion: Keeping human sacrifice alive and well in the 21st century.
dangerous person, it was some of his other beliefs, including though not limited to the religious ones.

In Hitler’s book *Mein Kampf* he wrote “Hence today I believe that I am acting in accordance with the will of the Almighty Creator: by defending myself against the Jew, I am fighting for the work of the Lord.” Like many successful politicians, Adolf Hitler was not above lying to further his own goals; he was quite the champion of propaganda in fact. As such it would be foolish for us to adopt complete certainty, simply from his own words, that he was actually religious as there is a chance that it may have been merely convenient for him to appear to be so. It should be noted however that Christians of one sort or another have been murdering Jews for many centuries; ‘antisemitism’ being very much a recurring theme in Christian Europe, even in the most celebrated Shakespearian literature. We could look to the Christian *Bible* in Mathew 27:25 for a historically popular theological justification for Jewish persecution. In support of the execution of ‘Jesus’, who was the instigator apparent of the Jewish sect that gave rise to Christianity, “All the [presumed to be Jewish] people answered, ‘Let his blood be on us and on our children!’”

I cannot stress enough that just because Hitler did not fit your personal idea of a Christian or identity as a religious person, even if, as is no doubt the case for most Christians, you find his particular brand of religiosity thoroughly abhorrent, it does not preclude him from having had a view of himself as being a Christian. Nor does it prevent him or any of those who followed him from having believed in the validity of the religious justifications for the Holocaust. In any case the ‘phenomenon’ of European Antisemitism seems to have been historically rooted and nurtured largely in Christianity, so Christianity has at least played a significant part as one of the root causes of this particular set of atrocities. Even if only a minority of Germans

*The ‘god’ depicted in the Christian bible is a murderous, irrational, misogynistic, tyrannical despot who is unworthy of worship.* Steve Corbett.
were swayed by religion rather than just fear or ‘eugenic’ ideals there is a problem for untestable religion here; but we should look at some further examples.

The conflict in Northern Ireland is an interesting case, as it demonstrates that while religion may not necessarily be the primary cause of a given conflict it can still play a role in perpetuating conflict. The origins of the troubles in Northern Ireland do not stem from religious difference so much as from English imperialism, as some of the earliest Norman invasions of Ireland date back to the 12th century CE.\textsuperscript{xiv} centuries before the split of the Church of England from the Catholic Church. A particularly significant event in the history of this troubled area was the forceful expulsion of many native Irish people from their lands around four centuries ago in 1610, land being given to people loyal to the crown, who were later to become Protestants due largely to the same loyalty. In the following centuries, Irish Catholics were specifically victimised, being prevented from holding positions of public office, running schools, purchasing land or voting.\textsuperscript{xv}

Religion has been utilised in Northern Ireland as a convenient tool of segregation and oppression by the ruling powers of England, the impacts of this tyranny remaining evident in recent years in that the two sides of the conflict have frequently been defined in terms of their respective religious sects, with Irish Catholics pitted against English Protestants. The question that I would ask is what roles have doctrinal differences played in perpetuating this time worn and bloody conflict. We have no experimentally controlled Northern Ireland that is free of religion, so we can only speculate that perhaps suffering might have been lessened if the barrier of religious difference had been removed. If the people involved had been more able to see eye to eye on fundamental issues like religion, then perhaps they would have been less vulnerable to manipulation or long term prejudice. People might have been inclined to work more cooperatively if they had not feared the

\begin{footnotesize}
\begin{itemize}
\item If Rob kills another person because of their race, George because of his greed, Sam because of his patriotism, John kills for freedom, Karl for equality and Paul kills because of his religion, is it worth addressing religion as a problem or should we just not bother because people will probably continue to kill anyway? In my view, all of these issues are worth addressing; rationalisations to the contrary can be dangerously dismissive.
\end{itemize}
\end{footnotesize}
possibility that laws based on a slightly yet crucially different religion would be forced upon them.

Let us roll back time once again and spin the globe to the south and east so that we can examine some of the conflicts between Muslims and Hindus. These began with Muslim raids into and attacks against Hindu territory in the seventh century of the Common Era, shortly after Mohammed founded Islam. Inter religious relations were set off to a horrendous start by the Islamic method of dealing with ‘unbelievers’. In some cases, male captives were offered the opportunity to convert or be put to the sword, while women and children were enslaved and forcefully converted. Hindu temples were also demolished and replaced with Mosques.\textsuperscript{xvi} These conflicts continued with the increasingly successful Muslim campaigns of the ensuing centuries. Over the next thousand years or so, Muslims gradually gained control over most of India, held and finally lost it again. Muslim people now make up a significant portion of the population of the Indian subcontinent.

Most recently, religious conflict has resurfaced as the peoples of what was British occupied India gained independence and were partitioned into a theoretically secular, mainly Hindu India and Muslim Pakistan. The need for the partition was defined in religious terms, the founders of Pakistan having deemed it necessary to base their country on Islamic ideals. The violence immediately following the partition caused hundreds of thousands of deaths.\textsuperscript{xvii} Since then there have been two wars, numerous riots and in more recent decades a nuclear arms race has begun.

\textbf{Religious Violence is Commonplace}

I have already given an outline of the details of a handful of conflicts with religious dimensions, yet I also wish to give an indication of the magnitude of the problem that violent religious conflict presents to our species. Thus below, I have presented a far from exhaustive selection of some other conflicts with significant religious dimensions

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\textsuperscript{Two people can follow different religions, each having the very best of intentions, but still kill each other as a result, along with many other people.}
that have occurred or recurred since the Second World War.\textsuperscript{xvii,xix} I wish also to
demonstrate that religious conflict is not merely a thing of the past but is very much a
modern problem, which occurs with extreme frequency and regularity.

Simultaneously we should be aware that none of these conflicts is a simple
affair, religion and religious difference tend to be significant contributing factors to or
in many cases the primary causes of these conflicts, however religion is usually not
the sole cause of a conflict. Also the listed dates tend to give only a vague indication
of some of the more recent events; some of these conflicts are truly ancient and I
would encourage further reading if you wish to better understand the issues involved.

Palestine 1948 to 2007 Jews & Muslims.\textsuperscript{xx}
Cyprus 1964 to 1974 Muslims & Orthodox Christians.\textsuperscript{xxi}
Sudan 1964 to 2004 Animists & Muslims.\textsuperscript{xxii}
Philippines 1969 to 2001 Christians & Muslims.\textsuperscript{xxiii}
Bangladesh 1973 Buddhists, Muslims & others.\textsuperscript{xxiv}
East Timor 1974 to 1999 Christians & Muslims.\textsuperscript{xxv}
Afghanistan 1978 to 1992 Muslims & Soviet Russia.\textsuperscript{xxvi}
Sri Lanka 1983 to 2006 Buddhists & Hindus.\textsuperscript{xxvii}
Azerbaijan 1987 to 1993 Christians & Muslims.\textsuperscript{xxviii}
Bosnia 1991 Muslims, Catholic & Orthodox Christians.\textsuperscript{xxix}
Croatia 1991 Catholic & Orthodox Christians.\textsuperscript{xxx}
Iraq 1991 Kurds, Communists, Sunni & Shiite Muslims.\textsuperscript{xxxi}
South Africa 1992 to 1998 Witch hunting, a recurring problem.\textsuperscript{xxii,xxiii}
Algeria 1992 to 1999 Islamic Fundamentalists & Government.\textsuperscript{xxiv}
Chechnya 1994 to 2006 Muslims & Russia.\textsuperscript{xxv}
Kosovo 1996 to 1999 Muslims, Orthodox Christians & others.\textsuperscript{xxvi}
Uganda 1997 Christian Rebels.\textsuperscript{xxvii}

*"A curse on him who is lax in doing the Lord's work! A curse on him who keeps his sword from bloodshed!" The Bible (Jeremiah 48:10).*
Religion Causes Violence

In many cases, religious people are manipulated in order to support a secular agenda; political agendas quickly spring to mind. If we discover that the religions being used to manipulate people are in fact pointless fantasies, then their immediate undoing becomes entirely desirable. If it is difficult for you to imagine the potential falsehood of your own religion, perhaps consider the same situation for a religion that you are already atheistic about, such as the polytheisms of the ancient Greeks or Romans or perhaps a modern religion to which you do not subscribe. It seems utterly farcical to imagine people killing each other over the gods of mount Olympus nowadays, however in terms of their rationality, certainly some and I would argue all religious conflict must be equally farcical; all of these religious ideas cannot be true simultaneously. Changes in perspective such as these make it easier to wonder why anyone should follow their religious beliefs into combat, to go to war over differences in imagination.

On top of this problem of undeniably illusory difference, in many cases of religious violence, the motives of the perpetrators are quite specifically part of the religions themselves; there simply isn’t always room for debate. If a man blows himself up on a bus in order to rid the holy land of infidels and speed his trip to heaven, there can be no doubt that it was religion itself that determined his decision to act in this way rather than just a fundamental difference in opinion, based on an illusion.

Violence is a sign of immaturity in individuals and nations alike.
If we define a conflict as stemming from ethnicity, as is often the case when a minority group feels the need to fight for independence from a majority government, we will frequently find that religion forms the key feature of this ethnic division. In such cases, if no religions were involved on either side of the division, a fundamental difference in how each group might wish to determine their way of life, including how they dress, eat, behave and love, would be removed and paths to rational discourse could better be made. The removal of these uniquely fundamental cultural differences that we call religions would be productive in bringing all parties involved onto more level ground to discuss what behaviours should be considered permissible. Of course at this stage the same could be said for converting the entire population of the world to one religion or another, presuming that this could be done peacefully, in which case atheism would be just one more competing worldview. Once again however, I must remind you that only one contender can be right, there either are supernatural entities or there are not. Let us pursue the truth of the matter and act according to our discoveries.

Before I go on, perhaps we have struck upon something important here. Even if you do not view yourself as a religious fundamentalist, if you still consider yourself to be religious at all, you will retain a number of beliefs that stem from your religiousness. These religiously determined beliefs, your personal religious dogma, will not be so easily subject to negotiation while your religiousness remains, as it underpins them. As such, unless we can bring religious beliefs themselves to the discussion table to be debated, the war torn gulf of human difference that is created by religious variations will continue to be drawn out into the future. Of course, this gulf does not always result in physical violence; conflict amongst human ideas is a part of even the healthiest, most peaceful society that I can envisage. Ideally however, this must be an open-minded conflict of ideas where participants are
genuinely willing to consider every idea equally, upon its own merit along with the perceived merit of its apparent justification.

**Religious Conflicts of Interests**

In a course I did a few years ago, which examined amongst other things how individuals ‘construct’ their personal identity, I was somewhat surprised that religion was not included as one of the areas of discussion. This discrepancy seemed particularly obvious to me, as my atheistic views, which would have been topically coupled with their religious antitheses, somehow embody a significant portion of my self-definition, perhaps as my views seem to separate me from the majority of people in the world as well as reflecting how I think. While I appreciate that faith is not necessarily governed by logic, it seems logical to me that religious people should define themselves in significant part upon the basis of their worldview. When we get down to it however, the reality appears to be one of tremendous variation. Religious fundamentalists are generally defined as those who follow their doctrines to the letter. For the religious moderate on the other hand, it may seem appropriate to dispense with some components of religion while retaining others, thus reconstructing a personalised version of religion, which is generally accompanied by a quantity of rationalisation sufficient to justify the modifications that have been made.

I have always thought that if I were to genuinely hold a religious belief, it would make sense to base my actions upon it entirely, rather than toying with temporally trivial temptations. It might be argued that the more intellectually honest religious position is that of religious fundamentalism. To observe an idea of Sam Harris,*viii,xliiv “While fundamentalists justify their religious beliefs with extraordinarily poor evidence and arguments, at least they make an attempt at rational justification.”

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*All tremble at weapons; all fear death. Comparing others with oneself, one should not slay, nor cause to slay.” Siddhattha Gotama, *The Dhammapada.*
Religious moderation is the erosion of religion.
If you believe that the words of a divine book are in fact divine, surely they should be treated as such, rather than as metaphors or poetry subject to any individual’s interpretation. Accordingly one should live first and foremost by the dogma of the religion that one hath chosen, so for example killing people is acceptable or even obligatory, provided they’re the ones that your god’s book or books tell you to kill. In defense of the many intelligent religious moderates that I’ve encountered however, perhaps it is honest of them to at least concede some points to agnosticism.

One potentially intriguing religious ‘dilemma’ that I’ve encountered was when the son of a Christian friend of mine turned out to be gay. Now there are explicit references in the *Bible* to indicate that the son should be hated and put to death (Leviticus 18:22 & 20:13). Curiously however, the Christian chose not to have their son executed, expressing doubt that the parts of the *Bible* in question were genuinely divine and that the teachings of ‘Jesus’ were more important as they superceded the preceding books. Again when referred to a passage in the book of Mathew (5:17-20) which is supposed to be ‘quoting’ this Jesus character and indicating that he believed in the critical importance of the ‘Law’ in Leviticus “until heaven and earth disappear, not the smallest letter, not the least stroke of a pen, will by any means disappear from the Law,” the Christian was quick to point out the unreliability of the *Bible* in this case. This sort of behaviour is common enough in many religious moderates that I’ve encountered and has a couple of interesting effects.

First and most obviously, this adaptability seems to make religious belief almost impervious to harm or criticism. Religion seems to be able to dodge the bullet via amputation, as with Vishnu the many armed Hindu god there are plenty of arms to go around. So any time part of a religion turns out to be blatantly false or morally unbearable, that part is consequently deemed to be superfluous as a matter of either logical necessity or practical expediency. Perhaps as ideas, religions are more like the T1000 from the movie *Terminator 2: Judgment Day,* a machine able to simply

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Religious moderation is minimalist fundamentalism.
morph itself in order to deal with an endless stream of seemingly fatal injuries. This seems particularly appropriate where supernatural beings generally regarded as incorporeal spirits are concerned; eternity, perfection and effective insubstantiality are attributed unquestioningly as parts of their very natures. It is one of religion’s many blatant inconsistencies that these kinds of reconstructive surgery of doctrine are frequently necessary for educated religious people; if there were any perfect creators who made a perfect book, then the book wouldn’t need any modification. This is one of the reasons why many Muslims, beginning with Mohammed, have been so fanatical about the purity of *The Koran*; they recognise that the book *needs* to be divine in order to retain its religious significance.

In the context of this chapter, what interests me more than the apparent invincibility of the plastic gods of the world’s religions is how religious moderates seem to behave with regards to their religious doctrines. It seems that parts of these doctrines can be dispensed with or at very least brought into sufficient doubt that they should not be acted upon. Moderates treat parts of their religions as metaphorical, poetic, to be taken with a great deal of caution or even as only being appropriate for the contexts in which they were originally expressed. Frequently, religious texts are so extensive that it is easy to find some vague internal contradiction, example or metaphor to give a sense of righteous justification to virtually any behaviour that might be desired. Religious moderates often act in full awareness of just how unreliable any given part of their religion is, while stoically maintaining the more global conviction of their religiousness; ignorance mixing with faith to form some highly resilient religious constructs. I would suggest that this is in fact a partial agnosticism of convenience or mental necessity.

When a religious person suspends their belief in a specific element of doctrine they are becoming a partial agnostic; their faith is shrinking. As far as some version of agnosticism is the only logical and honest position for anyone who is

*If it were an option, frankly I’d rather burn in hell for all eternity than follow the immoral mandates of the Abrahamic religions. Pain is relative anyway.*
uncertain about religion or a relevant portion of religion, religious moderates are to be commended for their reason and honesty. Conversely, it might be argued that religious moderation or partial agnosticism if you please, may simply be the rationalised modification of religious beliefs that has resulted from secular influences. For example, it may be that the Christian parent couldn’t bear to endorse their son’s murder due to emotional attachment or even the secularly reasoned view that there is nothing morally wrong with homosexuality. These secularly held beliefs contradict or conflict with religion so much that they are allowed to take priority and religion is molded to fit with them.

While their partial agnosticism allows moderately religious people to treat individual elements of their religion with at very least a level of caution, as mentioned in the previous chapter, even if someone doesn’t embrace a doctrine completely, their religion will be very likely to play a significant part in their decision making on a number of levels. A significant part of the influence of religion is that religious moderates will still be far more likely to think within the boundaries of their religion’s dogma. Furthermore they will be more likely to think or act in groups with others who share their beliefs. Many animals and certainly humans, religious or otherwise, have a tendency to act in groups; in the case of religions, these are groups of like-minded people. For humans, religion is one of the categorising forces that tend to separate us; without religion there would be one less force of social differentiation. Not only are religions just one more set of forces that interfere with our potential unity, they’re quite possibly the greatest single hurdle we face in this regard, due to the inherently different worldviews they produce. I will again remind you of the crucial point that, in addition, most or all religious beliefs must be false; if you think that yours are not then you probably think or ‘know’ that everyone else’s are. Thus the majority of what may be the greatest divisions, the greatest obstacles to the potential unification of ‘mankind, must be, entirely, fictional. In a storybook or a game, perhaps this would be

Thought dictates action.
It’s not ok to just believe.
Someone might get hurt.
ok. In reality, religions, these nightmares that kill, hold a unique place amongst the most terrifying monstrosities in the world of human error.

The Social Costs of Religion
The wounds inflicted by religion upon the minds of ‘men run deep. Religions are often calibrated to explain how people should live, their scopes varying between individuals and faiths, with impacts ranging from almost imperceptible through to life dominating. In numerous western countries, religion and religious beliefs have played a significant part in the debate on issues such as abortion, contraception, gay marriage and stem cell research. In many countries, religion still has a massive impact upon women’s rights and problems such as ‘honor’ killing. These are matters of profound significance for the lives of those affected by them; as such it is quite obvious that as far as religion has an impact upon issues of these kinds, it has a massive impact upon society.

In democracies, religion can heavily influence whom people vote for and what their opinion is on a given policy, thus a person’s religion can have an impact on the legal rights and freedoms of others. Lest we forget, governments also tend to determine when and whether their countries go to war. This is another way that religious beliefs impact indirectly upon violent conflicts like those discussed in the previous chapter. This impact is not to be overlooked; case in point is the 2004 US presidential election, the most powerful military in the world driven into continual action by a president who ‘won’ very much on the strength of the votes from the religious right. Of course, this leader was also influenced by the religious agenda on more domestic issues such as abortion and gay marriage.

The Catholic Church and several other religious groups have long been opposed to abortion. One Catholic idea is that ‘ensoulment’ occurs upon conception, so a single cell barely visible to the naked eye immediately gains the value of human

“I found nothing grand in the history of the Jews nor in the morals inculcated in the Pentateuch. Surely the writers had a very low idea of the nature of their god. They made him not only anthropomorphic, but of the very lowest type, jealous and revengeful, loving violence rather than mercy.” Elizabeth Cady Stanton.
life. The magical entry of the ‘soul’ then automatically precludes any serious arguments on the possibility of abortion for many people; their book says that murdering people is bad, the church says that a zygote is a person for this purpose, end of discussion. In many cases, a religiously driven individual will then go on to rationalise or concoct arguments to reinforce their religious convictions, as saying that ‘my god told us not to’, doesn’t hold up in every investigative circle. The validity of these arguments is irrelevant to anyone who is already voting upon an automated religious conviction however; accordingly many politicians will be quite willing to mirror popular religious opinion in their policy making decisions. A major problem with religion’s impact upon public opinion is that many people are influenced by religious leaders, who in turn make their decisions on the basis of superstition and Bronze Age or Iron Age morality. This approach has got stability, people like stability, but it fails to accurately examine all the knowledge that relates to each issue, knowledge that changes as we learn.

Surely the key considerations in the abortion debate should be things like when the cell, blastocyst, fetus or infant gains consciousness and when it will be able to experience pain, along with consideration of the potential impacts upon the mother and child if it is born or aborted. For example, one might take into account points such as that a young woman or girl, who has been raped, might not yet be prepared for the massive responsibilities of parenthood or that forcing a young lady to have a child following an accidental pregnancy might interfere with her education and thus with her well-being as well as that of her potential offspring. In some circumstances, a young woman might be practically forced into parenthood; to deal with the most critical stages of her child’s development when she is yet ill equipped to do so, to the detriment of all concerned. While we don’t yet understand the human brain fully, as we shall soon discover in my chapter on neurology, all the evidence indicates that the

Intellectuals such as Plato and Leo Strauss have argued similarly, that deception of the public through religion is in the best interests of society, either as the masses are unable to control themselves or because nihilism and self interest lead to moral decay. In response to these clever folk I would argue that the religious alternatives have proven at least as problematic and that their cynicism is not necessarily justified.
things that we call ‘consciousness’ and ‘mind’, depend entirely upon the existence of a brain and body to develop. A tiny cluster of cells is about as close to consciousness as a typewriter and much further from thought than a beetle, so destroying a cell cluster in order to prevent it from developing into a child with feelings and needs may be productive in the massive reduction of suffering for mother and child alike. If religion is false, it is having a needless negative impact upon humans in this case, if nothing else by interfering inappropriately with an important moral discussion.

Embryonic stem cell research similarly involves the destruction of human embryos for the purpose or using the cells for scientific experiments, thus the religious objections to it are almost exactly the same as they are for abortion. Embryonic stem cells are currently viewed as being potentially particularly useful for researchers as they can differentiate into other cell types. For example they might come to be useful in regenerating damaged tissue, a procedure that has been performed successfully with rats. Another potential benefit of stem cell research could be a treatment for degenerative diseases such as Parkinson’s disease. In this case, religions have the impact that research which might be able to save or dramatically improve human lives is hindered in order to prevent ‘harm’ to clusters of cells, at a stage of development in which they are utterly incapable of consciousness or suffering.

Some Jewish and Christian groups, again including the largest Christian group, known as the Roman Catholic Church, condemn the use of contraception on religious grounds, for example that it interferes with the ‘divinely intended’ function of sexuality, this supposedly being procreation. As condoms in particular can help to prevent or massively reduce the spread of fatal diseases such as AIDS, this dogma against contraception interferes with the potential prevention of many thousands or quite possibly millions of deaths. George Bush the Second’s decision to cut funding

Religion alone can directly motivate harmful behaviour, while agnosticism or atheism alone cannot. The only way to remove religious beliefs without producing harm effects appears to be through carefully considered communication. Safety first.
for the provision of condoms to countries like Uganda is a prime example of religiously driven destructive behaviour. Condoms and other forms of birth control serve an additional purpose to disease prevention, by offering a path to family planning, so that parents are more able to decide whether, when and how frequently they have children. This in turn empowers women who, particularly in less economically developed countries will otherwise usually be expected to care for children, hindering their chances of further education or employment. Likewise, family planning is important in population control, an essential consideration in our increasingly overpopulated, often unsustainably managed planet. Religious moderates should consider here that even if you do not personally condemn the use of contraceptives, the difference between your position and that of someone that does condemn contraception may merely be one of dogmatic interpretation or for many, even happenstance as to which denomination you have been indoctrinated into.

If people wish to do things behind closed doors, in the privacy of their own homes so that they will have no impact upon anyone other than themselves, then there is nothing morally wrong with what they’re doing. If it harms no one, it is not immoral. Many of the Judeo-Christian religions, including Islamic sects and traditions, condemn homosexuality in general, along with gay marriage. I’ve already mentioned Leviticus, so I shall refer to another popular story that vilifies homosexuals. The biblical story of Lot in Sodom and Gomorrah (in Genesis 19 and Luke 17) is also relevant to all of these religions. The religious argument against homosexuality in this case follows the idea that Lot’s god apparently destroyed the cities because they contained homosexual people, who wanted to have intercourse with Lot’s male guests.

If people wish to live their lives in ways that you find unpleasant to contemplate or would not wish to participate in yourself, this doesn’t necessarily...
mean that they are being immoral. In my opinion, the immoral option in such scenarios is to restrict the freedom of other people to behave in a perfectly harmless fashion. However many religious people think that morality comes first and foremost from ancient books, which they see as coming from the creators of the universe and thus being far more important than reason.

Religion has frequently had negative impacts upon the perceived rights, treatment and situation of roughly half the people on the planet, women. In the times when many of what are now the world’s most popular religions were largely constructed, women were often viewed as little more than property or second class citizens at best. Accordingly the religious doctrines formed in those times, which treated women as being inferior to men, would have felt perfectly appropriate to those who first wrote or spoke them. Unfortunately, because doctrines are generally presented as the unerring words or inspired revelation of timeless, omniscient deities rather than myths, people continue either to interpret them quite literally or at least to treat them as possessing some automatic, intrinsic value and then interpreting them metaphorically. Once again, religions get in the way of things like freedom and equality; they retard society’s progress via their inherently conservative natures. The religious quotations below might serve to give a clearer picture of some of the anachronistic ideas on women in the Judeo-Christian religions, illustrating to some extent how morally deficient their authors would be by today’s standards, at least the standards in most countries. While these texts may have originally been written with the best of intentions, they fail to take into account the progress that has been made in moral reasoning and society, in these cases specifically in relation to women’s rights.

The Koran [4.34] *Men are the maintainers of women because Allah has made some of them to excel others and because they spend out of their property;*  
*In childhood a female must be subject to her father, in youth to her husband, when her lord is dead to her sons; a woman must never be independent.*  
_The Laws of Manu, 148._
the good women are therefore obedient, guarding the unseen as Allah has
 guarded; and (as to) those on whose part you fear desertion, admonish them,
 and leave them alone in the sleeping-places and beat them; then if they obey
 you, do not seek a way against them; surely Allah is High, Great.\textsuperscript{ix}

The Koran [2.282] (on contracting debts) \textit{…and call in to witness from among
 your men two witnesses; but if there are not two men, then one man and two
 women from among those whom you choose to be witnesses, so that if one of
 the two errs, the second of the two may remind the other…}

The Bible (Deuteronomy 22:28-29). \textit{If a man happens to meet a virgin who is
 not pledged to be married and rapes her and they are discovered, 29. he shall
 pay the girl's father fifty shekels of silver. He must marry the girl, for he has
 violated her. He can never divorce her as long as he lives.}\textsuperscript{xii}

The Bible (1 Corinthians 14:33-35). \textit{As in all the congregations of the saints,
 34. women should remain silent in the churches. They are not allowed to
 speak, but must be in submission, as the Law says. 35. If they want to inquire
 about something, they should ask their own husbands at home; for it is
 disgraceful for a woman to speak in the church.}

Not wishing to get ahead of myself, as the purpose of this chapter is to demonstrate
 some of the problems caused by religion, but the fact that we can look down upon
 these quotations as morally anachronistic is an indication that they are not at all
 timeless revelations. That is to say that they were written by humans alone, who may
 have thought that they were experiencing divine revelation from a omniscient deity,
 but it is clear that they were not, as their ideas are anything but perfect. Where the

\textsuperscript{ix}Reading between the lines may reflect a reader’s imagination as easily as a writer’s.
fundamentalist follows these texts to the letter, the moderate looks, at least in part, to secular discourses for direction, often rebuilding their personal religion as they go from the pieces of ‘revelation’ that are left standing.

One of the most disturbing manifestations of religion’s impact upon women comes in the form of religious justifications for ‘female circumcision’, also known as female genital mutilation, practiced notably by some Muslim peoples along with limited numbers of Animists, Jews and Christians.¹ It should be noted that this ancient practice is by no means universal in any religion, often being the subject of debate within religions, though where it is performed it is often justified upon religious grounds. In this process the external female genitalia, often the skin of the clitoris and labia majora are removed then the area is sewn up allowing a small opening for the passage of urine and menstrual blood, massively reducing the potential for women to experience physical pleasure during sexual intercourse. For perspective, males should note that the skin of the clitoris is similarly sensitive to the skin on the end of the penis. If religions are false, then there is a problem in the fact that a chap called Mohammed is credited as having said on the subject. “Yes, it is allowed. Come closer so I can teach you: if you cut, do not overdo it (\textit{la tanhaki}), because it brings more radiance to the face (\textit{ashraq}) and it is more pleasant (\textit{ahza}) for the husband”"². If Mohammed was just a normal man, who in reality only had conversations inside his own head with an imagined being that he thought was an angel called Gabriel, it does seem a little unfair to take his word for it that it’s cool to go around cutting valuable pieces off little girls.

The subjugation of women is perpetuated in more general ways by religion, often in parallel with other cultural forces or governments in many parts of the world. In \textit{The Koran} [24.31] along with giving other precautions of modesty, it is stated that women should wear head coverings over their bosoms. One Islamic argument that I have encountered is that a woman should hide her beauty in order to avoid stirring

¹ Would it make a difference if the civilian casualties came from your country?
lust in men, although I would argue that it is purely the responsibility of men to control their own lust. Given that we know that not all men are able to control themselves, modesty might be viewed as prudent, though likewise in my view the choice of prudence is undoubtedly that of each woman to make for herself. In an ideal society, such modesty would not be necessitated by fear.

Of course many more progressive, moderate Islamic people do not require or even think that it is their right to require women in their families to dress in so restrictive a fashion. Also in the defense of Muslims, we should consider that in almost every culture in the world there are legal requirements to wear some quantity of clothing for both men and women. Clothing requirements seem practical enough, for example it would be unhygienic to sit upon the same seat in a bus where another naked person had recently been seated. The requirements of *The Koran* are merely somewhat more stringent than the legal requirements of much of the modern world. It seems on the surface that we might have room for a debate about what is proper, permissible, pungent, prudent and practical for people. Of course, when *The Koran* is taken literally, much of the room for debate disappears; in fact for those Muslims who err on the conservative side of the debate, women just might not be allowed outside at all.

Now the greatest problem comes for me not so much when the government chooses to draw the legally required neckline or eye line, as I happen to disagree with most international laws on the subject of propriety anyway, but when people are willing to beat or even murder by stoning a woman for breaching a religious law, as happened under the Afghani Taliban.¹ The web site of the ‘Revolutionary Association of the Women of Afghanistan’ (RAWA), Rawa.org continues to relay information about these and other atrocities that have been perpetrated in Afghanistan over the years. RAWA focuses particularly upon the various immoral abuses of women in their country, which under the Taliban included an effective ban on their employment, Social and technological machines of war place a very large amount of power in the hands of a very small number of people.
education and participation in society outside of the home. Perhaps most noteworthy was the Taliban's stoning of women that failed to provide proof that they had not committed adultery, something that still happens in parts of the Middle East and Africa. In several countries, particularly where adultery is concerned, honour killings similar to these are often justified upon religious grounds, straight out of the Jewish Tanach or Christian Old Testament (Leviticus 20:10) and in the Ten Commandments (Exodus 20:14). Juries in these situations, if there are any, often find that it was the woman’s duty to protect herself from disgrace in the first place and that the murderer was only protecting her honour and their family’s honour.

As far as honour killings are justified upon religious grounds, if the religion in question is considered to be correct, (a view that cannot logically be challenged by anyone who believes that faith based religion can be correct), then the acceptance of honour killings is only a matter of doctrinal choice and interpretation. If religions are incorrect on the other hand, beating and stoning – assault and murder – are utterly disproportionate ‘punishments’ for this breach of what is little more than social convention. If it was not in turn for these conventions, the perceived offensiveness of behaviours such as adultery could be significantly reduced. An example of such changes in convention is seen in the fact that many of the aboriginal peoples of Australia lived happily enough without clothing prior to the British invasion in the late 18th century. In any case of perceived offense, we must ask ourselves who is being genuinely harmed by a given action and to what extent; practices of scourging the population of perceived ‘evil’ by capital and corporal punishment should have been left in the iron age along with the doctrines that championed them.

While reflecting upon the human costs of the actions of various parties in Afghanistan, religious and otherwise, I cannot help but note that the civilian death toll that has been inflicted upon the country’s populace during and since the fall of the Taliban has been far greater than that from the terrorist attacks and injustices that

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Nationalism is often little more than the tribal perpetuation of a feudal kingdom.
this conflict was supposed to be in retaliation to. The attacks of the US and its allies, 
may have liberated the Afghani people from this oppressive regime, yet some people 
in Afghanistan have described the situation produced by the US and its allies as 
being worse than it was under the Taliban; it has not become safe to travel without a 
Burka for example.\textsuperscript{iii} It is hard to blame people like Osama bin Laden for declaring a 
religious Fatwa intended itself as retaliation to the “aggression, iniquity and injustice 
imposed on them by the Zionist-Crusaders alliance and their collaborators”\textsuperscript{iii}, if your 
religious position logically obliges you to permit that his faith might be legitimate. This 
is particularly the case when we take into account what The Koran has to say about 
the unbelievers.

[2.191] And kill them wherever you find them, and drive them out from 
whence they drove you out, and persecution is severer than slaughter, and do 
not fight with them at the Sacred Mosque until they fight with you in it, but if 
they do fight you, then slay them; such is the recompense of the unbelievers.\textsuperscript{iv}

It becomes even easier to understand the motivations of Mr bin Laden and his 
associates, when we consider that the effective leader of the ‘infidel aggressors’ 
sounds as if he actually is a religious crusader. The following is a quotation of Nabil 
Shaath, the Palestinian foreign minister in a BBC Press Release.\textsuperscript{lv}

President Bush said to all of us: ‘I'm driven with a mission from God. God 
would tell me, ”George, go and fight those terrorists in Afghanistan.” And I did, 
and then God would tell me, ”George, go and end the tyranny in Iraq …” And I 
did. And now, again, I feel God's words coming to me, ”Go get the 
Palestinians their state and get the Israelis their security, and get peace in the 
Middle East.” And by God I'm gonna do it.’

\textsuperscript{iv}A nation or state does not act, it is the individual who acts." Walpola Rahula.
If you argue that there can be any religious truth, that it is right, appropriate or somehow rational to act purely upon faith, then you have given Bush, bin Laden and others like them a license to act purely upon their faith. If you accept religious moderation as valid, then you must also accept religious fundamentalism as valid, as neither approach is justified by evidence and each can be driven only by faith. If it is ok for a person to base any of their actions upon their religious belief then it is ok for them to base all of their actions upon religious belief. If faith is an acceptable justification for action, it becomes ok for someone to bomb a clinic to prevent what they see as the murder of unborn children; likewise, it becomes ok for them to martyr themselves upon transit ways to protect the holy land from the infidels as ‘Allah’ has commanded.

What shall it be, words or swords? If you decline to dispute the validity of religious belief itself then beware, there may not be another opportunity for rational debate. First stop is atheism, then agnosticism and then there is a chance that the bus explodes; sorry, didn’t you know that this was an express bus to the afterlife. You had better hope you bought the right ticket and that your destination actually exists. Herein lies one of the most global problems of religion.

You may think that your faith is relatively harmless, as it quite possibly almost is in the narrow context of the like-minded folk that you live with. It is worth noting however that while you have religious faith, you share the same basic thinking as a fundamentalist. If you rely upon a leap of faith to believe in the dogma that is presented to you, usually by your parents or if you can get your head around it, a different text and interpretation that might just as easily have been given to you had you been born elsewhere, then any similar faith can be equally justified.

In systems of faith, responsibility to justify belief is cast away in a sea of awe and emotion. Faith itself becomes a problem, as it entails the suspension of reason.

Religion, nationalism, idealism; all such boundaries can catalyse conflict.
If you permit faith, which you logically must do by having faith, you lose all footing upon which you might have reasonably objected that the dogma that some other human being has been born into is incorrect or to claim that a literal interpretation of a text is not that which was ‘divinely’ intended. If faith is acceptable, a person can be forgiven for believing absolutely in the dogma of their faith, as many do, particularly if it is all that they have been brought up with.

It’s a matter of perfect mathematical simplicity to work out that reaching eternal bliss is infinitely more important than any pain that might be suffered by you or one of your god’s ‘enemies’ during the trivially finite existence of a human life. With religious faith it’s that easy, the value of the human lifetime can go from just about everything that you will ever experience to just about nothing, more of an entrance examination for eternity with little or no intrinsic value. Perhaps all religious people are simply juggling different kinds of perceived truth. For the fundamentalist, an unquestionably literal faith supersedes everything that they encounter in reality that might contradict it. For the moderate, flexibility of faith is expedient either to the extent that reality would otherwise compromise faith or perhaps where faith proves sufficiently inconvenient.

Religion is a Problem

In all of the situations examined in this chapter, religion has a significant impact upon the decisions that an individual might make as to how they should behave and how they might permit others to behave. Without religion there would still be debate in many cases, which again is perfectly healthy and desirable, particularly where matters of ethics are concerned. The difference would be that without religious absolutes, we would all be able to examine and reexamine every moral issue on the basis of the knowledge and thought that we as a species continue to accumulate, rather than romantically trying to claim the timeless infallibility of an individual.
doctrine or following the apparent revelation of one god or another to whom some of us happen to have attributed omniscience.

While religious beliefs are seen as absolute truths, the illusions of difference that they create will continue to cause conflict amongst ‘men (by which I refer to our entire species). If religions are reduced to the appropriate level of ancient, mundane, fallible philosophies, myths and so on, we can keep their goods, but lose their gods, along with the horror that they incite. Once again, the key point that I wish to make in these chapters on religious conflict is that if religious beliefs are fictional, as I would claim that they are by definition, then they have an undeniably massive yet utterly unjustified impact upon life on earth for humans and other organisms that are able to suffer.

It is certainly true that religion can encourage and contain valid moral arguments and philosophy, but these do nothing to validate religious beliefs themselves. Likewise the fact that there are many causes of conflict outside of religion does nothing to vindicate religion from its undeniable, causal role in the creation of conflict. Again this may seem obvious, but we are of course able to consider the ideas or arguments that can function independently of their religion of origin upon each idea’s individual merit; we need not throw the baby out with the bathwater so to speak. Some of the issues of secular morality will be discussed further towards the end of this text, though before getting to them I will address the nature and invalidity of religious belief.

If you’re one of the few readers who might claim to be religious, yet somehow feel that you remain utterly free of any of the problems that I have raised as being caused by religion, there are a few points of which I would remind you. Presumably if your religious beliefs are so moderate that you are not willing to act upon them, you will fall into this category. I have encountered a significant number of people who claim to hold this sort of view, dismissing organised religion as being plainly false, yet

“Every hypothesis tends to assimilate facts yielding it support and to reject adverse facts.” Herbert Spencer.
maintaining a vague belief in gods or supernatural entities for various, often similarly vague reasons. If you are one of these people who are not willing to act upon your religion, you are for many intents and purposes a borderline agnostic. I've even read a definition of agnosticism claiming that it meant the belief that nothing could be known about “God,” although this definition perhaps inadvertently implied that a single god existed and as such, it was not a genuinely agnostic perspective. It seems that the point at which religion ceases to be harmful is very close to the point at which it ceases to be religion. However if you maintain your religiosity, you share the characteristic leap of faith with the religious fundamentalist, so you should be aware that your leap merely takes you in a different direction to theirs.

This leads into the point which I have already touched upon, inspired by my reading of Sam Harris’ *The End of Faith,* that religious moderates need to be hypocritical to argue exactlyingly with fundamentalists on how far their intangible leap of faith should take them, to see error in another’s actions when their own are essentially identical in terms of their rationale. There must be an actual state of affairs behind our perceptions. In many cases when people act upon religious perceptions, rather than secular ones, it can be to our significant detriment.

Religion and its impacts are very much matters of life and death for our species in general; as such I would argue that it is the responsibility of every morally concerned human to investigate this issue thoroughly and continuously. Surely we should not allow ourselves to be manipulated by false information or by individuals using that information.

Finally and crucially, when discussing religion with any of the millions of mostly harmlessly religious people of the world, an objection I would extend to members of even the gentlest, most open minded polytheistic religions, is that there is excellent evidence that religious belief is false and imaginary if it is a belief in anything supernatural. Sum, religious belief conflicts with understanding reality.

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Thought Stream: In a discussion, which is more important, truth or victory? I shall assume that you also favour truth. Yet we often find that our natural subconscious inclination is to win. In fairness, ‘survival of the fittest’ does sound
2. The Mind

rather competitive, however it’s something of a euphemism; perhaps ‘reproduce at all costs or die forever’, captures it better. ‘Die forever’, that rings an inverted bell. Biological evolution has cradled the emotions of religion most capably.

"Let the human mind loose. It must be loose. It will be loose. Superstition and dogmatism cannot confine it." John Adams.
Thought and Religion – It’s All In the Mind

In this second part of the book, I shall be addressing some of the ways in which human beings come to believe what they believe. This will entail discussing issues such as what we know about the functioning of our brains, along with a few words on the nature of knowledge and information, followed by some theories on the ways in which we think and learn. My intent is to develop our understanding of the mind, which I view as being necessary to provide a context within which we may then examine religion more directly, as a form of human thought. This latter task of understanding the development of religions shall be largely reserved for the third part of the book on reality, which follows this one; I shall however be beginning in earnest to address the validity of specific religious beliefs here, in the context of the mind, where it is appropriate to our discussion. While for the sake of convenience, I have addressed the topics in this and other chapters under separate headings, they are obviously related to each other and accordingly, we must remain aware that content in the various chapters overlaps and interconnects to a significant extent.

Any time we learn or think about thought, there is a profound potential for the reorganisation of our knowledge, via the modification of thought processes. In a way, it seems almost impossible to think effectively without thinking about thought or ‘metacognising’. For our mental systems, our minds, to function as effectively as possible, we must develop a critical understanding of the systems themselves; not just the information that we process, but also the information processors. To compare the mind to something as simple as a calculator, if there is an error in the calculator’s functioning that we are not aware of or if we fail to understand the calculator’s capabilities and limitations, yet continue to punch numbers and operations into it unquestioningly, we may easily end up with an incorrect answer. Likewise as we often see when children use calculators, if the data that is fed into a calculator is

If you think that thinking is important, then I think that you should also think about thinking about thinking.
incorrect, the calculator can be working perfectly, yet again the answer may turn out to be completely wrong.

Our minds are like fantastically powerful and complex calculators, operating automatically from birth and continually adapting to their environment; minds are magnificent systems to be sure but are also extremely fallible. As with all living systems, from an evolutionary perspective the mind exists and functions to foster its organism’s survival and reproduction. A pertinent example of this is my choosing to write this book; if we lived in a very different world, free of religious conflict, a mortal fear of religion’s harmful impacts upon sentient beings might not have piqued my interest sufficiently to write about this issue at all; religion might merely be an interesting topic of discussion. The issues of the mind are relevant to any discussion, but they are particularly relevant to the discussion of religion, as minds are where religions have originated and been nurtured.

As we start to discuss the mind here and reality in the next part of the book, variable, often conflicting perspectives will be presented in many cases. When you are confronted with choices such as these, again I would ask that you consider each idea separately, upon its own merit rather than beginning from an automatically dismissive or preset perspective based upon your current experience. Once a concept has been understood, I would ask that you try to keep it and other concepts as fluid as you are able, rearranging them into as many different potential patterns and global explanations as possible, even if those patterns seem ridiculous to you. Try to develop your ability to suspend your belief or disbelief and rearrange your own ideas in order to at least temporarily incorporate ideas that might otherwise conflict with yours. This sort of strategy can be helpful in unlearning mistakes and creating new ideas, as well as in developing an understanding of the different perspectives of your fellow sentient.

"The ease with which an idea is accepted as a truth is in part dependent upon the status of the communicator – one is more likely to accept nonsense from a person of high status." Julian Short.
I have noted that understanding the mind will also help in understanding and developing thought in general, however our primary project in this part of the book is to understand religious belief in general. Again on the other hand, as it is practically impossible to discuss the details of an issue such as religion exhaustively, given the unlimited potential of our imaginations, perhaps the best that we can manage is to equip ourselves with knowledge that might assist us in interpreting any information that we encounter. So for the chapters in this part of the book, try to be aware that we are discussing not only what we think about religion, but also how we think in general.

For now, we shall examine the fact that religions begin and end in the minds of ‘men.

**Conjecture – A ‘C’ Word**

Conjecture and speculation involve the development of ideas without direct evidence. Thoughts of this kind appear to form the underlying basis of much of the world’s religion and thus are extremely relevant to our discussion. They seem to be limited only by our imaginations. How exciting.

*Imagine at a children’s’ party, a colourful box rests upon a table.*

*A fluttering noise is heard from within the box and a magician asks his audience “What could that noise be?”*

*The idea is suggested “fairy”, drawing some gleeful gasps of anticipation.*

*Another child shouts “a bird” and someone else “it’s a moth”…*
So frequently as a species and almost incessantly as individuals we are forced to make guesses about the nature of reality in order to go about our lives. Most individuals capable of reading this book would be far more likely to guess that there was an animal inside the box than a fairy, in spite of the complete lack of direct evidence in support of this guess. Thoughts such as these appear to be necessary in many situations where direct evidence is unavailable, though how far we should trust them is another matter, which I shall continue to address as we proceed through the next few chapters, discussing our minds.

For now, I wish to draw attention to a very simple and practical use that conjecture may serve to improve our understanding of reality. Conjecture allows us to ask ‘what if’ questions, that are essential to critical thinking. Whenever an idea is proposed, such as the fairy in the box, we may cast doubt upon it by proposing alternatives via conjecture, such as the bird and the moth. The box could be filled with thousands of different things, some more likely than others, some apparently impossible and many that we might never think of. The gaps in our knowledge may be filled by open-ended lists of alternative possibilities, perhaps arranged according to how well they correspond with our existing knowledge and experience. Such an open awareness of possibility may assist us in discovering the answers to unknowns by investigating our ideas where possible. Perhaps far more importantly an openness to conjecture will help us to avoid being seduced by the first idea that shows up on the doorstep of our minds with a clean pair of magic underpants and some tickets to the theatre.

As religion so frequently deals with that for which there is no evidence, it is often necessary to counter religious conjecture with further conjecture, in order to maintain an open awareness of the possibilities confronting us. Accordingly, I make frequent use of conjecture in this book, much as we all do subconsciously. In reading this work then or any other for that matter, I would encourage the reader to be aware

Imagination is a foot in the door to an open mind.
of whether a given idea is based directly upon evidence or not. Likewise I would encourage readers as thinkers to continually develop a repertoire of as many possibilities as they can imagine or infer in any situation that they encounter.

Imagination and conjecture are certainly useful tools, provided we maintain an awareness of their limitations. It seems that if we wish to develop a more reliable picture of the world, where possible we must cautiously base our ideas upon evidence rather than imagination. As we shall find presently however, science is also fallible.

**Science**

From the Latin *scientia* meaning knowledge, science is a method for dealing with information, for coming to understand our perceptions. Science can be defined as “a branch of knowledge conducted on objective principals involving the systematised observation of and experimentation with phenomena, especially concerned with the material and functions of the physical universe”. As science deals with testable phenomena in the physical universe, while religious belief generally does not, some might claim that science need not come into direct conflict with religion, in fact many great scientists throughout history have been religious. However I shall be arguing that religion cannot help but conflict with science in two major ways. Firstly, religious doctrines frequently conflict with evidence and scientific theories. Secondly and most importantly to our discussion, science provides us with ways of understanding the mundane processes behind the phenomena of religious beliefs.

**Scientific Methods and Terms**

The attitude that places the professional scientist apart from the common man seems to be somewhat irresponsible, avoiding knowledge, as it’s easier to claim that it’s beyond our capabilities. However we don’t need to be the one that makes a scientific discovery to learn about it. The magical thing about science is that it’s not magical.
One of the cornerstones of science is the scientific method, utilised in some form or another in virtually every field that can reasonably be considered as scientific. The scientific method can be divided into a process of roughly four ‘steps’, although it should be noted that these steps are not automatically progressive; scientists will frequently be obliged to suspend, modify or abandon their ideas in the light of a new piece of evidence or a conflicting idea. The four steps or stages of knowledge in the scientific method might be defined roughly as follows:

1. **Observation**: A phenomenon or set of phenomena is observed in the natural world.
2. **Hypothesis**: A testable, explanatory prediction is made, based upon logic, patterns and correlations in observational data.
3. **Experimentation**: Hypotheses are tested repeatedly via experimentation, leading to their dismissal, modification or verification.
4. **Theory**: If all the evidence available supports a hypothesis, after it has been subjected to rigorous testing, it may come to contribute to or even be elevated to the status of a theory, reflecting its appraisal as the best available explanation for reality.

Those patterns that can be most reliably observed may become known as laws or facts if they continue to produce accurate predictions of reality over time. The common usages of all of the above terms that refer to scientific ideas are at best somewhat ambiguous, can thus be misleading and should be treated with an appropriate level of caution. The terms ‘theory’ and particularly ‘law’ are sometimes bandied about as implying certainty, where experience tells us that even the best tested laws can be prone to at least partial failure or a need for modification. The most famous example of this is probably that of Newton’s law of gravity, though

“If your beliefs cannot stand up to scrutiny, then what good are they?” Steve Corbett.
favoured and verified for over two centuries and still practically useful today, it was technically replaced by Einstein’s theory of general relativity in the early 20th century. In recognition of such contingencies, scientists frequently refrain from advancing an idea to the status of theory, preferring to use tentative terms such as ‘working hypothesis’ and thus giving an appropriate indication of the evidence available. A well supported hypothesis is more honest and scientific than a poorly supported theory, particularly if several ideas exist in competition. Even so, the word ‘theory’ itself actually leaves substantial room for doubt, stemming from the Greek *theōría* meaning contemplation, speculation or view; by itself, it is certainly not a term that should be seen as indicating certainty. In any case, ideas should gain credibility through the strength of the evidence that supports them rather than via the terminology with which they are associated. If we genuinely want to know how reliable a given idea is, in the end we must learn about it for ourselves.

Particularly in the last few centuries, science has become an exceedingly popular method for attempting to understand with information that we collect through our observations. At a level, science’s popularity might be drawn from the fact that honest science is always able to be right. Of course this does not mean that scientific hypotheses, theories, calculations or laws are necessarily correct, almost the opposite in fact. It is evident in the uncertainty with which a scientist deals with knowledge, that in science there is a continuous potential for the revision of knowledge. Science can always be right, precisely because of its inherent willingness to be wrong, because of its willingness to change. As a piece of scientific ‘knowledge’ becomes better supported by our observations it draws closer to certainty, without necessarily needing to reach it completely. If counter arguments to a scientific idea are provided and supported, or a new discovery contradicts one or more scientific theories, scientists are obliged to revise these theories as perhaps being insufficient or incorrect. Science is the pursuit of truth, entailing the development of a fluid understanding of the physical world; it is made powerful by its reliance upon continual
verification through evidence and an essential underlying acknowledgment of our potential to err.

Religious Phenomenology

Religious beliefs are an interesting set of phenomena to deal with scientifically, both in terms of their direct explanation through the sciences and due to the various conflicts that they frequently have with science. It may well be these conflicts with science that have contributed to the production of religious moderates, at least far more so than gods or religion of any description could be said to have instigated their own downfall. Following from our earlier discussion on religious moderation and fundamentalism, when we throw the sciences into the mix, many fundamentalist positions become completely intellectually untenable. For example the creation myths of many religions tend to conflict rather heavily with the evidence provided by several areas of science, such as evolutionary biology, astrophysics, geology and archaeology. Religious moderates manage science more capably than fundamentalists by conceding apparently superfluous myths like those that attempt to explain how the world was created, in favour of metaphorical interpretations or outright dismissal of such problematic elements of their religious doctrines.

There seems to be a continuum formed by the various human beliefs about religion from unscientific certainty through to scientific uncertainty. It begins with the fundamentalist, who is the least scientific due to their unwillingness to modify their religious doctrine in the slightest, with any ideas that might contradict their belief being modified or ignored as false. Religious moderates generally sit closer to the middle, subjecting their peripheral religious beliefs to potential modification, but generally maintaining a prudently tiny core of untestable, faith based religious claims. Overlapping with religious moderates, atheists may fit variable positions on this scale, from fundamental certainty of religion’s falsehood to a tentative atheistic...

“If you thought that science was certain, well, that is just an error on your part.” Richard Feynman.

“God is a hypothesis and as such stands in need of proof.” Percy Bysshe Shelley.
hypothesis depending upon how much evidence they feel they can direct against religious propositions. At the far end of the scale from the fundamentalist we find the humble or perhaps proud agnostic, most cautiously scientific in their unwillingness to even hypothesise about religion, due to an apparent lack of observable evidence in the first place.

In my view, as far as we are able, it makes sense for our entire race to develop a shared understanding of reality and then base our actions upon that understanding, whatever it might entail. The reasons for this position should be evident in the previous chapters on conflict, presuming that we can agree that violent conflicts are against our interests and that massively divergent interpretations of reality have a tendency to cause conflicts. I would also argue that it makes sense for any organism, humans included, to base its actions upon its actual environment rather than an imagined one as far as it values its actual well-being over any false perceptions of well-being. Science seems to be perfectly suited to this task of helping us all to develop such an accurate and shared understanding of reality.

The question for science then is whether it is capable of comprehending reality in its entirety; to what extent are we justified in relying upon science for the construction of our views? A religious person might argue that science is unable to test religion, as they believe it to be entirely untestable. My response to this objection is two fold. If religions claim to have any impact upon our lives or existences at all, we should be able to observe these impacts and thus deal with them scientifically. Where there is an observable effect, hypotheses can be made, tested, developed, rejected and so on. The second response I would offer is that religious beliefs are themselves a class of rather complex cultural phenomena, the causes of which can be observed, hypothesised upon and to some extent tested. Science enables us to compare religious beliefs and their causes with the data that we have available, to discuss whether or not our observations in these areas can be attributed to

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It is more honest to proceed from the admission of one's personal ignorance than to believe something without justification.
supernatural causes or whether there are superior mundane explanations for them. From here, we can discuss which explanation of reality is most scientific or even, which is the best explanation for reality in scientific terms. It should be noted that many positions could be held either scientifically or unscientifically, hence the continuum discussed above. It is fair to say at this stage that religious fundamentalism is on the whole extremely unscientific, as it totally ignores that crucial aspect of scientific thought, the potential for error. To refuse even the potential for contradiction is to refuse science, to ignore the blatant reality of our fallibility in favour of unjustifiable emotional conviction. I shall refrain from making any premature extrapolations about the scientific validity of religious moderation at this stage, as I would not wish to lower the tone of our discussion by failing to pay due attention to the evidence that is available to us. The religious moderate shows their willingness to participate in scientific debate through the concessions that they make to this evidence. If we wish to be right, we must be willing to be wrong; if we wish to understand, the first thing to understand is that we may not understand.

Neurology

Here’s a pretty mess, fresh out of basic science discussion and we find ourselves being shipped off to the front lines of scientific discovery. The study of the human nervous system, particularly the brain and its function, have long proven to be areas most elusive to scientific investigation, in no small part due to their immense complexity. There is still a very great deal that we have to learn about our brains, along with brains and minds in general. Having said this, there is a growing wealth of data and theory on various aspects of our neural function, so there is a fair amount that we are able to discuss in terms of what we do know. Given that the picture we

Neuroscientists are insane: ‘Ooh! A dynamic, one trillion piece jigsaw puzzle. I love these things!’
have of the function of our brains is incomplete, we must conduct our investigation via the examination of some of the pieces of information that are available to us. What better place to begin our discussion of the mind than by examining the embodied brains of our own species, the home of our thoughts, the locus of the self and so often for the religious fellow, the vessel within which an immortal spirit is supposed to reside for a time, while we live.

The Ancestry of the Brain

So how did it all begin, where did our minds come from? A long time ago on our planet far, far away from where it is now, at least according to popular cosmological science and the theory of evolution – which shall be discussed in part three of this book; I strongly recommend that you read the relevant chapter now if you’re unfamiliar with evolution – we had an ancestor without any brain to speak of. It might have had only a single cell, but it would also have been more likely to survive and reproduce if it had developed features which allowed it to react to its environment. We can see these sorts of reactions in a single celled paramecium, reflecting nothing so much as the foundations of emotion.\textsuperscript{\textregistered} Stimuli like temperature, light, chemical variations and food sources cause the paramecium to react, moving relative to the stimuli as is conducive to its ongoing maintenance and reproduction. The paramecium reacts as if it ‘fears’ excessively high temperatures or ‘likes’ food. Over time, responses or “proto-emotions” have become far more complex, animals developing with nerves and eventually tiny brains that have allowed their various systems to deal in a more coordinated fashion with their complex environments.

In our bodies, even when we limit ourselves to discussing automated, reflexive responses or proto-emotions, like those in simple animals, we are looking at quite a complex set of processes that drive our maintenance and reproduction. To take the example of touching a hot wok while cooking, both the electrochemical nervous system and the chemical endocrine system are activated by the contact. At
the site of the damage, chemicals are released by damaged cells, triggering nervous responses as well as attracting white blood cells to assist in repairing the damaged tissue.\textsuperscript{lxvi} Damage is also detected more directly by numerous nociceptors, nerve endings that cover our skin and permeate our bodies, being particularly concentrated in areas likely to be damaged.\textsuperscript{lxii} These nociceptors send messages through chains of neurons, the cells that make up our nerves, to the spinal column, where a signal to reflexively retract the hand is sent back down the limb through motor neurons attached to muscle tissue. So before the message even gets to our brain, the body reacts, in a similar way to that in which much simpler, mindless organisms pull away from damaging stimuli. Signals continue to travel up the spine to the thalamus, which sends further signals to different areas of the brain.\textsuperscript{lxiii} The somatosensory regions of the brain contain ‘maps’ of the body and allow us to locate the pain sensation. Other signals to parts of the limbic system may allow us to experience the feeling of pain, while signals to the frontal cortex contribute to our thought processes that relate to the pain experience. Automated signals, incorporating the release of adrenaline in the endocrine system, will also increase our heart rate, allowing more blood to the muscles and taking it away from the gut and skin.\textsuperscript{lxiv} Sweat secretion may increase slightly, to cool the body in anticipation of increased muscular activity. This is just a basic overview of a fairly simple pain response, in which it is already impossible to escape from the interconnectedness of automated responses with various other visceral, subconscious and cognitive neural processes.

There is nothing magical about any of these processes; they are all very much observable occurrences, rooted in the physical world. At the level of the single neuron, a cellular link in one of the chains or three dimensional webs of the nervous system, perhaps one millimetre long to more than a centimetre or even a metre in some cases, a chemical neurotransmitter released by one cell binds with a receptor, usually at the end of one of an adjacent cell’s many dendrites. If these chemical
bindings reach a sufficient level of intensity, known as the neuron's action potential, they trigger the transmission of an electrical signal and the neuron is said to ‘fire’. This electrical signal is made possible by a difference in the concentration of ions like potassium and sodium relative to different parts of the neuron, in this respect, the forces involved are somewhat similar to those we might find in a rapidly recharging, microscopic chemical battery. The electrical signal travels via the cell membrane along the axon, which makes up the majority of the cell’s length. This passage is aided in many neurons by a fatty sheath of myelin that coats the axon’s exterior and acts in a manner not dissimilar to the plastic insulation on copper wiring. The signal exits branches at the end of the axon from its ‘synaptic vesicles’ in the form of another release of neurotransmitter chemicals, the whole process being completed within as little as a few thousandths of a second, in order to lead to the potential firing of further neurons.

While automatic emotive responses are connected to other systems like those responsible for thought and memory, alone they are not sufficient for consciousness, nor are they necessarily conscious at all. As far as we can take automatic ‘emotion’ to mean the reaction of an organism to its environment, it can be seen in organisms that seem to be completely lacking in capacity for consciousness such as jellyfish, which have nervous systems, but not brains or even spinal cords. Much of our emotion is entirely subconscious, although we can direct our consciousness towards it in many cases. Take breathing, the fluctuations in heart rate or hormonal variations that affect our mood depending on various automated biological processes for examples. Evolutionarily these automated fluctuations would have preceded the development of more complex brains, thus constituting the base upon which higher mental functions would have formed.

Precisely how the brains of our ancestors evolved is another question that might seem beyond our grasp. Fortunately, the fact that so many organisms living

*The human brain is the most functional and best-organized three pounds of matter in the universe.* Unknown.
today seem to be extremely physiologically similar to their ancient cousins, which also gave rise to humans, offers a potential window of insight into how brains might have evolved over the last thousand million years or so. We can speculate that it may have proved more efficient to have a centralised location for the coordination of separate body systems, such as the coordination of light sensing organs and body areas involved in movement that we can observe in the tiny brains found in earthworms.

Moving on to the development of the earliest forms of memory, it is possible that primitive brains evolved as they enabled these organisms to ‘learn’, by building neural associations between stimuli and beneficial or detrimental body states. Simple brains, including basic memory that allowed organisms to react to patterns of stimuli related to damage, rather than reacting only directly to damage would have been a massive evolutionary advantage for them. Even basic unconscious memories would allow organisms to adapt to their environments much faster than biological evolution alone can allow, as memory allows adaptation within a single generation rather than over the course of many generations. Memory is an adaptation that allows organisms to adapt.

Studies of memory in the sea snail *Aplysia* have revealed that its brain areas give it the capacity for simple forms of learning, specifically by habituation, sensitisation and classical conditioning. At the cellular level, its neurophysiology is similar to ours, involving neurons like those in human brains. In *Aplysia*, as occurs in vertebrates, proteins are synthesised when longer term memories are formed. In these animals, the formation of memories involves the strengthening and weakening of synapses – the connections between neurons – within the neural circuits activated by a given stimulus. In one type of short term sensitisation for example, the conductance of synaptic connections between sets of sensory, motor and interconnecting neurons is chemically enhanced via an increase in the concentration

*If the mind is separate from the body then how can we have mind altering drug's?* - John Kelly Ireland.
of the neurotransmitter serotonin or inhibited by protein kinase inhibitor. Interestingly, a simple staggered repetition of the artificial application of serotonin directly to neurons is sufficient to trigger longer term memory production, so serotonin serves a dual purpose of sorts, in facilitating both short and long term memory production. The formation of longer term memories in the case of serotonin application involves the activation of protein kinase inside the cell, which in turn triggers a transcriptional cascade in the neuron’s nucleus. To clarify, this entails the activation of sections of the cell’s deoxyribonucleic acid or DNA, the colossally complex protein ‘maps’ in most of our cells that largely determine the structure and function of life. The specific sections of DNA that are activated provide the patterns necessary for the formation of proteins that are then used to physically form new, long term synaptic connections.

Other neurotransmitters play different roles in synaptic connections of the Aplysia, by reinforcing or weakening the connections for various periods of time. Similarly there are other chemicals that I haven’t mentioned, that take part in memory forming processes; however this is just a topical overview, not a crash course in neurobiology. In short however, short term memories in Aplysia can be formed by the temporary addition of certain neurotransmitters to synapses and longer term memories can be facilitated by growth stimulated by repeated application of the same or other chemicals. It should be noted both that this includes both chemicals that reduce and increase the chance of a neuron firing and also that signals will gradually become less likely to be sent along neural circuits that are not being stimulated by the organism’s experiences; memories can fade over time if they aren’t used.

Unsurprisingly, human memory is far more complex than memory in simple organisms such as sea snails. Currently we have a complex working comprehension of the simple memories of sea snails but only a relatively simple understanding of our own complex memories; there’s a lot more to know about our own brains. In modern human brains, memory seems to have developed as an integral component of many

Terminology trouble? Me too. Grab a dictionary and persevere; you’re learning. Most of the weird ones are just different parts of the brain anyway.
brain systems. It seems that nervous systems, including their connections with the brains of those animals that have them, have long been an integral part of virtually all animal body systems as they have evolved. We find memories in different parts of the brain performing different functions, but generally following similar functional patterns to each other and to those of the *Aplysia*.

**The Workings of Memory**

For simplicity’s sake, our different forms of memory are often divided into sensory memory, short term or working memory and long term memory. Memories that might be defined as sensory are the brain states that pertain to our subconscious processing and experience of data as we encounter it through our senses. Using the word ‘memory’ to refer to sensory data that reaches the brain is in a way misleading as typically it is only stored for a very short period of time, as we perceive time at any rate. In a way, sensory memory is closely linked to the subconscious reactive emotions we examined earlier. If no attention is paid to the information we receive from our peripheral vision for example, it may be discarded very quickly. Nonetheless it is held for a short time, regardless of whether we pay attention to it. An example that may be familiar to many is when someone says something to you but you weren’t paying attention to them, so you ask them to repeat what they said. Before they can answer, you find that you have remembered what it was, as your sensory memory has kept the patterns of auditory stimulus in temporary storage for you.\(^{\text{xix}}\)

The sensory memory most familiar to many people will be that of vision, that which we rely upon most, but which is arguably also the most complex of the classical senses.

A significant portion of the human brain is dedicated to processing the sensory data we receive from the eyes, different brain areas corresponding to different features of each perceived object. From our retinas, some signals travel along the optic nerves to the brain stem to automatically regulate vision via focus,
direction, limiting how much light enters the eye and so on, while other signals contribute to the cognitive processing of stimuli. Information to be processed travels through the brain to a portion of the thalamus called the lateral geniculate nucleus where it is sorted and sent on to the primary and secondary visual cortices in the occipital lobe, located at the rear of the brain. In the primary visual cortex, the brain interprets each observed object’s spatial features – height, width and depth. In the secondary visual cortex, which surrounds and interconnects with the primary visual cortex, an object’s colours are addressed in their spatial contexts. After being sorted by several other areas of the visual cortex, information streams back around to the temporal and parietal lobes where things like faces are recognised and spatial relationships are perceived.\textsuperscript{lxv} Our perceptions of objects are stored briefly as they are processed for potential use by our attention, then rapidly dismissed if no attention is paid to them. Sensory functions such as the detection of motion may be attributable to sensory memory, as the images need to be stored briefly in order that they may be compared to new images as the stream of stimuli changes.\textsuperscript{lxv} At a glance, sensory memory may appear to be relatively trivial, however nothing could be further from the truth. Our sensory memories contribute the mental building blocks formed by our sensing of stimuli both within the body and from our environment, with which higher levels of knowledge and perception are constructed.

The next categorisation used to help us understand the delightful complexity of our memories is the working or short-term memory. \textit{Achtung}; this also demands the direction of our attention to some of the processes involved in the function of our attentions. While our working memory is still very much an area of research and exploration for neuroscience, as it relates to decision making processes and consciousness, we shall begin to see that the ancient ideas of soul and spirit become increasingly superfluous in light of observable neural function. We already have an idea of the chains of microscopic chemical explosions and electric shocks that form

\textsuperscript{lxv} Learning is such a normal part of life that it can be almost invisible at times, although its role in the development of consciousness is clearly an extremely important one. To a significant extent, we are defined by our experiences.
neural patterns, which are representative of stimuli that our sensory organs have interpreted, but we are yet to look at how these patterns become conscious and interact with other thought patterns.

Let us imagine that we are observing a cricket ball that someone has been kind enough to throw at us. Drawing once again on the now vaguely familiar patterns of our visual processing, we find signals streaming forward from the visual cortices in the occipital lobe at the rear of our brains, a continuation of the brain's processing of sensory visual stimuli described above. The multitude of signals traveling through ventral streams, via the brain’s underbelly, triggers neuronal patterns related to object recognition such as shape and colour; spherical and red for our cricket ball. Meanwhile neural signal patterns traveling through dorsal networks, along the top of the brain, deal with complex patterns of movement, such as the ball’s trajectory and spin. Ball related patterns of data stream further forward to the ‘dorsolateral prefrontal cortex’, the top of the side of the front part of the brain, then signals continue streaming back from here to visual areas triggered earlier in the vision process, corresponding to how much attention is paid to the various features of the object. For example, more attention might well be paid to features of the ball such as that it was traveling very rapidly and that it stood out from the rest of the environment as red, increasing stimulation of relevant cortical areas. Object recognition patterns existing in longer term memories that relate to cricket balls might also become increasingly activated, heightening our awareness of the potential danger of the situation; we already know that cricket balls are hard.

Before or whilst the ball approaches and similarly once it has passed, assuming that we are still alive, we might wish to think about how to react to the ball; for example to hit it or avoid being hit by it in future. To imagine, anticipate or mentally replay the ball’s behaviour in mental tasks of this sort, we would also use our working memory. In the case of the cricket ball, this would involve various parts of the prefrontal cortex, in conjunction with elements of the neural imaging cortices
that lead up to the prefrontal cortex, so far as they held any salient information. The prefrontal regions in particular appear to be involved in holding images in our working memory for use in mental operations such as those dealing with approaching cricket balls.

In that the direction of our working memory is dictated by our attention, we must also discuss here what causes us to pay attention to objects. In a cricket game, why is it sometimes the, lovely shirt that one of female spectators is wearing that catches our attention rather than the red ball? Did we choose to look at it and if so what did it mean for us to choose? Attention can be divided into top down and bottom up processes, reflecting its conscious and subconscious direction respectively. The neural activity involved in attention is often viewed as being hierarchical, with subconscious, bottom up attention preceding conscious, top down attention. This conscious attention functions as a context dependent refinement or focus upon stimuli that appear to be more salient than others in terms of our conscious intentions, dictated by active neural circuitry. Attention towards different stimuli could be seen as being both competitive and cooperative, with increased activity in salient circuits resulting in a decrease in the activity in circuits relevant to other stimuli. According to the hypothetical Biased Competition Model of attention, active working memory circuits, such as those that are thought to be connected with working memory in the prefrontal cortex might be said to ‘bias’ other circuits, via their excitation or suppression. This hypothesis may entail a significant contribution to the understanding of consciousness, as it offers an explanation for the top down direction of our attention.

The impacts of attention upon our neural representations of the cricket game could be as follows. Our subconscious, bottom up attention to visual objects might initially heighten stimulation of neural circuits pertaining to a spectator, seagull, fielders and the bowler holding the ball. Subsequently, our voluntary, top down
attention might increase our focus upon the incoming bowler and the cricket ball that he is about to hurl, if it is deemed to be the most important object in our current context. Neural circuits for other players might remain somewhat active as they remain important to us, whereas the activity of circuits containing visual data related to seagulls and spectators might diminish as the ball was thrown. This process of focusing attention generally happens within just a few hundredths of a second.

So attention and thus working memory are driven in part subconsciously, with neural circuits responding more to objects or features that register as being more likely to be important due to their movement, colour, shape or other features. Simultaneously, attention and working memory can be intentionally driven by concurrently active, goal directed mental processes, related to specifically perceived contexts. The sight of the pace bowler and my existing fear of cricket balls might cause the conscious initiation of the largely subconscious procedure known as ‘ducking’, to avoid injury. On the scale of our entire brains, both our conscious and subconscious attention are subject to an extremely broad range of competing and cooperating stimuli, from any sensory data or memory thereof, through active circuits of working memory, to ‘encoded’ information that stems from our longer term memories.

As long term memories have already been mentioned, hopefully you will recall that they are physically facilitated by the growth of long term synaptic connections; the protein synthesis necessary for long term memory formation often being triggered by repeated activation of neural circuitry. Emotion plays an important role in long term memory formation as well; if something causes an organism significant pain or pleasure, it is more likely to be relevant to its survival and thus more likely to be worth storing in long term memory or any level of memory for that matter. It has been shown that there is a relationship between the activation of areas of the brain associated with emotion, the amygdala and hippocampus, due to emotionally arousing stimuli and an increase in likelihood that the stimuli will be
remembered. Also, our mental patterns may be connected voluntarily to emotions, via the prefrontal cortex and hippocampus, even in the case of emotionally neutral stimuli. So there appears to be a good indication that memory can be emotionally enhanced, either voluntarily or subconsciously via two relatively distinct neural mechanisms.\textsuperscript{lxxv} These enhancements are probably due to the release of hormones known to enhance long term memory formation whether voluntarily activated through emotional association or subconsciously activated in emotional circumstances.\textsuperscript{lxxvi}

In its formation and use, memory can go through the three general stages of encoding, storage and retrieval. When sensory data or stimuli become memories, they are said to be encoded; once encoded, they’re stored as long term memories and can then potentially be retrieved for use. Encoding of an association between two previously unconnected terms ‘dishtowel’ and ‘locomotive’ for example, involves activity in the temporal language cortex, which stimulates the nearby entorhinal and parahippocampal cortices, which may hold information about the connection. The entorhinal cortex then stimulates the dentate gyrus to provide the ‘code’ for connecting the two terms in the appropriate context. Signals are further transmitted to the rather romantically named ‘cortical area three’, which facilitates association between the words through the strengthening of appropriate synaptic connections.\textsuperscript{lxxvii} Connections may also be formed to varying extents in other areas of the brain such as the prefrontal cortex, depending on the depth or levels of understanding and the nature of the information being encoded.\textsuperscript{lxxviii} The memory of the word pair may be retrieved in response to a connected stimulus, such as hearing one of the two words, ‘dishtowel’. Hearing the spoken word would activate relevant circuits in the auditory cortex, which would stimulate the entorhinal cortex, the dentate gyrus and then the specific associative memory in cortical area three would activate separate neural circuits representing the word ‘locomotive’.

As has been mentioned, memories decay over time if they are not accessed, in the all too familiar process we know as forgetting; alternately, memories can be
reinforced by repeated use. The formation or modification of connections between existing neural circuits such as those described above is one of two ways in which we might view learning, the other being the recruitment of entirely new patterns of information. Often these two learning processes will be combined of course, new neural patterns forming in conjunction with the development of patterns that associate the new information with existing neural patterns.

The encoding of thoughts and memories via their associations is a crucial feature of our minds. Meaning is arrived at through context, through how a neural pattern connects to other neural patterns and how it interacts with sensory cortices, drives and emotions. Even if we think of a random word in isolation, 'frog' is a favourite of mine; the word gains its meanings from the ideas that are associated with it. The idea 'frog' is connected to numerous facts about their life cycle, physical features like colours and shapes, various species, their environmental sensitivity, fungal diseases that affect them, my personal episodic memories of frogs, teaching children songs about frogs, the generally high esteem in which I hold these animals and so on. Just as the mechanism of association is used by the mind to define ideas, the mind is defined by its associative nature. In essence, from this perspective, the brain and thus the mind, is a network of neural patterns and their associations.

**Pieces of Mind**

We must not overlook the essential interconnectedness of our patterns of neural circuitry. One or more stimuli can lead us to a range of complex responses, as we are complex organisms, with complex brains. Let's take a stimulus from the body, hunger, which gradually increases as various visceral systems detect things like lowered blood sugar levels or hunger pains from the acid in an empty stomach. These stimuli are already thoroughly connected, partly through memory with various other neural patterns or thoughts, so when my increasing hunger draws itself to my

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This is great. I can read a seventeen-page article then write a single vague sentence about it, but still worry about whether what I’ve written is accurate.
attention, it becomes further excited through the potential pleasure associated with memories of eating or the knowledge of nearby food. When hungry I find myself thinking of my specific plan to make a cheese, tomato and tofu sandwich on rye bread, with chili and garlic sauce. Interestingly, in turn, I find my thoughts of food played out in reality; when combined with my mounting hunger they precipitate a journey to the kitchen, interrupting my attention to writing, in a quest for satiety. Thought patterns of hunger and food acquisition recruit movement patterns necessary to stand, walk and follow the various procedures necessary to make my lunch. When I begin to eat, my hunger fades and my attention is drawn back to my longer term goal of writing and its associated pleasures. I am aware of other stimuli such as that my toes are a little colder than I might like, yet even when I pay attention to them and my thoughts bounce to the possibility of donning some socks, the momentary interaction of my various thermoregulatory and sock related thought patterns result in the decision that it's not a sufficiently desirable course of action to pursue. So it is that the distraction of my toes is rapidly dismissed and my thoughts return once again to writing.

From some time before they are born or hatched and throughout their lives, animals like humans and flying steamerducks receive sensory information as well as visceral signals to their brains from their bodies. These signals, which increase in some respects with the development of vision and so on, are very much hard wired into normally functioning animals. We know that these billions of signals go on to form interconnecting maps and patterns of neural circuitry in the brains of animals; most signals are discarded, while many are retained. Leaving the ducks aside for the sake of our scientific prudence, we know that myriad interconnected neural patterns are continually formed in the human brain in relation to both the organism itself and the organism’s sensing of its environment. Neural patterns form, connecting certain patterns and behaviours with pleasure or pain, for example we learn subconsciously then consciously that our innate sucking reflex can satiate hunger in certain
circumstances. We can come to understand language by associating patterns of sound with objects and ideas, the word ‘Ma’ can come to be associated with a child’s mother, at least in English or Mandarin speaking families. Children form different patterns in relation to different objects; feeding a steamerduck attracts it, chasing it causes it to flee. Throughout life, the learner’s perspective seems to remain essentially the same from moment to moment, while in reality it is constantly changing. The streams of sensory data entering the brain travel through the same neural pathways, yet differences in this data mean that new neural patterns are continually formed and existing patterns are modified. Our brains contain interacting electrochemical maps and patterns, which represent our bodies, our environments, our histories and our emotions; together these become ourselves. While we are awake, these neural maps form an exceedingly complex, continual collective dynamic interactive representation of our organism and its environment. When we lose consciousness in sleep on the other hand, the multimodal associative areas of the brain, such as those in the thalamic regions and pre frontal cortices shut down, highlighting the interactive nature of conscious neural processes.

A conscious mind is made up of a fluid set of interacting neural representations of stimuli, active neural circuits in the context of less active or inactive memory circuits, within a constantly changing internal and external environment. It may help in understanding the microscopic vastness of consciousness to mention some of the quantities of cells involved, though they feature on numerical scales that may not be immediately familiar to most of us. Just within the receptive surface of one of two human eyes there are perhaps a million colour sensitive cone cells and a thousand million rod cells, the latter working in groups. These connect eventually to thousands of millions of neurons in the brain with billions of dynamic synaptic interconnections, structured in functionally related groupings, which feed electrochemical signals to each other in response to sensory

Memory is Fallible: The transmission of religion has often been compared to a game of Chinese Whispers, running for many centuries. Add to this mix forces such as superstition and cultural change and you have a recipe for chaos.
stimuli or other patterns within the brain. The many different kinds of neurons are supported by other, still more numerous cells, such as blood and glial cells, keeping the brain finely tuned. A helpful metaphor is to think of the brain as a darkened theatre, with a spotlights of consciousness pointing to the active components of working memory on the stage; while the audience, set, back stage and supporting crew contribute from outside this limited window of consciousness.

All the parts of the brain and to a lesser extent the body are necessary for consciousness to function normally; if parts of the brain are damaged, this will have a predictable impact on cognitive function, including conscious levels of thought. Damage to the left amygdala for example will not halt or interrupt consciousness, but if the damage is sufficiently extensive, it may impair the unfortunate individual’s ability to experience certain feelings, like fear and consequently will also impair their ability to associate these feelings with other objects or thoughts. They will still be able to objectively understand the idea of fear, but not to experience it subjectively. Lesions to other areas of the brain may or may not interrupt consciousness in various ways and often result in a need for significant artificial support in order to maintain a patient’s life. Patients with damage to certain areas of the brainstem may for example enter a persistent vegetative state, in which their bodies still have cycles of wakefulness but they don’t regain consciousness. If a person suffers lesions to the pons, again, part of the brainstem, they may experience ‘locked in’ syndrome, where they are conscious, but unable to do anything other than blink or move their eyes vertically. Of course, it is difficult to draw correlations between the brain and consciousness that can be seen as scientifically reliable by using brain lesions alone, as discreet lesions are sufficiently rare that often only a very limited number of cases are available for study. What we can rely upon is the fact that lesions to the brain will have impacts on conscious and/or subconscious mental function. Fortunately, we are also able to examine brains in other ways to confirm hypotheses gleaned from observing patients with various kinds of brain damage.
The human mind doesn’t stop at the level of consciousness; there are of course many observable neural processes ‘above’ the level of consciousness or more accurately within it. We are conscious of our consciousness for a start. Since the early 1990s, functional magnetic resonance imaging (fMRI) technology has allowed people to make observations of activity in the brain in relation to blood flow. Imaging technology of this and other kinds has been used for many years now, for a variety of purposes, including the investigation of neural function. Numerous studies have been conducted in exploration of mental processes that we subjectively regard as conscious. In subjects asked to imagine simple tactile and visual experiences for example, fMRI scans have revealed increased activity, particularly in the left hemisphere of the brain. Specific areas that were more active in both of these imagination tasks included the inferior parietal lobule and parts of the frontal gyrus. Another example is the activation of the anterior superior temporal gyrus in the right hemisphere of the brain that occurs in relation to patterns of ‘insight’ when we solve problems relating different words together.

In addition to various neuroimaging technologies, the brain can be artificially magnetically stimulated in order to assist in its investigation. We have already looked at the top down, conscious direction of vision. In the context of the investigation of conscious neural processes it is worth noting that when frontal eye fields, hierarchically superior areas in the brain, are artificially activated via transcranial magnetic stimulation (TMS), they can affect changes in lower visual cortices, with subsequent effects upon the movements of the eyes and correspondingly the perceptions of the test subject.

Hopefully you can see the pattern here; there is a massive wealth of research demonstrating that changes in the consciousness of the individual correspond to observable changes in the brain. While we are a long way from mapping the colossal complexities of conscious neural function or determining exactly how they all

Conjecture: Strong neural correlates of self would have had the same sorts of evolutionary benefits in pre-conscious animals as they now have in conscious animals; in many situations, the stronger the self related instincts, the better.
fit together, we can at least deduce that consciousness is a product of the functioning brain. It is no longer a question of whether the brain causes consciousness but one of discovering the details of precisely how it does so. How do we go from sets of neurons firing to the subjective experiences of consciousness? This is a bit like trying to bridge the gap between having an objective understanding how George Puppyton’s brain works and actually being a dog.

The Conscious Brain

If you have read the preceding sections in this chapter of the book, hopefully you will have gained knowledge sufficient to understand many of the neural processes involved in consciousness. The most daunting, perhaps insurmountable problem however, seems to be that of understanding the transition between these neural processes and the subjective experience of consciousness. No matter how thorough our objective understanding of the neural function of the flying steamerduck, we will not be able to tell what, if anything, it is like to actually be a steamerduck, without some high tech, currently science fictional neural interfacing technology. Likewise if we embrace epistemological paranoia, we do not technically know if it is like anything to be a human other than ourselves, though in this case we do at least have the benefit of shared language in addition to the already powerful correlational evidence for the verification of the obvious conclusion that people are all alike in so far as we are all conscious.

Much of what goes on in our brains seems to result from reactions amongst variations upon the biological theme of memory, which in turn is basically just the modification in timing, strength and nature of neural interaction. Of course our brains facilitate such diverse functions as drives, feelings, perceptions and higher levels of consciousness but rather than forming new mechanisms in each case, it seems that evolution has for the most part simply continued applying neurons and

The self appears to stimulate and be stimulated by memories and perceptions relating to its drives, through which it selects the most desirable courses of action for its organism.
neurotransmitters to each other in various combinations. It’s impressive to comprehend the evolutionary implication that so much in our powerful brains may have been produced by nature through the interconnection and modification of the same types of cells and processes involved in simple reactions of the most basic animals. Neural circuitry has become complex, specialised and interconnected, but the basic mechanisms in the brain of a worm and the brain of a human are not so far apart as one might have imagined. Humans still have automated processes and responses; these automated processes are still extremely important and many of them feed into consciousness, though they are usually subconscious.

Throughout life, massive quantities of sensory data enter our brains from within and without the body, to interact with other data in ways that contribute to the continual formation and accumulation of neural pattern combinations, some of which are influenced by other patterns to plan and produce action. Many stimuli are represented in consciousness, where they cooperate and compete with each other. Some patterns may be largely ignored, while others will contribute directly or indirectly to action, via the activation of other neural patterns, either consciously or subconsciously. Any of these neural patterns may be stored as memory, either relatively discretely or far more likely in complex combinations.

The self is defined by the unique set of experiences with which it is associated; these are commonly classed as subjective experiences. That which we experience as the self, the feelings of ‘me’ are a part of the context within which other data reacts. The self is a complex object of sorts, with neural correlates like any other; though uniquely, the neural patterns relating to the self are not directly experienced in relation to other objects. For example we do not normally experience direct feelings of pain as a cricket ball hits the ground or our friend’s nose. We can imagine what it is like to be or see as someone else, but we cannot actually have

Consciousness is a powerful evolutionary tool that permits the organism, represented by perceptions of itself, to picture itself travelling through space and time via memory and imagination.
their experiences, as the stimuli that cause these experiences are not connected directly with our brains.

The role that the self plays in consciousness is most important as it is via the patterns relating to the self that other objects are defined, perceptions of objects being related to perceptions of the perceiver. We perceive time via the pattern of experience that we have felt, are feeling and will feel. The self is both the subjectivity and an object of our minds that allows us to feel feelings, through neural patterns representing other neural patterns. Our perceptions of other objects and thus of our entire world gain any ‘meaning’ that they have through the patterns of stimuli they cause in relation to the self. The self could even be looked at as a reality defining ‘metasense’, the sense of sensing via the other senses and even via thoughts, drives and emotions. This definition of self fits in nicely with the interconnected, loosely hierarchical, picture of neurophysiology that we are developing.

Many of the neural patterns and their corresponding conscious representations related to the self are hard wired by evolution as super salient and almost ever present, though it is possible to become detached from them through certain psychoactive drugs, apparently through meditation or even through artificial magnetic stimulation. Detached or not, it is the perceiver that becomes detached from the various feelings of self or perhaps numbed and thus disconnected from those perceptions that might serve to differentiate the self from those things which are not the self; in any case there is no escape from the continuity of mental perception and the limitations of personal knowledge during consciousness. Subjectively, the impacts upon consciousness of the neural representations of the self seem to be unrivaled, even by vision; the self is consciously recognised as the object which is doing the sensing, being conscious, having the drives and so on. The perception of the self as the being that experiences consciousness develops from the very earliest influxes of stimuli as life begins, throughout childhood and then

“Whoever has found and understood the Self that has entered into this patched-together hiding-place, he indeed is the creator, for he is the maker of everything, his is the world, and he is the world itself.” *Brāhmaṇa Upanishad*.
throughout our lives. This point should be emphasised, as it relates crucially to the development of consciousness; our senses of self and consciousness develop in concert, as we age and learn, particularly in the first few years of life. It is unsurprising that our brains are steeped in patterns that relate stimuli to the organism and the organism to action. This is the brain's basic evolutionary function after all, as the organism is the carrier of the gene and in evolution genes are paramount. Just as a paramecium mindlessly moves itself in relation to various stimuli, our subconscious and conscious perceptions of the environment are related to perceptions of the self in order to drive our actions. The sense of self is thus a running neural summary of the organism, subconsciously prioritised for efficient function.

As the brain is wired to relate objects and stimuli to the entire organism, it might seem unlikely that there should be a limited number of locations from which our conceptions of the self operate, yet the fact that people are able to remove themselves from experiencing a sense of self whilst remaining conscious indicates that this may well be the case. Furthermore, given the brain’s tendency to only offer refined representations of objects to conscious thought, it is merely an extrapolation of this pattern of efficiency to presume that neural representations of the self should be refined in the brain, ever present in the background, but only active as is contextually appropriate. If I stub my toe, I am keenly aware that I have done so; the pain can be quite intense and relates very much to the self. In this context, the relevant aspect of the self is my body, particularly my toe. Simultaneously, the self is something that can be taken for granted to a large extent; internal signals are sent when things are going particularly well or particularly badly, but on the whole if things are running smoothly, feelings of self are often allowed to take a back seat to our other thoughts or interactions with the environment. In simple word to meaning relation tasks involving perceptions of the self, increased neural activation occurs reliably in the anterior medial prefrontal cortex and posterior cingulate regions of the brain.

Ancient Hindus may have consumed hallucinogenic mushrooms, known to give feelings of ego loss, oneness with everything and a sense of profound understanding, perhaps via chemically interfering with the regulation and function of the neurotransmitter, serotonin.
Similarly, lesions in these areas frequently produce impairment of the individual’s ability to reflect upon the self, including the relationship of the self to other objects.

Perhaps the key to the connections of self to consciousness lies in the meanings that the self brings to our perceptions. Just as words are meaningless without their connection to meanings, perceptions of objects are given meaning by their connection to perceptions of the perceiver. The self might be described as the innately driven neural culmination of an organism’s experiences, dependent upon its functioning electrochemical confluence with consciousness. While our understanding of self and consciousness of course remain incomplete, we are now able to make some important generalisations about them or at least borrow someone else’s generalisations.

The neural pattern which underlies core consciousness for an object – the sense of self in the act of knowing a particular thing – is thus a large-scale neural pattern involving activity in two interrelated sets of structures: the set whose cross regional activity generates proto-self and second-order maps, and the set whose cross-regional activity generates the representation of the object. Antonio Damasio. (2000).

As our definition of consciousness continues to develop, we see that in humans at very least, it involves the integration of representative neural systems in their embodied neural context in a way that allows us to direct our actions according to a potential awareness of all available data. In consciousness, we subjectively experience choices, reasoned decision-making or what is often called free will. Intuitively, it seems to be the case that we can drive our action towards goals, without any certainty that they will reward us. We can even drive our thoughts and actions

Consciousness and self are cumulative processes.
seemingly randomly, as happens when some of us try to dance, or when we explore or are curious – trial and error behaviours for example, though any time we are consciously driving them, our behaviours still appear to be goal directed. I twiddle my thumbs because I am bored; the child puts the wooden block in its mouth to see what it tastes like; I raise my left hand and move it around randomly just to prove that I can do so. In each case, perceptions of the acting self, along with its conscious or subconscious emotional motivation, relate to perceptions of the object acted upon.

We have already talked to some extent about how sets of neural circuits interact in the context of visual attention, how they appear to be arranged in loose hierarchies and that they can compete or cooperate both subconsciously and consciously. Similarly, numerous brain regions operating in conflict or concert may be involved in different sorts of decision making processes. Anterior cingulate cortices for example, may be involved as a point between stimulus and response, performing operations like switching choices between conflicting patterns. Ventral striate cortices may be activated if errors have occurred in reward anticipation. The orbitofrontal and prefrontal regions may be associated with the encoding of reward values of outcomes. When examined in combination, activity in the medial prefrontal cortex, anterior cingulate and ventral striate regions have been found to process sufficient information to indicate in advance what decisions will be made by test subjects choosing between fractal patterns in probabilistic reversal tasks involving. The fact that we can predict someone’s decisions by examining their brain before they even know themselves what their choice will be should not be overlooked.

That conscious choices are made at least in significant part subconsciously, prior to our experiencing the ‘choice’, shows us that our subjective experience of decision making is only part of the picture. It is obvious that much of our decision making is in fact entirely subconscious, particularly where more familiar tasks are concerned. Simultaneously, conscious neural processes intuitively seem as

Is it like anything to be a bee? It certainly appears to be like something to be a crow.
fundamentally real as anything else we experience. We feel our conscious thoughts affecting our actions directly and further, they generally do so with hierarchical supremacy. Conscious and subconscious decision making seem to be both interdependent and interchangeable. Although research continues in this area, currently much of it deals only with relatively simple decision making operations in the brain; this gives us an accordingly basic understanding of the processes involved. However, the evidence that we do have still gives us strong indications that processes in the brain cause the activities that we associate with conscious decision making.

**Qualia and Synesthesia**

A traditionally philosophical issue that I would like to touch on finally is our experience of qualia. What makes certain light combinations appear to be yellow in our minds, what makes pain painful or warmth warm? For example, people can get quite worked up about the phenomena of colour qualia sometimes, although from a neurological perspective they usually seem to be little more than automated neural representations of the light wavelength combinations hitting the retina. The trick has always been the conscious subjectivity of qualia of course, they appear to us consciously, where wavelengths and neurons do not, at least not directly. We lack many of the details of how we consciously experience qualia; a significant point in that one facet by which one might regard subjective consciousness is no more than the relative arrangement of qualia. Qualia are the subjective building blocks of perception and thus consciousness; they are our mind’s representations of the world as far as our limited senses enable us to experience it. As qualia are conscious percepts, our current understanding of qualia epitomises the incompleteness of our understanding of consciousness, particularly the gap between our objective understanding of the brain and our subjective experiences.

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To what extent could qualia be learned, experiences? If you’ve never done it, try (carefully) walking around with your eyes closed for a few minutes and see how much you can learn of the world of the blind.
Our sensory systems are able to process stimuli subconsciously in the form of neural patterns, as happens in the delay before sensory memory dissipation or in an autonomic pain reflex, though these stimuli cause qualia if we pay attention to them. We also know a reasonable amount about what parts of the brain are active when we experience various qualia consciously so we’re certainly not in the dark on this topic. Normally, blind subjects prove to be far less likely than subjects with normal vision to experience visual qualia when their visual cortices are artificially stimulated via transcranial magnetic stimulation. We can reasonably hypothesise that this may result from the disuse of the visual cortices of the blind subjects. When the same sets of subjects are trained to understand spatial data via electrical stimulation of their tongues, subsequent transcranial magnetic stimulation of the cortices normally concerned with visual tasks will produce different results in blind and seeing subjects. Some blind subjects experience tactile, spatial qualia that they have learned to associate with their tongues, while the non-blind subjects tended to continue experiencing visual qualia. xcvi Aside from demonstrating neuronal plasticity in disused areas of the brain, these findings also show us how the brain can ‘learn’ qualia or at least patterns of association that trigger qualia.

Another relatively common phenomena is that of Synesthesia, in which individuals may experience vivid qualia, like colour in relation to seemingly unconnected stimuli such as numbers, letters or months of the year. One explanation for synesthesia is that otherwise independent brain areas which deal with these categorical qualia have been incidentally ‘wired’ together in synesthetes; the tendency for this cross wiring being at least partially hereditary. xcvi In synesthetes experiencing colour qualia in association with words, this involves the activation of an occipital visual area associated with colour perception (V4/V8). However in non-synesthetes trained to imagine colours in association with words, this visual area is not activated. xcix Different areas in the brain then appear to be responsible for our
experience of different sorts of qualia; be they consciously imaginary and vague or vivid and real, whether they originate cerebrally, sensorially or synthetically.

While there are still significant gaps in our knowledge, we now have an overview of the workings of the brain, sufficient to contradict most of the traditional religious ideas of being. This overview of the neural workings of consciousness is quite extensive in some respects. Neural representations of the self in its environment correspond to virtually all of our conscious experiences, although it seems that not even a strong sense of self is absolutely necessary for consciousness. By the same token, consciousness itself is not some form of eternal necessity, its continuation merely seeming highly desirable from our biased organismic perspectives. There may be uses to pursuing consciousness without a sense of self under certain circumstances; if we decide for example that the drives which our human organisms have evolved to fulfill have no absolute value outside of human or similar systems. It seems likely that selfless consciousness might allow the organism to think more objectively, certainly a useful tool at very least.

Self or no self, as far as we are able to tell from all the evidence we have about consciousness, our minds are very much embodied in our brains, they are not magical things and they most certainly do not persist after the physical brain is sufficiently damaged or destroyed in death. The most causally unavoidable evidence for our physically embodied consciousness comes from the fact that when damage occurs to different parts of our brain, our minds are impaired accordingly. Particularly when these observations are combined with the mountains of correlational evidence from sources such as neuroimaging and more direct observations from technologies like transcranial magnetic stimulation, the reality of the embodiment of consciousness in brain states is no longer a matter for debate. Although we have a fair way to go in developing our understanding the details of how consciousness functions in humans,

“Until one day,’ I said to my father, ‘I realized that to make an ‘R’ all I had to do was first make a ‘P’ and then draw a line down from the ‘P’ loop. And I was so surprised that I could turn a yellow letter into an orange letter just by adding a line.” Pat Duffy.
we have more than enough evidence to demonstrate that consciousness is a neural occurrence.

Two thousand or perhaps even two hundred years ago you could have been forgiven for thinking that our brains worked by magic. There were many forces involved that we simply didn’t understand. Room to entertain ideas like these is fast disappearing however, given the developing picture that we have of the function of our brains. Everything in our heads, all our thoughts and our minds are just representations of stimuli or naturally occurring, physical perpetuations of salient representations of stimuli, known as memories. These stimuli originate both within and without the body, within and without the brain and are fuelled throughout life by our genetically and environmentally determined physiology, electrochemical drives and structures. The mind is still just a version of ‘stimulus – response’, although it’s a rather dynamic one in which we can store many of both the stimuli and responses, as well as constructing responses of our own.

If we can see neural interactions causing each of the components of subjective consciousness, there is no reason to endorse the notion that there might be anything outside the brain that causes consciousness. The reason people entertain such ideas, is that these ideas are necessary for the function of religion; if you take spirits and souls away then religion is completely undermined. All we are left with without magic is our physically embodied, finite lives.

**Body and Brain**

Some readers may still be asking what cognitive neuroscience has to do with religion. It’s quite simple really. The vast majority of religious or superstitious people in the world attribute consciousness to things other than embodied brains, without any evidence. Furthermore, these ideas of souls, spirits, gods and ghosts are utterly essential to the functionality of the religions with which these people associate.
themselves. The fact that we are able to observe our brains causing or at least participating in every imaginable aspect of consciousness is massively problematic for any religion that tries to attach the idea of a thinking being to anything other than our physical bodies. Without disembodied beings, in particular human consciousnesses that can supposedly function independently of brains, these religions lose almost their entire point and many of their most central beliefs are revealed as mundane fallacies. Without disembodied souls or spirits, there can be no afterlife, no rebirth, no ghosts or gods.

Once again, the point of this chapter is to explain that we have excellent evidence that supplants the various religious notions of consciousness. While we currently don’t understand completely how many neural processes work, as far as undermining religious ideas of consciousness is concerned, this is irrelevant. We do have excellent evidence that consciousness is something that occurs entirely within the embodied brain and is interrupted or impaired by damage to the brain. As far as we have any reason to form an opinion on the subject, consciousness only exists within physical bodies, which so far only includes the bodies of some animals.

Before moving on from this chapter, I would remind the reader that I have only been able to share my incomplete understanding of this incomplete area of scientific knowledge; there are many questions that remain unanswered in the neurosciences. The findings of many professionals in the relevant fields are necessarily tentative, due to the significant gaps in our knowledge, accordingly I’ve tried to steer away from explaining specific theories and have tended instead toward recounting observations and smaller scale conclusions. While I have tried to be both as cautious and accurate as was appropriate in writing this chapter, I fully expect to have made some mistakes, the subject matter is too complex to imagine otherwise. As such, I would

Perception, meaning, consciousness and self are all relative.
encourage anyone not already familiar with neuroscience to look further afield in order to develop their own knowledge of this particularly important topic.

The writings of Antonio Damasio, which are accessible to the general reader and have formed some of my initial inspirations in writing this chapter, are quite worthwhile. Steven Smith’s *Inner Light Theory of Consciousness* contains a simple yet detailed, multidisciplinary discussion of many of the issues involved here, along with some interesting conclusions. Likewise the 2003 *Reith Lectures* given by Vilayanur Ramachandran, offer an excellent audio or textual introduction to cognitive neuroscience, with some powerful insights on consciousness. Most recently, I have serendipitously stumbled upon an article in *Scientific American Mind* (October, 2007) on ‘Searching for God in the Brain’, that offers a non-technical examination of a few of the findings discussed both here and later on in this book, under the heading of ‘Psychology’, as well as pointing out some of the shortcomings of this research. Of particular interest to our present discourse is the way in which people tend to interpret neurophysiologically similar experiences in terms of their own beliefs; a pattern of behaviour that we shall return to shortly.

**Epistemology**

After so much reductionistic talk of brains, no doubt your imagination could use a workout. A brief visit to the epistemological arena, where we valiantly endeavor to come to grips with our own knowledge, should be just the ticket to consider a few entertaining mind games. As epistemology begins its clash with religion, our first opponent shall be the malignant demon, originally conceived by René Descartes in the seventeenth century. Descartes’ idea was that our perceptions might as well be entirely dictated by a demon for all we know, that our existence might be entirely

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A Debt of Ignorance: Can one fairly claim to hold a position if its alternatives have not been investigated?
illusionary. His response to the apparent possibility of this situation was first to suspend his judgment, as the demon was such a formidably untestable notion. He then proceeded to construct his ideas about what we can know of reality, based upon his conscious faculties and percepts. As there appear to be distinct internal and external stimuli for example, Descartes decided that it was logical to conclude that the external stimuli represented external objects. The evil demon is just the tip of the iceberg however, as there are plenty of other potential versions of reality that we might dream up.

One of the most popular alternate realities is that of the brain in a vat; used in various forms by science fiction, it presents all the same problems for us as Descartes’ demon. Basically the idea is that while someone was sleeping, their brain could be stolen and placed in a nutrient rich bath, where its perceptions would be manipulated artificially via a supercomputer. While the brain in the vat may not sound particularly convincing, this argument is often constructed in such a way that it fits roughly with our current knowledge of the world, helping it to seem more believable. This is a fairly trivial matter however, given that if we are fed all our information artificially, there is no reason for us to believe that the patterns and laws that govern our perceived reality should extend beyond that reality. In the film *The Matrix*, human bodies are held in artificial cocoons, reality being simulated in order for the machines that control the world to be able to harvest the minimal quantities of electricity generated by human brains; the success of this film is a tribute to the ability of humans to suspend their disbelief.

As a further variant of this scenario, we might imagine that our minds and environments are contained entirely within artificial systems, such as computers, where they are farmed for new ideas or entertainment. If individual neurons could be constructed and implanted into our brains artificially, a situation of this sort might actually become possible in the future. Minds might be nothing more than toys for
some alien race; imagine one alien child to another remarking “Hey Xiao, check out what my mind simulator is doing with this cool new ‘Earthling’ software!”

In yet another distinct scenario, we might imagine that we are tiny nodes within a greater collective consciousness, an idea that has parallels in various forms of religious pantheism or monism. Everything that exists might be a manifestation of this super-being’s imagination, tiny consciousnesses being spawned continually as patterns running in concert in order to quell the super being’s endless thirst for variety. The super-being might have determined that its existence is desirable as long as purpose can be found, its non-existence being easily envisaged and dismissed as a single, ever-present possibility. By isolating portions of its otherwise omnipotent and omniscient ‘mind’, nodes within the super consciousness would be able to enjoy and observe contextualised experiences that would otherwise be relatively meaningless, given the super-being’s complete power over reality. As the limited consciousnesses would rely upon the super consciousness’s support in order to exist, the super consciousness would be vicariously validated through the meaning that it gave its subordinate parts. Perhaps the subordinate consciousnesses could even take it in turns becoming the super consciousness or part of it, the limitations upon the knowledge of each node being removed as it dies.

This monotheistic potential reality could quite easily be treated as the basis for a religion if it was desired, the resident super-being being seen to hand down regulatory mandates for nodal interactions. Perhaps male nodes might be recognised as purely artificial while only females might have the potential to become part of the super-being upon death. Alternatively, an individual claiming to speak on behalf of the busy the super-being might declare that no node should produce a net harm effect upon the collective consciousness via its interaction with the other nodes, lest it should be selected for destruction upon death rather than being reintegrated.

“How do I know that what I call knowing is not ignorance? How do I know that what I call ignorance is not knowing?”
Chang Tzu.
into the super-being. When regarded objectively, there is no causal evidence for believing more or less in this concept than in any known religion.

The point of discussing all these alternate realities here is to show that it is possible to come up with all sorts of untestable explanations for our perceptions, but in the end the only thing that we have to pick these conflicting explanations apart from what reality might actually be is the subjective, correlational evidence of our experiences. The same is true for all our perceptions, including religions for those that have them. We can all agree at least for the strange religion just described and I would argue for every religion, that the reason for this lack of evidence to support these supernatural ideas appears to be that they are fictional. Fictional entities can themselves have no observable effect upon reality, whether they’re supernatural or not. On the other hand, our imaginations can have massive impacts upon our lives and actions.

Rather than launching into discussion of any number of philosophical theories of the mind, I would like to address the problems that we have already discussed and any other versions of reality that might be imagined simply by dividing them into two categories. The champion of the epistemological arena then shall be William of Ockham, to whom the philosophical maxim ‘Ockham’s Razor’ is often ascribed. This principal of simplicity being roughly that “entities should not be multiplied beyond necessity”⁴, meaning essentially that we shouldn’t believe in that which we lack evidence for. Of course, we must apply this idea with caution, as there may be nothing to prove that our imagined ideas cannot be true. We must also realise that how each of us divides our ideas and perceptions has no necessary impact on reality, but merely our personal understanding of it. Ockham’s Razor should not be used recklessly to cut ideas that we lack evidence for out from the picture completely, but as befits a razor, it should be used with care to simply divide the realm of the imaginary and hypothetical from the world we have evidence for.

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*Pure Mathematics – An oasis of simplicity.*

*Belief is insufficient justification for belief.*
Perhaps we can imagine the razor being used to draw a line in the sandy floor of the arena, a line that ideas cannot cross without evidence. We have on one hand that which there is evidence for, things like frogs, steamerducks, rocks, distant stars, photons, gravity, neurons, consciousness and so on; the list is limited only by our perceptions of testable reality. On the other hand there is all that which we do not have evidence for, such as invisible pink unicorns, refrigerator sized diamonds in our back yards, flying spaghetti monsters, celestial teapots, alternate realities, lucky rabbits feet, Santa Claus, gods, demons, miracles, souls, reincarnation; the list is limited only by our imaginations. Our imaginary ideas can still be connected to reality through imaginary connections as we contemplate their validity, trying to prove or disprove them, but without evidence they remain imaginary. Interestingly for this book, my requirement for evidence dictates that the default position on religion should be one of neutral ignorance or agnosticism. For many people atheism thus rightly resides upon the imaginary side of the line, side by side with religion and the talking walnut, unless evidence can be brought to their aid.

As far as demons, brains in vats or collective consciousnesses are concerned, these notions might undo our minds, but for the complete lack of evidence that they exist. Every evidence points towards the conclusion that they and their ilk are naught but epistemological phantasms. While these alternate realities make excellent subjects for philosophical discussion, science fiction or perhaps entertaining hallucinations, we have no reason to believe that they exist outside of our imaginations and unless evidence can be found for them, our imaginations are where they must continue to dwell, in fictional equality. Perhaps in the case of these contrived examples, the best evidence for their falsehood is that their human creators introduced them specifically as imaginary ideas. Failing this skerrick of circumstantial evidence, it seems that all we have to fall back upon are these flimsy, subjectively experienced patterns of reality, our perceptions.

Is knowledge the organisation of information into various patterns and frameworks, with the intention of comprehending reality?
What we Think we Know

If all we have are subjectivity and correlation to verify our beliefs, then we must work with what we have. This is not a problem, in fact the unreliability of our perceptions seems to be one of the few things that we are able to rely upon. Let us take a random example, my belief that there are no termites living inside my computer. I do not know this in an absolute sense, however I am willing to act upon it with an extremely high degree of confidence unless I find evidence to contradict my belief. My justifications for this confidence are manifold. Termites tend to live in organic material, particularly wood; the computer’s regular functioning would electrocute them if they were to try to live there; I have seen no sign of termites in the area or inside the computer last time I looked; my computer is functioning normally, though termites would probably disrupt it and so on. Having said all this, I know that it is technically possible that there are termites in my computer, however unlikely this may be. So it is a tiny but crucial part of my belief on this subject that there may in fact be termites in my computer. I can work with my experience of the fallibility of my knowledge and the evidence available to estimate the chance that these termites exist, at least relative to my numerous other experiences of chance events and reality in general. In this case, I might estimate the chance to be significantly less than one percent; so for example if I thought that I would only be wrong about an assertion of this kind one time in a million, my belief would be that, based on my experience there is roughly a 99.9999% chance that there are no termites in my computer. Thus beliefs and knowledge can be expressed as experiential estimations.

In order to examine supernatural beliefs, I would like to discuss a second assertion, connected to the previous one. Even if there are termites inside my computer, I am 100% certain that they are not individually able to transform themselves into Chihuahuas when threatened. This bold claim of certainty entails the assertion that I know enough about reality, with absolute reliability, to also state that
that this is not the sort of claim that is fallible. I justify this assertion on the basis that these transformations would conflict with experientially, historically and scientifically well tested patterns of observation, such as the thermodynamic law of the conservation of energy. The possibility of the existence of these magical termites simply cannot fit in with my knowledge of reality. If I was the Cookie Monster from *Sesame Street*, I might sing a song about how one of these realities is not like the other realities. Taken another way, my certainty means that I consider myself to be an infallible authority on the subject of termites turning into Chihuahuas; not a claim that one might make lightly.

As fallibility is part of everyone’s experience and has been throughout history, the 100% figure could easily be seen as inconsistent, as it is dependent upon the continuation of the relevant patterns within my existing experiences. According to this contingency, it seems reasonable that we should remain open to new information, even if we fully expect that such information could never appear. Further, if we encounter someone who’s ideas differ from our own, even if we consider their view to be impossible, then in order to have a discussion, it seems only fair that we should listen seriously to any claims that they might make if we wished for them to listen in turn to our own claims. Some might even wish to limit their list of 100% certain claims to Descartes’ minimal observation that we must exist in some form, even if this is not the form that we perceive. The remainder of this more cautious worldview could approach certainty, without technically being certain. It is along such lines that many agnostics might reasonably maintain a shadow of doubt about the falsehood of religion and thus refrain from calling themselves atheists.

Historically, there have sometimes been situations in which an occurrence that people thought to be impossible has turned out to be possible. Thus even a contingent form of experiential certainty should be applied with caution and continually subjected to criticism. While the law of the conservation of energy might

“One of these things is not like the other things; one of these things just doesn't belong. Can you guess which thing is not like the other things, before I finish my song?” The Cookie Monster.
appear to apply for all intents and purposes to our world, it might be contradicted by
an attempt at explaining the origins of the matter that makes up the universe;
perhaps the law doesn’t hold under all circumstances. Even if we don’t believe that
fairies made the cosmos via a chorus of cleverly concerted wishes, it seems at least
intuitively probable that the quantity of energy that we currently observe has not
simply been eternally constant. Science often shows us that assumptions that appear
to be reliable on human spatiotemporal scales prove to be simply incorrect on global
or cosmic scales. Thus it seems to be more appropriate to class many ideas as
highly improbable than even contingently impossible. The subtle distinction between
improbable and apparently impossible remains relevant however. It is supremely
improbable that the sun will not rise tomorrow, however it is contingently impossible
that there is a tiny invisible invincible duck named Stuart who lives inside my left ear.
We should always be willing to change our beliefs in the light of new evidence,
although any new evidence that might change a belief about transmuting termites or
invisible ducks would need to be subjected to an extremely exacting examination.

The probabilistically estimative perspective on knowledge that I have been
discussing still has a few problems. We don’t tend to deal with the numerical values
involved normally, so any values we might assign to our beliefs are essentially only
metaphors for our intuition and experience. They are merely subjective estimates of
the relative strength or certainty of our beliefs, which may be biased by emotions and
guided by reasons. In the same vein, we must keep in mind that our estimations have
no actual bearing on reality, either there are termites or there aren’t; we can only
attempt to evaluate the apparent probability of each potential scenario based upon
our accumulated perceptions and memories, including any relevant ideas that we
encounter.

It is also essential that we are mindful of the fallibility of our perceptions;
particularly given the relational manner in which we tend to accumulate and structure

Knowledge is like a jigsaw puzzle; the more pieces you have, the better.
our knowledge. If any of my existing perceptions or beliefs is in any way flawed or invalid, then my other beliefs will be vulnerable to inheriting these flaws as far as they draw upon the flawed beliefs. If I was brought up to believe in or had another reason to believe in magic, I would be far more likely to entertain the magical termites idea, rather than ruling it out via my current perceptions of reality.

Even the greatest scientists and intellectuals are subject to the same potential problems; primarily that knowledge relies upon experience, including other knowledge. At least at the level of the individual, such knowledge is limited by the neural systems in which it is contained and processed. Our best bet for understanding reality may be to work with a keen awareness of these limitations and try to overcome them through methods such as multimodal verification and the maintenance of a well educated sense of skepticism. The more evidence we collect, the better our understanding will tend to become, beliefs being supported, defeated or modified. This will be particularly true if we collect as many different sorts of evidence as possible, not just pieces of information from a limited number of fields that support our existing views. While our various systems of knowledge accumulation and storage have many weaknesses, the capabilities of our kind have become increasingly impressive over time. The fact that we can store detailed cosmic conceptions within books and brains at all is a tribute to their delightfully elegant efficiency. Our fallibility is merely a matter of fact, that we must develop our awareness and understanding of in parallel with every other form of learning.

Reasonable Doubt

We have discussed in this chapter a few important points about knowledge. We know that we can produce and support all manner of ideas mentally; our brains and imaginations are fantastically powerful tools. Yet it seems that the only method we have of discerning fact from fiction is that of our fallible mental faculties. Our picture

*A casual stroll through the lunatic asylum shows that faith does not prove anything.* Frederick Nietzsche.
of reality determines how we interact with it, regardless of whether or not this picture is true to the form that it represents. If you think as I do, that what goes on outside your mind is at least as important as what goes on within it, for yourself and others alike, it follows that we should make it our task to glean as clear a picture of reality via our perceptions as we are able to.

From these general considerations, particularly of the fallibility of the mind, one could conclude that we may have to work very hard to understand reality. We must be careful of how we define its boundaries, including our estimations of what is certain, probable, possible, improbable and impossible. Our own perceptions and emotions may mislead us. Other people including well qualified folk or family and friends with best intentions for our well-being may pass their false beliefs on to us. Many ideas persist, not only in spite of a lack of evidence, but in the face of the evidence against them. Ideas are frequently produced entirely within our imaginations, in fact the function of our imaginations seems to be nothing more than the generation of potential realities, guided by our desires and perceptions, but not restricted to the patterns of reality with which we are familiar. In the context of our discussion of religion then, it is inappropriate that ideas of the supernatural should encroach upon our worldviews unless evidence can be found that they exist outside of our imaginations.

Psychology

It is with notions of the limitations of our functioning brains and of the fallibility of our perceptions pressing keenly upon my thoughts that I steer our discussion into the perilous waters betwixt psychology and religion. More so than most, the psychologist and the religious individual alike must be wary of the power of the mind, to bend an

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Can we disprove gods? Technically it appears that the answer is no; at least no more than we can disprove dragons. However we can explain gods and religions extremely well, as mythical beings and superstitions.
idea into one shape in order to fit another. So much that psychology discusses must be treated with extreme caution; as this field deals with some of our most complex mental processes, often the only way we can come to understand them is by examining behavioural correlations, the only evidence for a given psychological hypothesis being found in patterns of human behaviour. Yet the beliefs of many a religious chap or chapette are embraced wholeheartedly with nothing but hearsay or faith in support of their religion’s dogmatic claims of a supernatural reality. While psychological explanations at least attempt to follow observable patterns of human behaviour, religions offer only supernatural explanations for their supernatural assertions, where the supernatural refers rather specifically to that which we do not have any evidence for in the natural world in which we live. I feel quite comfortable then, presenting psychological explanations for the origin and existence of religion. In that our epistemological dabblings might have led us to believe that all we have is subjectivity and correlation to work with anyway, psychology can at least be compared with religion as a way of stimulating or offering alternative explanations for religious belief. While we can never know exactly what went on in the minds of the long dead founders, prophets and proponents of religion, we can at least contemplate some of the various possibilities.

Patterns of apparent pathology amongst religious progenitors and prophets cannot be ignored if we are to address the topic of religious psychology with any honesty. This is particularly true given that these patterns, which might be classed as malfunctions in any normal person, seem to lend weight and influence to the claims of revelation made by many religious individuals. From a psychological perspective, these pathological patterns provide plausible and entirely sufficient explanations for what are purported by religious people as supernatural experiences or revelations. Likewise particularly in some eastern religions, revelation of a different sort, involving the apparent transcendence of spiritual experiences or supernatural contact of many

“If one attempts to assign to religion its place in man’s evolution, it seems not so much to be a lasting acquisition, as a parallel to the neurosis which the civilized individual must pass through on his way from childhood to maturity.”
Sigmund Freud.
a meditative, can be explained simply as the efforts of already superstitious minds to understand the abnormal conscious experience of detachment from their sense of self. The central theme from the psychology of religion that we shall be exploring then is that there are mundane psychological explanations for both religious revelation and religious belief in general.

**Narcissism**

At a very fundamental level, psychology can be used to offer extensive, natural explanations for the origins of most every religion on the planet. As an initial example to assist us in realising how psychology can do this, I would request that you hearken back to my prior notion of the problem of religious difference, the crucial fact that numerous, quite diverse religions have developed independently or in conflict, largely claiming exclusive realisation of a set of divine truths. In short, prophets or teachers and the subsequent followers of each religion, have supposed their perceived revelations to be right, while all other religious revelations are supposed to be wrong or at least dangerously incomplete pictures of divinity. All the while, each religious view is similarly lacking in evidence; so while in fairness they should all be viewed as equally valid or invalid, individuals tend to accept the religion that they have been taught as children or otherwise exposed to.

When we look at this pattern of religious belief from the perspective of an outsider, it might seem utterly ridiculous were it not such a commonplace human behaviour. People generally become loyal to the religion that they are brought up in, simply because it is their personal experience, without investigating the possibility that their experiences have been misleading. Usually, humans choose to follow specific religions for highly subjective rather than objective reasons. This self centered view of the world, that ‘my experiences and interpretations feel valid to me

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Just as we should be held accountable for releasing a dangerous animal upon an unsuspecting public, we should also be held accountable for allowing ourselves to become dangerous animals, however we might manage it.
so yours must be wrong if they conflict with mine,’ fits with the psychological notion of egocentrism, an extension of Sigmund Freud’s idea of the ‘ego’.

Freud viewed the ego as the conscious part of the mind, which he saw as being influenced by the emotional, subconscious instinctual drives ‘id’ and the ‘superego’, which is the mental representation of sociocultural values along with external reality in general. Freud presented these ideas fairly loosely, in terms of how they might actually be played out in the brain, as particularly in his time there was little or no way of knowing the details. As such, these ideas of his are probably best viewed as an arbitrary way of dividing some of the subjectively observable influences upon consciousness, in order to assist in the discussion of their function and interaction. In the case of religious egocentrism, each individual’s superego, which is the mental product of their limited social and cultural experience, can be seen as biasing their decision to participate in a given religion. This is evidenced more practically by tendencies such as that of children to follow the same faith as their parents. For a more global example, we can look at the tendency of people to follow the nationally popular religions to which they are exposed.

When we think about religion as a subjectively chosen behaviour, the tendency of people to favour ideas that fit with their own experience seems to make a lot of sense in the context of much that we’ve talked about so far, both in our discussions of epistemology and neurology. Of course every person is the center of their own personal universe, all the information that we ever receive comes to our brain and consciousness; every new piece of data is compared and categorised in relation to old patterns of data that we possess.

Additionally religions, particularly the more successful ones, tend to encourage rather unfavorable methods of dealing with their competitors. For example, Islam recognises Christians and Jews as worshiping the same god but dismisses these faiths as being dangerously incomplete without Mohammed’s final

Romanticism: Faith seems at times to be an almost impenetrable, intangible, impervious wall that religious beliefs retreat behind. Yet I find that these walls of faith at least can be compared to reality within the mind, worn away, becoming increasingly opaque, brittle and finally shattering in the face of evidence and reason.
revelation; likewise Mohammed ruled out future modifications to his revelation, styling himself as ‘The Seal of the Prophets’. It may seem reasonable to a Jew to view Christianity and Islam as misguided modifications of Judaism and so on. Furthermore, where religious reward schemes such as enlightenment or heaven are concerned, religions tend to be rather exclusive. Sticking with the example of the Judeo-Christian religions, these faiths rule out worship of other gods either on actual or metaphorical pain of death, depending upon how rigorously they are interpreted. Relative hostility towards ‘heathen religions’ within various faiths or in potentially secular social structures like families and nations where a religion is commonly practiced, ranges from tolerance, to distain, to persecution, discrimination and so on through to war or genocide. Whether you agree with Freud’s definition of the superego or not, it seems impossible to deny that sociocultural forces have an impact upon the individual’s or the ego’s, religious choices.

If you will allow for the moment that any religious ‘revelations’ in history must have originated within the head of a prophet or other human, the idea of egocentrism can be extended to the origins of religion in general. For religious people once again, if you find a pressing urge to avoid blasphemy, try to think of someone else’s prophet who must have been wrong and perhaps then you will be able to see how you might view your prophets were you to be more objective, rather than so ironically egocentric. In my readings of various religious texts and histories, all the prophets that I am aware of already had quite extensive ideas of gods or magic when they started prophesising, so that if they heard a voice in their head or experienced an unusual feeling, it would have seemed perfectly logical given their limited experiences and superstitious world views to attribute the voices to whichever deities or supernatural beings they were familiar with. To further support this idea, it is interesting to note examples such as the complete lack of Judeo-Christian style
revelation in peoples such as the geographically isolated Australian Aborigines, at least prior to the European invasions of their lands.

We must keep in mind that we are comparing patterns of behaviour here; we must decide which pattern best fits reality; that all-powerful gods have only revealed themselves to individuals already well versed in their religion or that primitive, egocentric, superstitious humans have misinterpreted their abnormal experiences as religious revelations. I shall explore this idea in greater detail shortly, though in the context of egocentrism, it is enough to note that we all live in our own little worlds, yes prophets too, and that our limited experiences of the world influence our internal and external perceptions of reality.

Now, I shall briefly clarify how egocentrism relates to explaining the psychological phenomena of religious beliefs. The superego or the brain’s representations of society, combined with the individual’s desires to be accepted by society and limited knowledge of the world, cause the ego or the conscious individual, to be far more likely to follow their society’s religious expectations in reality. Previously, I mentioned that the tendency of people to favour ideas that fit their experience makes sense. This is true, however the choice of believing in one religion over another does not make sense, when religions are compared as a group of ideas that are equally lacking in evidence. The result of this should be earth shattering for religious people; the reason for their specific choice of faith is primarily that it was the one that they were introduced to, not that it is necessarily any more believable than the competition and not necessarily that there is any truth to it. When combined with the self centered human mind, with all the cares of the human organism, religious thought patterns modify the brain in ways that increase the chance that these thought patterns will stay put, in the face of competition. So it seems that the circumstantial interplay between society, religion and the human brain

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The innate circularity of the mind:
Experiences define conclusions.
Conclusions define experiences.
are typically more decisive in causing religious belief than the comparative value of specific religious beliefs themselves.

Another manifestation of what is essentially the same phenomenon as egocentrism is anthropocentrism, meaning a human centered view of the world. This is a focus upon the species of the individual perceiver rather than a focus upon the individual’s experience alone as occurs in egocentrism. As a criticism of certain religious beliefs, including but not limited to the Judeo-Christian religions, the idea of anthropocentrism is that religious beliefs that place mankind at the center of the universe are a result of the fact that we as a species are central to our perceptions. Thinking of mankind as the center of the universe recognises that the individual human is part of a species wide pattern of existence, then explains the world in terms of this pattern, upon which humans are naturally focused. What an anthropocentric religious person may fail to recognise is that larger scale processes such as biological evolution and the astrophysical expansion of the universe have contributed to their existence and the existence of their species. A similar, equally justifiable mistake would be to assume that divine entities created the universe in order for us to make beer as a final goal or that cat gods made the world for cats and that humans are merely a slave race, constructed to serve them. The idea common to several religions, that the universe was designed for or revolves around ‘man in some way can be explained then as a product of our biased, species centered perspectives.

Egocentrism and anthropocentrism can intertwine with religion to produce other perspectives, such as when a person understands evolution and astrophysics as sufficient explanations for the existence of humans and the universe, yet reactively continues to push the gods of their childhood thousands of millions of years into the past, so that they might yet see them as playing a causal role in the creation of the universe and in thus continue to imagine them holding open the gate

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Faith does not make anything real, though it can cause people to think that something is real. This arbitrary emotion does not help us to understand reality and may significantly hinder our understanding.
to eternity. Humans can be supremely creative when they feel the need to rationalise their beliefs.

To end our look at egocentric phenomena, I would offer you a taste of the bitter irony of our situation. Particularly for the religious person, whose beliefs tend to include an internal requirement or reward for an exclusive certainty of belief, known as faith, I have presented an explanation for the continuation of your religious mindset in advance. The limitations of our experience provide each of us with an excellent reason to doubt our own ideas, yet many of us will only apply this doubt to opinions that conflict with our own perceived knowledge. Particularly if you are fervently religious, you may treat these extensions of Freud’s ideas in a dismissive fashion, as your religious preconceptions and human brain have predetermined. Our specific beliefs, religious or otherwise may have become attached to our human drives and memories in such a way that we have subconsciously or consciously identified Freudian ideas as hostile to our existing beliefs, which seem to be correct according to our limited experience. Thus Freudian ideas may be either modified and integrated so that they only apply to the ideas of others or dismissed entirely without ever being allowed to challenge our beliefs. A religious person may rationalise that their beliefs are supported by irrefutable first hand experiences which they believe to have been related specifically to their gods or spirits, claiming that these experiences clearly set their religion apart from all others. Meanwhile, had they had such experiences as members of a different religion, the experiences might have been interpreted as irrefutable evidence in favour of that other religion instead or perhaps, had they been the member of no religion at all, they might have tried to find some natural explanation for their experiences. In any case, these different possibilities are what we shall continue to discuss here.

Religiocentrism: A religiously centred perspective.
Faith and reason are like oil and water.
Agency Attribution

It is most important that the complexity of religious belief should not be overlooked in any psychological discussion of religious minds. Even if we find ideas such as egocentrism appealing, they only seem capable of explaining parts of the complex pictures that religions present us with. We must take care to note that religions are more than just the expressions of single drives. While a given drive may play a part in the formulation of beliefs, religious or otherwise, frequently these beliefs are creatively and intelligently incorporated into an individual’s worldview via interaction with all manner of other neural systems. For example, under Freud’s psychosexual ideas of the Oedipus complex, people are supposed to be driven from a young age by a sexual desire for their mothers, but are thwarted by the presence of their fathers, creating a lasting psychological impression upon the superego. This complex, in conjunction with the individual’s desire for a father to be effective in their role as a protector is supposed to explain western religion’s fixation on submitting to a father figure. The assertions of sexual desire in young children seem dubious however and as a whole Freud’s psychosexual notions appear to be rather overstretched speculations. I can’t help but imagine that in this case it was Freud who was being both egocentric in his theorising and fixated upon sex or at least his psychological ideas about it. Freud was a romantic at times but was not a fool, so perhaps we can entertain the possibility that the Oedipus complex shows us part of the picture, though it seems inadequate to do very much explaining by itself. One notion of value that we can draw from the legacy of psychosexual speculation is that of agency attribution, perhaps a more reliably attractive notion than that of specifically sexual drives malfunctioning in religious and other contexts.

At a general level, animals often superimpose their drives and emotions upon reality, with a number of interesting effects. Our dog is terrified of thunder and has a strong dislike for the garden rake, while our budgerigars once had a heated territorial...
dispute with a piece of black wool; animals often appear to attribute lifelike characteristics to unfamiliar objects. This makes perfect evolutionary sense; if the objects are actually inanimate little harm is done but if the objects are genuinely alive then assumptions of animacy may prove to have been life saving, as the objects could be either a predator or perhaps potential prey. Interestingly, the neurological cause of this class of phenomena may be somewhat similar to that of egocentrism; in egocentrism, new experiences are related to existing mental patterns, likewise in agency attribution, inanimate objects may simply be sorted so that they trigger automated 'default' behavioral patterns in the brain.

Humans are animals too of course and also experience these patterns. Jean Piaget noticed that young children frequently project emotions onto objects. This tendency never appears to cease completely, as adults are similarly prone to various forms of agency attribution, for example when geometric shapes that follow certain movement patterns are referred to as ‘fighting’ each other. One might feel a momentary pang of hostility towards grammar checking software what ‘thinks’ it can speak English better then ewes or you might jump to the conclusion that someone had stolen your wallet when you had merely misplaced it. Perhaps you might have seen a shadow or a flicker of movement and assumed it to be something living. In these cases you too have been responsible for agency attribution.

These commonplace phenomena are frequently evident in religious texts. In some cases such as gods throwing lightning, people can generally agree nowadays that there are natural causes for lightning to which supernatural agency has previously been attributed. It seems almost certain that this acceptance is due to the fact that we now have excellent and detailed scientific explanations for how things like lightning actually occur and as such, that it would appear foolish to continue to accept supernatural explanations. The fact that some beliefs have shifted from being supernaturally attributed to being naturally explained is particularly noteworthy, as this shift amounts to a concession that such mistakes are possible for both religious
people and their doctrines. The importance of agency attribution to our discussion of religion however is primarily that it can be used to explain many events, which are still portrayed by religious people as miraculous or even as providing historical evidence for the supernatural. When combined with other knowledge such as that many myths have been embellished or based almost entirely upon fiction, the commonplace phenomenon of agency attribution helps us to begin building a potential list of completely natural explanations for every miracle ever reported.

A good example of agency attribution of this kind has already been mentioned, in the story of when the god of the Jews, Christians and Muslims is supposed to have destroyed Sodom and Gomorrah. Assuming that there was an actual event upon which this story was based, it may have been nothing more than an earthquake, yet was attributed by the religious character Lot or other Jews to their god Yahweh. It is an interesting illustration of the morality of the people of the time that they considered Lot to be a righteous man in their god’s eyes despite the fact that in the story he is also often reported as having offered his daughters to a mob of would be rapists. Given the apparent ‘moral’ circumstances, complete lack of understanding in ancient times as to how earthquakes occur and the prevailing climate of religious belief, the religious explanation would have seemed entirely reasonable to people when it was presented. Many similar occurrences, such as the relative success of an army or a run of bad harvests have often been attributed to gods responding to the relative righteousness of one people or another.

At Thirukachamkurissi Temple in southwestern India, the faithful are often supposed to be at least partially cured of their various ailments by submission to Mahavishnu. An alternate, mundane explanation for these recoveries would be that this temple, to which the power of a deity has been attributed, is merely as good a place as any for rest and recuperation. Put simply, many religious people explain things that they don’t understand in religious terms, which they do understand.

Religion frequently entails submission to the subconscious. Be careful, we’re animals.
Accordingly many of the miracles cited as evidence for the supernatural truth of the world's various religions can be seen as nothing more than evidence of primitive superstition.

**Hearing Voices**

Many of the most important figures in the history of religion claimed to have spoken to or were at least reported as having spoken to spirit beings such as gods or angels. These aren't just the prophetic small fry, although communication with divine beings is not an uncommon claim; we're talking about the big fish of religion here. Mohammed said that he spoke to the angel Gabriel; Chang Tao-Ling is claimed to have received his Taoist revelation from a deified form of Lao Tzu; the character known as ‘Jesus’ is supposed to have spoken to Satan and by some accounts, may have even attributed deific status to himself; Saul of Tarsus is supposed to have spoken to a spiritual form of Jesus; Abraham and many Jewish prophets are supposed to have talked to their god; The Hindu Vedas are supposed to have been divine revelations to ancient seers. Without a doubt, these claims of supernatural communication form the backbones of many of the world's largest religions.

A general hypothesis on this subject that I will briefly discuss here is that in many cases, these people most probably did genuinely believe that they had communicated with some higher being, but were in fact ‘speaking’ with themselves. We need not presume that they were intentionally lying, merely to acknowledge that there are excellent explanations as to how they may have been mistaken about their perceptions. All these characters or people purportedly had similar experiences of communication, yet at least those that we know much about tended to explain their experiences in terms of the religious ideas with which they were already familiar. Already then, these ‘communications’ may be explained in part by religious egocentrism in combination with the attribution of deific agency to their own internal

(Singing): “When you believe in things that you don't understand, then you suffer. Superstition ain't the way.” Stevie Wonder.
monologues. However psychology may be able to add further to our understanding of how these religious fellows may have heard voices in the first place.

Let’s take a step back to examine our own perceptions, in order to think about who or what might appear to be speaking to these religious founders. We are able to hold complex pictures of complex characters in our complex brains; sure they’re complex, but it’s not a problem for us. Even other animals that we view as being far less intelligent than us can be seen to build up pictures in relation to different individuals within their own or another species. Our cat appears to view our dog with a degree of mistrust and perhaps even contempt; she has been observed to complacently allow the dog to charge her, only for it to halt on the end of its tether just a few feet away. If she could translate her emotions into a human language, perhaps at other times she might describe the inconsistent animal as a ‘happy dog’ or ‘vengeful dog’. These ideas or at least neural representations and relationships that our cat seems to possess are useful for her evolutionarily as they assist her in predicting the complex behaviours of other animals in her social group and in encounters with other species, which could easily relate to her survival and reproduction.

I shall recklessly assume it to be evident that we humans also hold complex pictures of various other beings in our imaginations. If we have pictures of beings with magical powers, capable of speaking to people directly in their minds for whatever reason, say for example if our parents told us that such beings exist, then if we hear a voice inside our heads we may be more likely to attribute the voice to some such disembodied being. In times when magic seemed to be real and no other explanations existed, Ockham’s Razor might well have shaved talking gods neatly into reality, rather than outside of it. Now, we still need to discuss how a voice might intrude upon our powerful imaginations.

Over time, I have come to realise that dogs are not the mindless barbarians that cats would have us believe they are. Dogs simply lack a proper sense of dignity.
Rather than attempting to address the broader issue of schizophrenic disorders with which voice hearing or auditory verbal hallucination is often associated, I would like to look more specifically at the limited symptom of auditory verbal hallucination itself, with which we are most concerned here. Voice hearing is a relatively common occurrence, affecting more than one in every fifty people, most of whom are mentally healthy and are not considered to be in any need of psychiatric care. These hallucinations seem to vary considerably, being perceived as either internal or external for example, so we shouldn’t necessarily expect to find a single pattern to explain all such experiences completely; there are several patterns that we can examine however.

Patients that experience auditory verbal hallucinations tend to have less activity than is normal in cortical areas associated with self-monitoring, when processing inner speech. Also rather interestingly, auditory verbal hallucinations tend to involve activation of brain areas associated with inner speech first, followed by activation of areas associated with the perception of auditory verbal material. So the ideas may originate within the hallucinator’s head as inner speech, then proceed to be ‘heard’ audibly within their own brains, without normal activation of the parts of the brain that would allow the hallucinator to realise that the ideas originated within their own minds. Whatever the case, voice hearing in various situations seems to correspond with abnormal patterns of neural function in speech and hearing areas of the brain.

It should also be noted that hallucinations of various sorts, including auditory ones, occur in a wide variety of circumstances, again in perfectly healthy people. Hallucinations are more likely to happen in people who are under the influence of various drugs, are epileptic, exhausted, hungry, thirsty, meditating, have brain damage, high fevers, sensory impairment or are under various kinds of physical, emotional or other mental stress. Given the brain’s complexity and significant

“I believe that I'm god, because whenever I pray I find I'm talking to myself.” Unknown.
needs, it is hardly surprising that it can malfunction slightly under these adverse conditions. To exemplify these needs, we may note that the brain uses massive amounts of blood for its size, making up only two percent of our body mass, but using twenty percent of our blood; it’s a high maintenance organ. If either the brain or the body that supports it is not functioning perfectly, our perceptions may be modified significantly and we know that this can happen in a wide variety of extremely commonplace circumstances. It seems that the combination of an individual’s existing tendencies toward supernatural explanation and hallucinations occurring in any of these circumstances could allow the said individual to have a convincing experience that they might interpret as being supernatural; though in reality the explanation for their experience is completely mundane.

If you will humour me for a moment, I would suggest that it’s a simple matter for almost any person, to experience a voice inside their head. Imagine a tiny being called ‘Tibu’, who speaks to you in a croaky voice; if you wish to picture him, he is small, fuzzy and roughly spherical. Imagine too that he is an independently conscious being, but only exists inside peoples’ minds. Whenever you see someone who is sad, Tibu speaks to you, with instructions to “Hug them.” As Tibu has no arms, his idea of hugging someone is to nuzzle up against them with his forehead. Thus he also informs you that “Tibu cannot make real hugs, as he is only a hugging spirit and has no arms, so you must make the hugs for Tibu.” If you follow his instructions, you may make some new friends or perhaps be sent to an asylum and make some new friends there instead. I cannot speak for everyone of course but while I recognise that this Tibu character is merely imaginary, I also define him as being a character that is independent from me, simply as this is how he was constructed. I am not cute and fuzzy, nor do I share Tibu’s obsession with hugs. Again if someone had been informed from a young age that Tibu was real, perhaps with the proviso that he usually only speaks to children, they might be more inclined to believe in him. Many

Our capacity to imagine conversations with other beings is a natural part of life for humans. In addition to being neurophysiologically well equipped for the task, practically from birth, we are driven to devote a great deal of our attention to social interactions as they occur and as we plan or replay them inside our heads.
gods seem to follow this pattern, except that they seem to be the sorts of beings that adults are sometimes happy to believe in, as they appear to fit better with the religious views that many adult humans have of the world. Remember that our perceptions of what is real seem to be largely limited to our experiences; if these include having been informed that there are gods or hugging spirits, we will be more likely to believe in them. Of course, beliefs can always be dismissed or modified in the light of sufficient contradictory evidence.

I for one seem to be able to have a fairly convincing conversation inside my head, with Tibu or anyone else I choose to imagine. There is plenty of evidence to show us that many people, perhaps one in fifty or more, might have hallucinatory experiences that actually seem to be real to them at just about any time in their lives. It seems that anyone at all could potentially hallucinate under a range of adverse conditions and that people with medical conditions such as epilepsy or brain tumors might be prone to experiencing repeated occurrences of hallucination. What’s more, everyone doesn’t need to have had or be able to have experiences of this sort, merely a few of the more important figures in religious history. We don’t absolutely know that the Hindu seers, the visionary formerly known as Saul of Tarsus or various prophets including Mohammed were hallucinating; we weren’t there and even if we were, we couldn’t see inside their brains and understand their experiences completely. They might simply have lied or perhaps imagined or dreamt their experiences and then rationalised them or have had their words intentionally or incidentally modified by others, to list a few alternative mundane explanations. Between hallucination and these other explanations however, we have several candidates for commonplace, mundane causes for the wide variety of occurrences that religious folk might wish to interpret as religious revelations. These mundane explanations allow us to see how the prophets of religion may not only have been
well meaning, but entirely truthful about their perceived experiences, yet completely wrong as to their true nature.

**Developmental Psychology**

I will turn now to a few aspects of developmental psychology that I would like to discuss in order to address the development of religious beliefs in young people. We have already looked at egocentrism, the idea that individuals will be far more likely to view and understand the world according to whatever patterns of information they have been exposed to. While egocentric learning affects adults and children alike, it's particularly influential for children. If children are brought up religiously, from the word go they will be constructing their worldview within a religious framework and other information will thus be sorted relative to that framework. Several facets of developmental psychology related to egocentrism can be brought together to help us in building our understanding of religion’s apparent propensity for hereditary transmission.

To assist in our understanding of how religious beliefs are perpetuated, I shall include a brief mention here of the fact that children are a notoriously gullible group of people. For many years in the past, some people actually viewed children as ‘tabula rasa’ or blank slates to simply be written upon by their environments, though it is now generally accepted that individual biology also plays an important role in our development. At young ages it makes evolutionary sense for children to accept information readily; as they know virtually nothing, quantity of experience is most important, while quality, relationships and classification of information can come later. It has been suggested that children are also trusting earlier on in life as it is important for them to learn the basics of survival from their parents relatively unquestioningly, parental instincts being sufficient evolutionary insurance for a young animal’s safety.
As an example of childish trust, early in their lives children may believe in mythical characters such as the tooth fairy, though they generally come to dismiss such ideas as they grow older, due to factors such as that older children or their parents do not believe in faeries or because of a failure of fairies to collect teeth. You may well have guessed that the point that I’m getting at here is that many adults continue to hold religious beliefs which they happily accepted as children, due in significant part to the lack of contradictory cues such as those that are typically related to faeries. Other religious adults that may surround religious people will add to the social reinforcement of religious beliefs as far as they continue to believe in things like gods. Of course, gods are not the sorts of things that can easily be tested and thus disproven by independently minded individuals, either because gods do not exist or perhaps for some other religiously acceptable reason such as that the blind faith of humans is important to them. The trusting nature of children merges directly with the egocentrism of humans in general, as children happily absorb information from various sources as they grow, in order to construct and develop pictures of their world and then simply continue building upon the basic pictures that they were first given.

Rote learning is another similar point of interest that fits very neatly into the context of mental development and religion. Learning by rote simply means repeating something in order to commit it to memory. Learning by rote simply means repeating something in order to commit it to memory. Learning by rote simply means repeating something in order to commit it to memory. While it can be utterly gratuitous at times, rote learning is not necessarily a bad thing; we may use it to teach children songs, the alphabet or how to count for example. By itself however, rote learning doesn’t involve any critical thought whatsoever, the information is merely ‘poured into the brain’ so to speak. Religious information is often transmitted in this manner through songs, prayers, mantras or other processes of indoctrination, through which religious ideas are presented as factual. It is easy to see how this sort of learning can make
religion resistant or even near impervious to the rigors of conflicting experience. When learned by rote, religion may become assumed knowledge, thus as other information is gathered it may be made to fit around religion somehow. The problem with this should be obvious. I remember my piano teacher telling me to avoid practicing mistakes when I was learning a new piece; it is important to get it right first, then to practice.

If we think we ‘know’ that we’re right about something, it may at least seem reasonable to teach children to imitate us precisely. Where religion is concerned, there are myriad conflicting viewpoints, yet religious people continue to indoctrinate their children with alarming frequency, as if they can be certain that their views are correct. Of course such certainty, faith or conviction is considered to be a necessary part of many religions. To many religious parents, to do anything other than indoctrinating their child would doubtless seem like risking the possibility that their beloved offspring should stray from the one true path to eternal bliss, in order to satisfy some vaunted intellectual or pluralistic ideal. When justified in this way, rote learning and other forms of indoctrination become incidentally insidious, self-perpetuating processes, as in many cultures they come to be considered as not only normal but also absolutely appropriate. Once again rote learning can fold neatly into our egocentric little worlds; it’s not necessarily right, but it’s much easier for most people not to think about whether it’s right, it seems to be sufficient that it’s normal and thus that it feels right to them.

A clever child abuse awareness advertisement I saw a few years ago displayed an image of a child, with the words “You idiot,” repeated down one side of the poster. The simple, but often unrealised point of the poster being that such careless comments or worse, repetitions can have a massive negative impact on an individual’s self esteem. The same potential for impact

If a person chants “Allāhu Akbar,” (meaning to Muslims that their ‘god is great’) ten times a day, then when they think of the word or concept of ‘Allāhu,’ they will be more likely to associate it with the concept ‘Akbar.’ Of course this enforces the idea that this fabled entity exists, as existence is something of a prerequisite for greatness.
may be seen in many patterns of human experience of course, as they influence the development of our thoughts. Simply reading a book exposes you to a repetition of the ideas of the author and thus may subconsciously sway your thoughts in the direction of theirs. In the case of reading, the best way to deal with this particular weakness of our minds seems to be reading widely whilst suspending judgment, in order to develop an awareness of the alternatives before even making any tentative decisions.

One final idea from the study of child development that I would like to mention in the context of egocentrism is that of the secure base of attachment. The twentieth century developmental psychologist Mary Ainsworth made the observation that young children seem to form an attachment to their primary caregiver then to use them as a secure base for learning. This is relevant to our psychological development, egocentrism and religion as we might view religious people as forming an attachment to their gods, to other religious people or to an actual religion in early life and then using one or more of these as secure bases from which to explore. For anyone who is in some way attached to their religion then, religious features such as gods may come to form a truly fundamental part of their psychological world, an emotional base that is built upon, perhaps without even questioning it more than a child would question their parents.

Like many other animals, humans form attachments to animals and other objects, both abstract and concrete. A newborn child will generally become attached to its primary caregiver, a monkey can become attached to block of wood in the absence of its mother, baby birds can become attached to a stick painted to look like a beak, young children become attached to blankets and toys, we may become attached to our homes as places of safety and we develop emotional attachments to friends, families, mates and eventually to our own children. From birth and

\[\text{The brunt of evolution drives humans to find loving relationships. We can become extremely attached to the relationships that we have or think that we have.}\]
throughout life, attachments and aversions are some of the most basic ways in which we relate emotions to objects that we perceive in our environments.

Attachments can relate to religions in a variety of ways, with different emotions and drives being attached to different aspects of religion. Clearly the most obvious example is that perhaps half the people in the world currently appear to be attached in some way to the ancient god of the Jews. Such relationships vary tremendously of course, from near complete detachment to perceived personal intimacy or even shared identity in some cases. According to the religions that deal with him, this god is often seen as providing infinite love for all people, matching neatly with the basic human drive for loving relationships. This god is also generally supposed to be the key to eternal life in one way or another, at least for those people that concern themselves with him, so he appears to fulfill the basic human drive for survival. Due to the increase in the world’s population, perhaps more so than ever, some people rely upon their attachment to the same god to gain military power, the idea being that this god also decides who wins any given conflict. For a person that believes in him, this supposedly eternal omnipotent, omnipresent, omnibenevolent and omniscient god is quite the ideal attachment figure, seemingly better than a blankie, teddy bear or perhaps even a real parent.

Relationships that people perceive themselves as having with gods or other divine beings have some of the apparent failings of real relationships too, for example gods only appear to deliver sometimes when they are prayed to. Religious explanations for this include that the rewards of religion are delivered only to the worthy, that life is a test, that gods work in mysterious ways and so on. It may be that humans and other animals actually respond more fervently to unreliably rewarding stimuli, perhaps as we are motivated by both the pleasure of the reward and the desire to avoid the pain if no reward is received. Similar addictive patterns of behaviour can be observed in gamblers. This basic biological relationship of an

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Why cling to certainty when you may be in error? Faith abrogates responsibility for justification.
emotion being attached to a perceived object can be looked at more broadly as goal
directed behaviour. This view applies to more abstract concepts such as prayer,
sacrifice, heavens, hells, karma, conditional reincarnation and so on. Religions often
offer a carrot on a stick, which can be followed throughout life without ever being
captured; one common religious theme for example is that when you die you shall be
rewarded, not only with a continuation of life but according to many religions, an
improved or even perfect life.

Imagination plays an important part in neural circuits of attachment and in
other similar relationships and thought patterns. We might plan to go to a Thai
restaurant for dinner in anticipation of satisfying our hunger and experiencing
pleasure, or we might save money for our retirement based on various long term
desires for comfort in our old age. The goals themselves are imagined but we are still
driven to act towards them and in some cases our plans can even outlive us; many of
us find appeal in the idea of being buried in a pleasant location or in the thought that
our actions in life might benefit others after we die. Imagination offers a shadow of
pleasure, generally not as intense as reality, but certainly sufficient to keep us
interested. If the emotional rewards associated with imagination were usually as
intense as reality, then we would miss the whole evolutionary point of drives, which is
to encourage behaviours that are conducive to the survival and reproduction of our
organisms. If our fantasy of eating was as intensely satisfying as an actual meal, we
might be more likely to starve. People may also pursue religious goals for imagined
reasons. If the religious person imagines that pursuit of their religion will produce
certain positive outcomes and/or avoid negative ones, this may be enough to drive
their religious behaviour.

Talking of goal directed behaviour or emotional attachment and religion may
seem like a waste of time in some ways. That we associate emotions with real and

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If an adaptation is highly beneficial, it may be favoured evolutionarily in spite of its inherent drawbacks. To take a
familiar memetic example, cars are extremely dangerous, killing people continually, yet they are exceedingly popular
nonetheless. Likewise the human imagination is incredibly powerful, having contributed significantly to the success of
our species, in spite of its numerous drawbacks and malfunctions.
imaginary representations of objects is the height of obviousness. However I believe this simple break down of some of the underlying psychological and evolutionary explanations for our drives is important for a number of reasons. Attachment seems to serve as a convenient defense mechanism for religious belief. Just as a person might rationalise the inappropriate behaviour of a friend or loved one in court and thus be viewed as biased, religious people may be driven to rationalise any number of things in order to ensure that their religious worldview can be maintained. Conflicting, would-be beliefs and information are swept up along with religious beliefs or perhaps swept away in their tremendous emotional wake. Just running back over one of the most popular rewards of religion as an example, if a person’s religious beliefs include that their faith can bring them eternal life, reality can’t even begin to compete given the technology that we currently have available. Religion seems to provide the faithful not only with a reward for their basic animal drive to survive, but to trump this drive with the perfection of eternal survival. This explains why someone might be willing to die for their faith; to an ‘unenlightened’ person, such behaviour might appear to be insane; to the religious person who makes the decision to die, it makes perfect sense.

The illusions of drug addiction seem to be the most obvious comparison for religious beliefs in this case, the otherwise unattainable euphoria that drugs provide modify an organism’s behaviour significantly, sometimes to its detriment or the detriment of others. Drugs and religion can both provide our minds with many of the feelings, pleasures and pains that we are naturally driven by and often they are far more powerful motivators than normality or reality. I shall return to this classic comparison of drugs and religion later on.

We must recognise that we are emotional beings, prone to being seduced by the gravity of our desires. Likewise we must keep in mind the fallibility of our perceptions and the limitations of our personal experiences. In combination, the

If you believe in something unquestioningly, you have absolved yourself of responsibility with regards to its justification. Religious faith is thus irresponsible.
awareness of our tendency to be emotionally biased and of the frequent failure of our imaginations and perceptions to provide us with accurate representations of reality are sufficient cause for us to significantly doubt our beliefs, particularly if we recognise that those beliefs are emotionally important to us. Religious beliefs are in fierce competition with various forms of tribalism, idealism, romantic love or parental affection for the title of ‘the most emotionally powerful ideas of humans’. The strength with which emotional religious beliefs are held will vary from religious person to religious person, though the fact that they can be extremely emotional is undeniable. The emotional associations of religion provide us with another important part of the explanation as to why people hold religious beliefs, one that stands to bring into question the motives of any defense of faith to which a religious person may be attached.

Understanding Religious Minds

Religion is a definitively human psychological phenomenon. Religions are said to fulfill a basic human need; I would argue that they in fact only appear to fulfill many of our needs via illusions. Instead of providing justification for religious belief, taken in this way, the fact that religions fit our needs actually provides us with a good reason to think that they might be false. Given that there are excellent evolutionary explanations for the existence of the drives that appear to promote religious belief, it seems far more probable that humans have constructed religions to fit these drives than that the drives have been installed in our minds in order to fit religions. Once again, one of the best pieces of evidence for this comes from the fact that many completely different religions and other forms of superstition have developed in many locations around the world; yet seem to match similar human desires in many cases. For example, a diverse range of conflicting creation myths has oft been called upon in the past to help humans explain the existence of our world.
Psychology offers us a number of possible explanations for religion that are grounded in verifiable evidence, unlike the various options offered by religions themselves. This field of study can help us understand that we explore the world from our limited individual perspectives, which are further limited by our sociocultural contexts. Our brains are limited to understanding the world in a number of ways as a result of their innate function, which in turn has been molded by the forces of evolution. Our minds have not evolved to give us a perfect understanding of the cosmos; they may allow us to work towards this goal and may even lead us to desire it, but less lofty objectives like eating and staying alive in general seem to play a more pivotal role in the direction of our thought processes.

Perhaps most crucially, we must be aware that our neural information processing systems, our brains, are prone to all sorts of failure and malfunction. We are capable of having perceptions that seem to be perfectly real to us, yet have absolutely no correlation with reality outside of our own minds. Only in the last century or so have we really begun to understand how these mental malfunctions occur. We need to understand that while something may feel right according to our desires or sound right according to our experiences, these give no necessary indication that what we think is right.

All this having been said, we must keep in mind once again that psychological knowledge too is fallible. Personally, I am loathe to trust a psychologist too far, yet lives are at stake where religion is concerned, so it makes sense to explore this topic as far as we are able. In order to progress in this field, we must attempt to understand patterns of behaviour despite the fundamental gaps in our knowledge. In any case, even with its shortcomings psychology gives us a choice as to whether the actions of man should be based certainly upon baseless claims of magic, or tentatively upon observable patterns in reality. The answer seems clear. Even if all psychological discussion does is give us cause to doubt ourselves or for the religious person to question their faith, it provides us with a great cause for hope in ending
religious conflict. If we are uncertain of our beliefs, it follows at least logically that we should be far more reluctant to impose them upon others. Someone killing in the name of a belief that they know may be mistaken seems less probable than someone killing in the name of something that they believe to be an unquestionable absolute.

Gott a Feeling? Emotion, Awe and Wish Fulfilment

While we’re still essentially discussing psychological issues here, the boundaries of this discipline are often, quite rightly, blurred. As such, I shall continue to relate the ideas in this chapter to those already discussed as seems appropriate. It appears to be the case that the vast majority of our actions are dictated either directly or indirectly by the drives and emotions that have evolved in conjunction with our various neural systems. This evolutionary explanation conflicts of course with numerous religious explanations for the existence and function of our drives and emotions. Some religious folk might argue that their faith is the highest human emotion, installed by their gods to separate them from other animals or that the ‘true’ feeling of hope is only available to the faithful due to their religious view of the big picture of reality. While there may be a certain indomitable optimism associated with religious belief, there is no evidence to show that it is any ‘truer’ than the unassailably intense yet purely artificial highs to be obtained by using various drugs.

I have already talked about the possible evolutionary origins of some emotions such as those involved in attachment and shall now continue to examine this theme of emotion and religion in further detail. If the explanations that evolution gives us for drives and emotions are correct, they both undermine any conflicting

Beware the system. Governments, laws, nations, cultures, religions, families, companies, minds, the media, economies, schools and so on are all vulnerable to systemic manipulation.
religious explanations for emotion and help us to understand why so many people are religious in the first place.

In our discussion of neuroscience, you may recall that we have already examined the neural correlates of feeling and emotion to a limited extent. For example, French-Canadian researchers have found that the emotions involved in sexual arousal may activate some of the limbic brain structures and that a conscious attempt to repress these emotions involves activation of the right superior frontal gyrus and right anterior cingulate gyrus but not the limbic structures. Emotion like behaviours can be observed in simple animals, leading up through the animal kingdom to feelings, which are the representations of emotions that occur in conscious animals such as humans and presumably lemmings. Emotions seem to have predictable evolutionary purposes; some are obvious whilst others are subtler or more complex and thus more difficult to understand. In humans, such complexities may for example arise from the interactions of emotion and cultural conditioning, cultures and emotions being complex entities that interact in complex ways.

It is also worth noting that there seems to be a fair degree of overlap amongst emotions, both in terms of the brain structures that are involved with them and their experiential relatedness. Panic, anxiety and fear for example may all involve the activation of the amygdala and various other brain structures depending on the subtle differences between these feelings and the nature of specific incidents that they are involved in. In any case, emotions all seem to be linked in some way to evolution’s tendency to favour traits that enhance an organism’s chance of survival and reproduction. A few examples of possible evolutionary explanations for emotion follow.

"Religious dogmas are not the results of experience or thinking, but they are refined fantasies, wish-fulfillments in response to the most basic needs of humankind. The strength of the illusion is therefore reciprocal to the strength of the need." Jürgen Braungardt.

We are better adapted to seeing emotions as causes than seeing causes of emotions.
• Emotions like love and long term emotional relationships such as attachment discussed previously may help to ensure that organisms stay in social groups where their offspring will be cared for, while encouraging and enabling loving animals to protect, support, breed with and learn from each other.

• Lust will clearly encourage organisms to reproduce, a behaviour which has direct evolutionary implications.

• Jealousy might be important in encouraging competition for food or mates, or for helping to ensure that an organism is less likely to be cuckolded into raising offspring that do not possess its genes.

• Competitiveness may assist some animals in frightening off competing animals, weeding out competitors within their own species or in raising their status within a social group to increase mating or feeding ‘rights’.

• Fear and anxiety obviously help organisms to avoid situations that might bring about their damage or destruction.

• Anger might motivate organisms to defend themselves, their territories, mates, offspring or other objects related to their survival and reproduction.

• Hatreds may form in relation to objects that have proven dangerous or detrimental to an individual organism or its group, encouraging the elimination or avoidance of hated objects.

• Suffering of various kinds may encourage organisms to avoid the situations associated with it.

• Greed may assist organisms in being the first to get food in highly competitive situations, such as in a nest or litter of young animals, perhaps ensuring an organism’s survival when food is scarce.

• Guilt might be learned during an organism’s lifetime, depending upon experiences relating various behaviours to their consciously or

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“Happy indeed we live without hate among the hateful. We live free from hatred amidst hateful men.” Siddhattha Gotama, *The Dhammapada.*
subconsciously perceived social repercussions. This complex emotion may be related to both fear of punishment and the desire for love of other organisms.

- Generosity, like love may assist in strengthening social ties and social groups in general, allowing organisms to enhance their survivability through their relationships.

- Feelings as abstract as curiosity or the appreciation of beauty may sometimes be associated with objects or environments that are novel, seem to be desirable or potentially beneficial\textsuperscript{cxii} to the organism and may encourage it to learn about them, explore or expand.

- Trust and faith seem to be useful in assisting organisms to make decisions in relation to other organisms that may be friendly towards them, for example a child might be naturally trusting of its mother or mistrusting of strangers. Mistrust might also form between organisms, perhaps where one has stolen another’s food.

- Hope might give organisms incentive to pursue goals that may benefit them, even if achieving those goals seems to be unlikely.

It seems that a number of these emotions must be learned, at least in significant part. Even something like hunger, which appears to be fairly automatic, develops in complexity over time as our bodies and minds become conditioned to their environments. We might come to associate particular types of food or drink with particular desires and corresponding forms of satiety, perhaps even coming to depend upon them. The simplest distinction here would be that between hunger and thirst, although some of our cravings for sustenance can come to be quite particular. This ability to develop existing emotions or learn new emotions and thought processes involving emotion is extremely evolutionarily useful for organisms as it enables them to adapt their behaviours during their own lifetimes in complex ways,
that will comply with drives that have already been favoured by evolution as beneficial. Here memory and emotion team up, hopefully to their organism's gain. Adaptive adaptations like learning have allowed complex organisms like humans and rats to thrive in a variety of changing environments without necessarily modifying their genetic structure.

Evolution has favoured emotions because they have proven to be beneficial to organisms in a wide range of circumstances. Emotions are thus thoroughly interconnected with our thoughts and imaginations. As with many organismic systems however, emotions are also prone to malfunction, as the faculties that evolution has equipped us with are far from perfect. A dysfunctional, neglected child might kill his mother because he couldn’t bear the thought of losing her. Some individuals experience incapacitating panic attacks when their systems overload with fear for one reason or another. The taste that we humans have for fats and sugars – which are less readily available in nature and useful for the energy they provide to highly active organisms – can malfunction in modern environments to encourage us to eat quantities far in excess of what our bodies can handle safely and productively. Similarly, pleasure gained from eating may cause an individual to overeat when depressed, with detrimental effects upon their health. At the other extreme, someone may be so afraid of the social implications of becoming overweight that they essentially starve themselves to death. While evolution almost certainly favoured the overpowering lust we see in rapists, in modern societies, these people may sometimes be less likely to survive and reproduce, without even discussing the hideous moral implications of such strong animal drives. We have already talked about how attachment to religious figures can malfunction to an organism’s detriment or even destruction, in a similar way to a drug addict’s attachment to their chemicals of choice. There’s plenty that can go wrong with our emotions, though on the bright

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Beware yourself. The tyrannosaurs were cute, but ‘man is evolution’s most proficient killer.
side we also seem to be able to consciously overpower our emotions in most situations, particularly if we are aware of them.

**Xenophobia**

Just as emotion permeates our thoughts and minds, so too it permeates religion. Accordingly, the relationships of emotion and religion are far too diverse to examine here in their entirety. What we shall have to settle for in this chapter then is the examination of a few examples of the sorts of relationships which emotion has with religion and the sorts of influences these relationships have on the actions of religious people. Of course, these religious examples can be extended to the relationships of emotion and thought in general, another worthwhile line of study that we shall not examine directly but that is worth being mindful of, as it seems to dictate much of the subconscious functioning of our minds. For now, we may use these examples to aid in our understanding of the possible relationships between emotion and any religious beliefs or practices that we encounter and in particular, some of the detrimental effects that emotions, particularly religious emotions, can have if they are given free rein over our minds and bodies.

Humans and other animals seem to have a natural fear of certain unfamiliar objects, particularly those they perceive as potentially threatening; this fear is known as xenophobia. You may recall that my budgerigar was frightened of a piece of black wool and that my dog seems to attribute hostile agency to rakes. Actually dogs that I have encountered often seem to be at least somewhat hostile towards or fearful of new houseguests, birds, other dogs or just about any novel object they see. These may all be xenophobic behaviours, which have helped to keep organisms alive in the competitive, often hostile environments in which they evolved. In humans, xenophobia often refers directly to a fear of strangers or foreigners, including members of other religions. This natural fear compounds with religion in a number of

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The greater the emotional salience of a goal, the more satisfying its pursuit.
ways. If a child is brought up in a particular religious context, their natural xenophobia may make it difficult for them to trust strange people and strange ideas; fear is not a good start for the development of collaborative understandings, yet it seems to be part of human nature. As a result, this manifestation of our natural emotion of fear can prevent us from treating foreign ideas fairly, thus reinforcing familiar ideas by default. Xenophobia can interact with certain cultural groupings such as religions to form far more unpleasant behaviours.

Some religions, notably the Judaeo-Christian ones, which appear to be followed by more than half the world’s population, fuel xenophobia to greater and lesser extents as parts of their very doctrines. Generally such fear is directed towards members of other faiths or unbelievers, particularly anyone who might try to lead a Judaeo-Christian away from their faith. The penalty for such religiously misleading behaviour mandated by the *Bible* in Deuteronomy 13:6-11 is quite clearly death by stoning. Inter-religious marriages have often been frowned upon due to the xenophobic doctrines of some religions. The ancient Hebrews dedicated a significant portion of their religious text to making the point that the slaughtering of natives by an invading Jewish army was necessary in order to avoid this possibility. The *Koran* contains over a hundred references to unbelievers – those who do not believe the words of the prophet Mohammed – which range from unfavourable to extremely hostile. The xenophobia of various religions has caused tremendous amount of bloodshed throughout history, right up to the present day, as in many of the violent conflicts we have already looked at.

Finally I shall add that xenophobic behaviour can perpetuate itself. If a person grows up in a nation or religion that is in conflict with one or more others, this may have a significant detrimental impact upon their perceptions of the relevant foreigners and thus impinge upon their ability to form positive relationships with anyone from the alien group. So at worst, we may have a destructive, three way interplay between

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Whether or not it is religious, segregation can contribute to xenophobia.
xenophobia and religion; xenophobia fuelling religion through cultural isolation, religion fuelling xenophobia through hostile doctrine and xenophobic behaviour triggered by religion, further fuelling xenophobia on both sides of a conflict.

*Understandings of emotions are building blocks for understanding religion. Stay focused.*

**Faith as Loyalty**

Often, in my limited experience, people seem to have entirely positive notions of the emotion of loyalty; on the surface, loyalty seems to be a positive emotion, by which an organism favours or perhaps even loves an object or group of some kind. The intense form of loyalty known as ‘chauvinism’ or blind loyalty seems to be viewed somewhat less favourably, though it nonetheless influences the behaviours of animals such as humans, throughout the world. These emotions frequently make good evolutionary sense; a mother’s impassioned defence of her young or for that matter virtually any social behaviour where organisms automatically support others from their group over those outside of their group. These are strong emotions, of the sort that an organism might easily be driven to give its life for. Emotions of this kind are encouraged by any number of social behaviours and groupings, and religion is no exception. Chauvinism and similar emotions relate particularly to conflict and xenophobia, discussed above and to tribalism, which I shall examine a little later. They can be connected strongly to both love of the group and hate for outsiders. In the immediate context however, I shall be addressing chauvinism of religious belief or, as it is more commonly known in the context of religion, faith.

In theory, in science, if someone arrives at a theory, then that theory can be changed or dismissed as new evidence appears. In most cases, we might evaluate the relative certainty of a piece of information based upon facts or perceived facts,

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I remember once when I was hitchhiking, a young German lass who was kind enough to offer me a ride commented that ‘some people make life harder than it has to be’. I’m still not quite sure just how profound this thought was.
although it must be acknowledged that our perceptions are often weighted inappropriately. Religious beliefs do not seem to follow the same set of rules as scientific and other mundane beliefs however. In many cases, the first rule of religious belief is belief itself; it seems that religious beliefs are often defined by their certainty. For anyone who professes faith in a given religion then, it appears that any beliefs about the nature of reality that they adopt as a result of their faith may be similarly emotionally driven. A person may have arrived at a consciously reasoned decision to adopt the emotion of religious faith, but once they allow faith to direct their thoughts, reason is forced to step down.

Alarmingly, in various forms of religious indoctrination, this emotion of faith frequently seems to be implanted firmly during childhood, before young humans may even be capable of abstract reasoning, at least as the upstart psychologist Jean Piaget would have us believe. If a person ‘switches on’ this chauvinism of faith in favour of a specific religion or has it switched on for them for whatever reason, just as a mother cougar may risk her life in defence of her cubs by confronting a grizzly bear, this powerful emotion can overrule all manner of other thoughts and emotions. Faith is able to motivate a person to kill and die for their religion and likewise it is able to motivate them to modify or deny any thought that might conflict with their religious loyalties.

While faith seems to be a negotiable emotion, as emotions generally are, religion frequently seems to require absolute faith. While half measures are perhaps available, many would count them to be insufficient, you either do believe or you do not. If your faith is uncertain, at least according to the most successful religions, this may mean the difference between spending the rest of eternity in a heaven or hell. If you are working from the start point of belief and you accordingly imagine these places to be real, then they represent motivations to maintain faith that are literally larger than life.

“Can’t you see, life’s easy, if you consider things, from another point of view.” DB Boulevard.
For anyone trying to develop an accurate understanding of reality, the problem with faith based religious certainty is roughly as follows. If your start point in creating a belief structure is that you should necessarily believe in a particular set of ideas, then if the things that you decide to believe in are incorrect, your entire belief structure will be unavoidably flawed, yet you will be unable to recognise this. If we wish to develop belief structures that accurately represent the world, we must be willing to accept that we can be wrong. To adopt with emotional certainty existing belief structures as complex and specific as religions without the masses of evidence that would be needed to support them is irrational, yet people continually fall into thought traps of this kind. This failing should not surprise us, given our awareness that we animals are driven by subconscious emotion to a significant extent.

'Man's fallibility is plainly self-evident and should never be ignored. For anyone who is aware of the emotional shortcomings of our human minds, such as anyone reading this, the only reasonable way of thinking is one in which we are able to doubt our beliefs. This need for doubt is particularly true for religion as there are so many conflicting viewpoints, all similarly lacking in evidence.

*This chapter is boring. It needs more violence in my opinion. Can't we fit in some explosions or something?*

**Religious Motives**

It is clear that we structure our beliefs and make decisions according to both emotion and reason. In a hypothetical childbirth situation where we are forced to choose between saving a mother upon whom another two children depend and her baby to be, some might save the mother, while perhaps the mother herself might save her baby, depending on the circumstances. The decisions we make are often highly complex. We come to value objects and ideas differently depending upon context,
culture, experience, relationships, natural temperament and so on. So it is with religious beliefs and decisions. Emotions like faith and love of divine beings may complement or compete with other thoughts and emotions, significantly influencing our outlooks and actions.

One religious person might dedicate their entire life to the service of others because they see it as their religious duty to help people who are suffering and as this course of action will ensure their own prosperity in the afterlife that they envisage. Another religious person might sacrifice their own life directly in service of religious ideal, destroying many other lives along with their own, in order to work toward a religious ideal of defending their religious world from unbelievers that they view as evil and likewise to ensure their own place in a perfect afterlife. For both of these people, their motives are specifically religious, they both sacrifice their lives somehow, but the impacts upon their fellow human beings could hardly be more different.

I would like to remind you here of one of the themes from my chapters on religious conflict, a theme which I shall touch on again towards the end of this book in discussing morality. Religion and particularly the emotion of religious faith can promote violent and destructive behaviours in humans. While religions also produce socially desirable behaviours, these are not sufficient to justify the religions from which they stem; if the behaviours are worthwhile, then they are worthwhile in their own rights. Above we have two sets of actions, both self-sacrificing, both motivated by religion. Most people would probably agree that the first behaviour of generosity is socially desirable, independently of religion and that accordingly it is worthwhile pursuing such behaviours independently of religious motivation. The second behaviour – suicide bombing – is generally considered to be undesirable, except by the many millions of religious people that deem this sort of behaviour as not only acceptable but appropriate.

The best intentions often cause the greatest harm.
Once again I would draw your attention to the fact that while I am singling out religious faith here as the culprit in motivating this particular 'socially undesirable' behaviour, there are numerous secular causes of similarly atrocious behaviours. In the Second World War, bombing of civilians was a standard policy and had nothing to do with religion. The self-righteous United States government has been all but genocidal in a number of its 'police actions', since World War II, until recently none of which have been officially religious. On the other hand I should also continue to emphasise that the existence of destructive behaviours outside of religion in no way serves to vindicate religious belief from its role in human suffering. We must continue to deal diligently and systematically with each and every cause of human suffering if we are to maximise the improvement of the human situation.

The conflux of religious belief and emotion is certainly one of the greatest causes of human suffering in the world. If an Islamic person blows himself up along with a bus full of people, his love, faith and loyalty for his god Allah, defeat or perhaps do not even encounter competition from his presumed care for the lives of civilians that he is destroying; they are merely unbelievers, for whom an eternal punishment has already been prepared. People actually think this way; the slain civilians are infidels who have intruded upon the Muslim holy lands and so are the enemies of Islam. For the Islamic fundamentalist, love of Allah and submission to his will may appear to be the highest virtues, before which all other ideals may be pushed aside. I cannot find a way out of this situation for the religious person while they remain certain in their belief. If they are emotionally certain of their belief, their behaviour will seem logical to them, the bus will explode and the people will die. If they doubt their belief as seems logical given what we know of our ability to err, then surely it is wrong to kill over a maybe. Certainties of belief, such as religious faith and other forms of totalitarianism are potentially dangerous if they are allowed to dictate moral actions, thus practices such as indoctrination, that lead to religious certainty, could also be considered dangerous and thus indirectly immoral.
At first, some of the ideas here may seem disjointed or excessively repetitive, however I shall attempt to ensure that all becomes clear before we are done.

Rationalisation
To a person whose faith drives their religion, which in turn defines their worldview, this absolute emotion can become the keystone of their existence, with everything else being made to work around it. For many it doesn’t matter how blatantly religious beliefs conflict with other beliefs, it seems that their religious beliefs must be supported at all costs, everything else being made to fit in with religion. This process, by which emotion brings reason to heel, is generally known as rationalisation.

Rationalisation is something that we do regularly; for example any time we contemplate the apparent logical possibility or validity of an idea. This is not necessarily a bad thing, as it allows us to develop understandings of new ideas and explanations for the world that may be better than the ones that we already have. Given our awareness of the limitations of our knowledge however, it seems crucial that we realise that the fact that we are able to come up with logical reasons in support of an idea does not necessarily make the idea correct or desirable. For a while, I rationalised what I would now say was technically my desire not to eat meat on the basis that I was unable to find a completely convincing argument either for or against vegetarianism and thus that it was reasonable to err on the side of caution and reduce the harm that I caused to other animals. A thief might rationalise stealing from a large company on the basis that companies factor theft into their pricing anyway, that theft isn’t hurting anyone who can’t afford to be hurt or that they need what they’re stealing more than the company needs its profit margins. Regardless of its validity or invalidity, in many situations, rationalisation causes reason to become the slave of an emotion or ideal, being used to support and reinforce it.

Rationalisation can make a course of action seem reasonable when it is not or else it
can distract people from someone's underlying motivations. In any given situation then, we should try to be aware of human emotions, their tendency to modify our ability to reason and the fact that our reasoning can itself be mistaken.

An emotion that explains much of the tendency of religious people to rationalise their beliefs is the natural human fear of death. Arguably the greatest appeal of some of the most successful religions of the world is that they appear to allow organisms to escape death. The desire to avoid death is a persistent and penetrating aspect of the human psychological makeup. As all drives can be met in life but as there are no drives in death, any religion that manages to convince its adherents that they can reach eternal life through religious behaviours, also manages to satisfy plans that suit every other drive imaginable. Our finite lives cannot provide such apparently ideal fulfilment, thus religions seem to provide the only paths to the perfect satisfaction of human drives, paths which religious people may pursue to their graves. If an individual's worldview appears to place them in a reality where religion meets their needs best, they will be subconsciously motivated to maintain their religious beliefs in order to continue satisfying their drives. Emotions such as our fear of death may have contributed heavily to many of the rationalisations throughout the history of religion, perceptions of the divine and mundane alike having been modified to fit in with faith.

It seems prudent to step outside of this limited perspective on religious emotion for a moment, in order to contemplate religious worldviews as larger thought structures, with emotions such as the fear of death merely contributing to them. Generally speaking, well established religious worldviews tend to already have developed explanations for many questions that might arise, stemming directly from doctrine or from past rationalisations, such as those commonly found in theological discussions. Theology is a field of study that is actually based upon certain unprovable religious assumptions. Religious rationalisations are based upon existing thought structures and emotions but also serve to reinforce themselves as they
accumulate over time. We shall continue to add to our secular picture of religious
worldviews as we continue; for now, I shall return you to our evolutionarily
programmed emotions.

If emotions can direct and distort our reasoning processes when we
rationalise, and if powerful emotions such as the fear of death provide religious
people with just the sorts of powerful subconscious motivations needed for
rationalisation, then we have cause to doubt the reliability of many religious ideas.
There are numerous examples in the history of religious belief that seem to fit this
pattern of rationalisation. It is possible that ancient Jews rationalised that their god
must be omnipresent rather than being contained in their ark when it was captured or
destroyed, as they couldn’t accept the idea that their beloved god had been defeated
in this way.\textsuperscript{x} Any time a natural or personal disaster befalls a believing Judeo-
Christian person, they might rationalise that their omnipotent, omnibenevolent god
has elected to test their faith with hardships, in order to see whether they are worthy
of his love, rather than questioning their fundamental ideas about their god. As
Arjuna’s qualms about the immorality of war are swept away by the revelation of the
god Krishna in the \textit{Bhagavad-Gita}, a believing Hindu might rationalise away moral
dilemmas on the basis that it is not the results of one’s actions in reality that are
important, but that one’s role is fulfilled properly.\textsuperscript{cxvi}

It is far more important here that we be aware of the process of rationalisation
than that we treat any of these examples as being individually noteworthy. We all
rationalise, we all have perceptions of reality, but all of our conflicting perceptions of
reality cannot simultaneously be correct. Accordingly, any idea that fits with an
existing view of reality should be treated as being potentially nothing more than
rationalisation, particularly if it is designed specifically to cope with a competing
theory. If we are aware of the ability of emotions such as faith to influence reason
and are always willing to question the underlying assumptions behind a given idea,
we shall at least be less vulnerable to making or blindly accepting mistakes of this kind.

*I know this is incredibly boring, but it's also incredibly important. Please bear with me.*
*You could bare with me instead if you like, but we might be arrested.*

**Faith's Fallibility**

There is a significant conflict of interests when the causes of thoughts and emotions, particularly social ones, are attributed to supernatural beings like holy spirits, ghosts or devils, as is done in many Judeo-Christian religions or in various forms of animism for example. Attributing our feelings to imagined external causes could amount to a partial or perhaps even complete relinquishment of our responsibility for them. To say that a feeling of love or hate comes from a higher power and that it must thus be good or evil, reduces an individual's personal responsibility in relation to his or her own feelings. This reduction in responsibility might be quite subtle and seems to be of little note in many cases, as emotions seen as being externally caused may often still be evaluated appropriately. The tendency of feelings to coincide with religious doctrine and thus to be labelled as 'good' or 'evil' by religious people is crucial to the problem that this situation presents us however, as antiquity's absolute assertions are so frequently flawed.

This good and evil mentality seems to come naturally to humans, perhaps stemming from the natural division between pleasure and pain. As such, the fact that religion frequently utilises ideas of good and evil to explain the driving forces of reality constitutes part of the direct emotional appeal that religion has to humans. Religions tend to reinforce self righteousness, by informing their adherents that what feels good or evil is magically good or evil in some absolute sense. While many religions contain detailed discussions of what behaviours are good or evil, frequently these seem to

"Good’ and ‘evil’ are just words that we use to describe something that affects us in some way - if the effect is positive, then the thing is ‘good,’ and if negative, then ‘evil.’” Steve Corbett.
appeal to pre-existing human emotions. This doesn’t mean that these ideas of good
or evil will be necessarily bad or good for us, however it does mean that they will be
just as unreliable as the emotions that underpin them. Take for example the death
penalty for adultery prescribed by some religions; it might meet our hateful animal
drives of jealousy and anger, but these drives developed because they were
evolutionarily beneficial, most certainly not because they were morally desirable.

Many sects and religions might allow for or encourage discussion and
subsequent action in relation to whether a ‘spirit’, which might take hold of someone,
is a bad spirit or a good spirit. Nonetheless, in attributing righteousness to a spirit,
which in turn is viewed as influencing thought, a religious person may be allowing
emotion to influence their actions directly, without thinking them through. In its more
extreme forms for example, the Christian idea of ‘following a holy spirit’ amounts to
something like ‘if it feels righteous, do it.’ It is granted that Christian mythology also
allows that evil spirits can misguide feelings, but neither religious scriptures nor
emotions are reliable judges of what is moral, just or desirable for all people. I shall
be discussing some ideas that might make far better guides for our moral compasses
towards the end of this book. For now, it is of significant concern that things so
profoundly fallible and inconsistent as religious doctrine and its incumbent primal
emotion seem to spin the moral compasses of many of the people on our planet.

Religion’s frequent emphasis on faith as an overruling emotion and ideal
serves it well in ensuring that individuals remain a part of whichever faith based
religion they are concerned with. Faith also serves to overrule other thoughts and
emotions, thus anyone who makes faith their unquestioned priority is plainly being
irrational. This reliance upon faith in things like prayer and emotional submission to
concepts such as righteous spirits, conflicts directly with an individual’s faculty of
reason and thus potentially with the interests of the individual and society that are
displaced by faith based behaviours. It may feel right to a faithful religious parent to

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Holy Spirits? Of course it feels right to do what you feel is right! This does not make it right however or even mean
that there is such a thing as absolute right.
trust their perception of a spirit guiding them to pray for their sick child rather than trusting in a blood transfusion or operation, but in reality, reliance upon the skill of health professionals may be a safer choice for the child for whose well-being they are responsible. For a religious person who believes in an afterlife, a decision of this kind to ‘trust in their god’, would be made easier still, as even if the child dies they will imagine that they will not be parted permanently; the death may even be rationalised as a part of their god’s plan or a test of faith. It’s frightening to contemplate how commonplace these beliefs are, that cause the boundary between life and death to lose its meaning for so many religious people.

To ascribe our thoughts and feelings to magics and spirits is to dismiss reason and embrace emotion in all its fickle grandeur; it is to allow our powerful imaginations to be directed half blindly by ancient ideas and animal desires. If you have faith in divine justice, your motivation to succeed in what you perceive to be the next world may overrule your would-be motivation to succeed in this one. I think if we admit to our own fallibility, a problem that in humans is quite plain for all to see, it’s dangerously irresponsible to allow emotion to reign free, over social interaction as this includes morality. It’s not ok to say ‘if it feels righteous, do it.’ Our feelings can be wrong in many ways; we know this, so we should act accordingly.

*Hey I didn’t say this was going to be exciting; it’s not ‘The Adventures of Atheism’.*

**Awe**

As a brief reprieve, awe deserves a special mention amongst emotions, as it is often used in some form by religious people as a core argument in favour of the existence of gods, spirits, magic or what have you. It’s easy to imagine gods. If you respond that they are really too difficult to comprehend, then I would remind you that it is the simplest matter in the world to imagine an incomprehensible object, as we are confronted incessantly by things which we do not understand. The attribute of
incomprehensibility also adds considerable weight to the appeal of religious ideas. Religious doctrines may inform their adherents that it’s not important to understand what can’t be understood; they just have to believe and follow faithfully in order to attain what is advertised as the most perfect existence possible. Some religions actually endorse unquestioning faith in and love of their gods as the highest of virtues. Again such endorsements constitute an appeal to emotion, rather than reason, an appeal to our baser natures rather than our higher faculties. For many religious people then, the most ideal behaviour seems to be a complete submission to religious emotion, as may occur in experiences of religious awe.

Many religious people seem to equate experiences of awe that they have with experiences of divinity. These awesome experiences are then cited as evidence of the truth of a particular religion, almost always the one with which they are most familiar or perhaps with which they are currently concerned in the case of converts. This is similar to the pattern that we examined previously of religious people who hallucinate or hear voices and attribute them to supernatural causes. The feeling of awe is a special case however, as it is one that any person might easily experience, yet once again one which religious belief falls perfectly in line with. Feelings of awe also seem to be able to set any person up for subsequent feelings of reverence and submission that are so central to religious beliefs. For a person who already holds religious ideas, awe may trigger more than these simple religious emotions.

There are a number of variations upon the theme of awe. Awe always seems to contain an element of being overwhelmed by some powerful experience. This feeling of heightened emotional stimulation by some significant or novel object seems to be sufficient to explain awe, although there is generally something more to awe, perhaps linked to how we perceive the new stimulus in relation to our experiences and ourselves. We might feel a fearful sort of awe upon encountering a large carnivore or perhaps a shocked awe in the wake of a particularly terrifying use of

*The perverse thing about OCD [Obsessive-Compulsive Disorder] is that it works. If I touch the table four times to prevent something bad from happening, nothing bad happens. The same rationale is used in treatment – to show that nothing bad will happen if the individual doesn’t perform the ritual.* Rocco Crino.
military force. Observing footage of our sun or perhaps standing next to Niagara Falls might produce feelings of awe tinted by impressions of insignificance. Contemplating the development or vastness of the cosmos, or coming to understand the molecular complexity of our bodies or DNA might produce feelings of awe and wonder. A mountaintop panorama or exquisite painting might produce feelings of both awe and perceptions of beauty. Displays of exceptional generosity, self-sacrifice, skill or charisma might leave us with awe like feelings of admiration or respect for a person. While all these situations contain the common element of feeling inferior to a power greater than one’s self, the type of stimulus and the other emotions that are associated with awe vary tremendously.\footnote{xxvii}

We might hypothesise that different kinds of awe merely result from the hyperstimulation of the brain in various circumstances of exceptional emotional salience. Perhaps the amygdala goes into overdrive when we see a tsunami approaching us for example and this might result in our hypnotic focus upon such a powerful stimulus. However, as there appears to be very little research on the subject of awe’s impact on the brain at the moment, we should direct our discussion towards the contemplation of those patterns and aspects of awe which we are able to observe.

From the varieties of emotional experience that cause awe, we are able to pick up on the common themes of power and submission. The evolutionary advantage of submitting to extremely powerful stimuli seems obvious, although it might vary depending on the specific nature of the stimulus. Beautiful landscapes or desirable mates provoking awe might lead the organism to direct an appropriate or even inappropriately large amount of its attention to them. It would be foolish to fight against a rhinoceros, falling tree or avalanche and fearful awe puts such actions out of the question; awe makes the organism feel small in relation to them. Perhaps one of the most relevant causes of awe evolutionarily is that which might be inspired by a dominant male or female within an organism’s own social group. If he’s four times
your size and doesn’t appear to be in a good mood, it might be best to try not to upset him; it might even be a good idea to make sure he knows that you know he’s boss, just to be on the safe side. If awe is the intense emotion associated with objects of extreme power or apparent emotional importance, the natural responses of submission and focus of attention make excellent evolutionary sense.

As in any situation where we attempt to understand our world, our responses to feelings of awe seem to be dictated in significant part by our prior experiences. Experiences of awe may involve strong impressions of power, which we are emotionally driven to accommodate and submit to. For religious people, who appear to be more inclined to believe in supernatural objects than most, supernatural explanations may be chosen in order to explain the phenomenal intensity of awesome experiences. When one jumps out of an aircraft, as one is wont to do on occasion, or perhaps when one is a rabbit, spending the last few moments of one’s life gazing into the headlights of an oncoming automobile, it seems that one’s mind is likely to be subject to a rather heightened degree of emotion. In these situations of hyperstimulation, the degree of emotional stimulation is so high, that one’s ability to act and think rationally may be significantly impaired. Called to action by emotion, the brain chooses whatever path is available. The parachutist is trained to follow a specific procedure, which will hopefully result in their survival; if the rabbit’s survival system kicks in in time, it will flee. The puppy rolls onto its back at the approach of the bipedal behemoth; and the religious person submits to whichever divine beings they perceive in the apparently incomprehensible power of nature or the cosmos. It seems that much of the time and particularly under stress, our brains are only powerful enough to show us a fraction of our ignorance, by the light of which we somehow manage to blunder through our lives.

Imagine yourself as a person trying to make sense of your world, the ancient world, in a time before there are any really scientific explanations at all. Your natural feelings of awe might form a base, to which the religious beliefs of your culture are so
attuned to explaining that they feel like they belong. To many of us there appears a
similar dilemma. Even today if yours is a vulnerable young mind or if you are an
awestruck adult trying to make sense of your world, you may have almost no chance
to survive the onslaught of seductively simple religious ideas, particularly if these are
all you have to work with. Together with ignorance, our propensity for feeling awe has
really set us up for the bomb that is religious belief. With a little thought however, it is
possible to see how and why religious people may have continued to incorrectly use
supernatural explanations for their experiences of awe throughout the ages.

(Aside): In being taught to write, I was oft warned against the evils of
tautology, to repeat ideas unnecessarily is spatiotemporally wasteful. You
may have noted that I have thrown such caution to the wind so far; the degree
of overlap amongst religion, emotion and thought is truly impressive. It is
important for us to realise that religions are embedded in our cultures and
ideas, having worked their ways in over the millennia, molding themselves to
match our still more ancient animal desires. Religions are complex sets of
ideas and thus they relate to our thoughts in many complex ways; to
understand them properly we must at least make an attempt at thoroughness.
Approaching the same topic from different angles is also more likely to
improve learning and comprehension. So fear not for my sanity if I continue to
repeat and reiterate; it is intentional.

Wish Fulfilment

When I talk to religious folks and friends, they frequently inform me that their faith is
felt. It’s an intuitive emotion, rather than a reasoned thought process. So far, this
chapter has focussed to a significant extent upon how the development and

Witch Fulfilment: As witches are cool and have cats, everyone wants to be a witch or at least near enough everyone
as makes no matter. Unfortunately, as olden day religious folk were so incredibly jealous of witches, they tended to
burn them alive. Now, as ostensible witchery has become possible again in a few corners of the world, some people
are once again becoming witches as a result of a psychosexually transferred guilt trip that stems from the incineration
of the original ‘primal witch’.
existence of feelings that lead to faith might be explained in secular or evolutionary terms, in order that in turn, we might compare possible explanations for religious emotions. Is any given religious feeling triggered by the existence of some supernatural entity or would such feelings better be described as the malfunctions of various natural neural systems? The latter idea is central to the theory of wish fulfilment, proposed by Ludwig Feuerbach in the early to mid nineteenth century.

The basic idea of wish fulfilment is that a significant aspect of religious belief is the mental projection of idealised human emotions and desires onto a set of imagined supernatural objects. Wish fulfilment tells us that religion has been constructed by 'men to fulfil their innermost desires – their wishes. We have already looked at a list of human emotions and discussed some of the ways in which these emotions might have proven evolutionarily beneficial. Now I shall contrast a number of natural human emotions with a handful of the ways in which various religions artificially fulfil them. Via this comparison, it is my hope that the reader will be able to understand and compare each of the following, unfortunately untestable hypotheses. Did supernatural entities spawn human beings with a multitude of religious emotions or did evolution spawn human beings with emotions, which they in turn shaped a multitude of religions around?

So it seems to be the case that we die. When animals die, they stop working so well and generally don’t reproduce afterwards, at least not for long. Naturally, survival is highly conducive to our survival and reproduction. As such, any religion that claims to provide an escape from death will meet one of 'mankind’s most basic evolutionary drives. Further, as we have already discussed, through their apparent escapes from death, many religions provide a path to the satiation of virtually every desire, far more so than reality can. Whether it is the eternal life of the Judaeo-Christians or the reincarnation of some Hindus and Buddhists, not really dying when you die seems to be a common theme in religion. Without examining smaller religions, this means that most of the people in the world, view their religions as
having the capacity to extend their experience indefinitely. Death loses much of its natural fear and religious people may be able to make plans to have any of their other drives met in the future, as restrictions like time and reality no longer seem to present obstacles to them. Many religions tell their followers that for the faithful, death is merely an illusion; all will eventually be well. What more perfect a wish could religion claim to grant the human organism than eternal life?

Our various social drives are a little more complex than our drive to survive; yet again, many religions seem to fulfil our social drives perfectly. Sin is a word that basically describes behaviour deemed to be doctrinally inappropriate within a given religion. In Judeo-Christian religions at least, sin tends to have been roughly defined by Bronze Age or Iron Age morality and thus for many religious moderates, what constitutes sin has become rather flexible over time, as moral ideals foolishly constructed from iron or bronze have proven to be vulnerable to corrosion.

One of our most basic desires in terms of social behaviour seems to be for acceptance by our social group, thus the religious idea of being divinely forgiven for the various mistakes we continually make is naturally appealing as it essentially guarantees believers of an apparently meaningful form of social acceptance. The idea that we should live in a situation where everyone is nice to everyone else all the time is likewise a rather profoundly appealing idea. In the idealised forms of religion at least, these wishes are usually fulfilled. For example a Christian who wrongs others is thought to be forgiven in an afterlife if they behave in a religiously appropriate fashion, by repenting and believing. In all the Judeo-Christian religions, ‘righteous’ behaviour is rewarded in or by access to the afterlife. So the perfect solution for the moral religious person appears; they can spend their lives being perfectly generous to others and they shall in fact be rewarded for it in an afterlife, no matter how much they suffer in this one. At the other extreme, a criminal who has been socially outcast may find the idea of potential divine acceptance and

“Thou shalt not suffer a witch to live.” The Bible (Exodus 22:18).
forgiveness highly appealing. Other social desires such as those of attachment are met by these religions in stories of the afterlife, in which dead friends and loved ones will be reunited with other believers. The idea of karma, used in Buddhist and Hindu religions plays a comparable role, by asserting that social actions all have magical repercussions, either in this life or in a future reincarnation.

It may be difficult to swallow for the Judaeo-Christian gods, given their apparently frequent desire to send any unbelievers to an unpleasant place called ‘hell’, but at some stage it was decided by some of the Christians at least that their god is in fact love. This idea assists these religions in meeting the basic human need of their followers for loving relationships, at least for those who exhibit appropriate religious behaviours. While some of these people may claim that their god loves everyone; in that this stands to be an eternal burning agony sort of love if you’re not careful, it seems reasonable to admit that there may again be an emotional incentive to follow a specific religious doctrine in these cases. Perhaps what was meant in the Christian biblical claim that their ‘god is love,’ was that this created creator possesses the selfish kind of familial love that we might see in a pride of lions, a love that generally doesn’t seem to extend past the individual’s social group. This is the ‘real’ love we find in nature, so perhaps the claim matches the frequently genocidal behaviour of the god of the Bible.

If we draw back into our egocentric little worlds again, the organism and its experience form the centre of its personal universe. What a rude awakening reality has in store for us, when we find that we appear to be relatively insignificant, meaningless and finite beings. But what a perfect wish is to be found fulfilled in faith, perchance that each and every one of us should be cared about by the creator of the universe, or perhaps to some eastern religious minds, for each of our actions to somehow be of some undying importance. In all the major religions it seems, our lives are metamorphosed from those of animals who are tragically just intelligent

Wish Fulfilment: Is your mind trapped in a loop of religious certainty? Remain calm! Merely observe the heathen fallacies that defile our planet and then note the exact match between these blatantly false thought patterns and your own religious beliefs in order to comprehend your error.
enough to understand how meaningless their existences are, to idealised magical beings whose every action influences their eternal destinies. What more could an organism wish for?

**Emotions Fuel Religions**

These situations of karma and reincarnation or sin, retribution and an afterlife can be extended to other emotions. No matter how dire their situation, many religious people can maintain hope that they will receive their religious rewards if they behave in an appropriate fashion. *The Koran* tells faithful Muslims that rivers of milk and honey, fruits and divine protection in the afterlife will satisfy their hunger and quiet their fears. An idea that has largely fallen into disfavour is that an individual’s murderous animal rage in response to marital infidelity is not just justified but righteous. Many religious people who live righteously but are wronged need not fear; their feelings of anger will be sated by unfailing divine retribution, or via karma, or at least their kindness will be rewarded. Even their abstract desires for the well-being of others might be met in those religions that advocate the causal efficacy of prayer.

To the religious mind, the impression that its desires and drives are being met may be a strong subconscious reinforcer of faith. A number of major religions make claims that they can fulfil many of our natural desires in ways that are particularly satisfying to humans. This presents a problem for religions that have almost universally gained their popularity in times when people were even less able or inclined than today to think critically of information and in which superstitions were commonplace. It seems that the religions that remain popular today may well have gained this popularity not because they contain so much as a skerrick of evidence that might separate them from their competition but because they were and are emotionally appealing to humans. We shall examine this idea later on, in comparing the evolution of a few different religions.

*Primates often have trouble imagining a universe not run by an angry alpha male.* Unknown.
There seems to at least be a convincing possibility that many of the cultural phenomena of religions can be better explained by their appeal to natural human emotion than by supernatural forces. We have mountains of evidence for emotions, while we have absolutely no evidence for supernatural forces. Of course, wish fulfilment does not give us empirical evidence of the falsehood of religions; it merely assists in providing an alternate explanation for religious beliefs to the supernatural explanations that religions typically provide for themselves. While each religion is different, they generally seem to fit snugly outside of observable reality, without intruding upon it with anything that we might measure. Often it seems that religions need to be modified, tailored and fine-tuned as they conflict with our perceptions of reality, rather than enjoying the timeless perfection that one might reasonably expect of supposedly divine revelation. If it is true that people are religious for purely emotional reasons, then religions may be viewed as a set of malfunctioning behaviours, peculiar to our species.

**Tribalism**

While our tribal behaviours could also be examined psychologically, they too deserve a special mention, as they are so thoroughly interconnected with religion. Tribal behaviours – in which organisms support groups to which they belong, often at the cost of other groups – interact with religions in two major ways. Tribalism serves to reinforce religious belief in a manner most similar to chauvinism, by emotionally strengthening the boundary between a given religious doctrine and any competing ideas about the world. Secondly, by playing upon emotions such as religious xenophobia, tribalism takes on a particularly horrifying aspect as it encourages hostile behaviours, such as those involved in military conflicts. In essence,

Even if you are told something by an extremely intelligent parent, who has the best intentions for your well-being in the world along with the greatest education that mankind might be able to offer, you must entertain the possibility of her error, as it seems likely that she will still make mistakes, both large and small.
approaching tribalism specifically, involves looking at these problems at the level of
groups of emotional individuals rather than focusing on the emotions of individuals
who may then act in groups. If you like, it’s a case of putting together some of the
emotional pieces we’ve already picked up; competitiveness, love, lust, hate, greed,
fear and loyalty are some of the emotions that might commonly combine with and
contribute to our tribal tendencies.

It seems that humans, like many other animals, have evolved to favour
familiar organisms. For our prehistoric ancestors, this might have meant the family,
the clan or perhaps a collection of clans… the tribe. The evolutionary benefits of
behaviours that favour the family or extended family are clear, as they encourage
tribal organisms to support their own genes at the cost of the genes of their
competitors. This of course goes doubly for competitors within one’s own species,
tribally hostile behaviours potentially securing greater territories or breeding ‘rights’,
allowing organisms to produce and support greater numbers of offspring while
eliminating their local genetic competition in one fell swoop. It can also be beneficial
to the genes of a group that individual members are willing to sacrifice themselves in
order to ensure the survival of the group as a whole. Colony insects such as bees
and ants provide us with a powerful working example of this principle; it’s not the
individual that needs to survive, it’s the genes that produce that sort of individual that
must prosper.

That humans are social animals is one of the greatest strengths of our
species and has certainly proven to be evolutionarily beneficial, however in many
ways our tribal tendencies are also amongst our greatest weaknesses. When an
individual defines themselves in terms of a group, any interference with the group
may be seen as interference with the individual. Our natural, tribal response in a
conflict situation often seems to be to support the organism from our own group, the
one with which we are familiar, the one we can most identify with. This may be a

“If one blind person leads another blind person, then both of them will fall into a hole.” The Gospel of Thomas.
member of our family, race, nationality, political persuasion, religion, sporting club, clique or any similar social group. While this emotional tendency of favouring our own group makes good evolutionary sense, it may stand completely in the face of civilisation and morality in general.

One of the most common kinds of tribal behaviour seen in modern humans is that of sporting rivalry. Just as with any emotion, if we are aware of these tribal emotions and keep them in check, they are not necessarily dangerous and can in fact be enjoyable for all involved; humans seem to thrive on tribal competitions of this kind. However, if tribal emotions subconsciously grow out of control, this seemingly harmless outlet for our competitive drives can take some extremely unpleasant turns. As a neutral observer, it is hard not to notice how sports fans frequently seem to favour their own teams in terms of opinions on sportsmanship or in the face of an umpire’s decisions. In some parts of the world, in soccer, the game of kicking a ball into a net, these emotional rivalries are sometimes taken particularly seriously, resulting in violence and even deaths. Fortunately, sporting violence of this kind is rate; while people can become highly emotional about sport, they tend to realise that it’s just a game. Religious people on the other hand do not tend to treat religion as a game, it’s frequently seen as life and death stuff, worth fighting, killing and dying for.

Tribal Roots
In nature, tribal membership and belonging often meant the difference between life and death. Tribal outcasts would generally have been significantly less likely to survive and reproduce, particularly if members of their own tribe became hostile towards them. It is clear that in many cases, cultural forces like religions have evolved in tandem with our tribal emotions, ancient people that have converted to various violent religions often doing so in order to avoid being killed. We should hardly be surprised that we are emotionally driven to conform, in order to please our

"It is proof of a base and low mind for one to wish to think with the masses or majority, merely because the majority is the majority. Truth does not change because it is, or is not, believed by a majority of the people." Giordano Bruno.
tribe and thus survive. It seems clear also that these underlying emotions are
generally adaptive, continuing to drive behaviours that have proven to be
evolutionarily beneficial in a variety of circumstances and on different scales, being
able to fit in with a wide range of potential social affiliations. Over time, behaviours
and ideas such as religions, that complement our natural emotional desires, such as
tribalism, may snowball in social popularity, resulting in their further reinforcement.

I have already described how various emotions and social behaviours
influence our learning. Our natural egocentric experiences, xenophobia and tribalism
all favour the same sorts of narrow mindedness in humans. There is little more that
needs to be said about tribalism and learning then, except to emphasise once again
how completely all of these emotional tendencies can penetrate our minds.
Whenever there is a conflict of ideas, people tend to favour familiar experiences over
unfamiliar ones, thus we tend to favour familiar organisms and their familiar
teachings over unfamiliar ones and may even favour the creation of social divisions
that give us a sense of identity and belonging over the absence of such divisions. If
someone's personal experience, their family, their friends, their society or any other
group that they feel they belong to should happen to be religious, then they will
naturally be inclined to follow the group to which they feel they belong. Humans are
tribal animals and religions fit the tribal patterns that we are naturally inclined to
follow. Religions, particularly familiar religions, are naturally emotionally appealing to
humans as a kind of tribal grouping.

Religious Tribal Conflict

If we are to concern ourselves with the improvement of the human condition, our
natural tendencies to form tribal divisions demand our utmost attention. The most
common divisions over which wars are fought seem to be those of ethnicity and
nationality, which may or may not in turn be religiously defined. Of course religion

To be more than cogs, we need to understand the machines.
itself can also be entirely responsible for creating tribalistic divisions, independently of other social boundaries; Islamic mujahadeen fight according to specifically religious loyalties, seemingly regardless of their ethnicity or nationality. Sometimes religion is involved in tribalism and sometimes it is not. The fact that it sometimes is is what concerns us most in this context.

A theme already addressed under the heading of conflict is that religion creates profound, fundamental differences between people. If faith defines a person’s world, their sense of right and wrong, good and evil, life and death along with life’s apparent purpose, then they have every reason to be profoundly attached to it. To add to faith’s defining role in many people's lives, many faiths, particularly many of the Judeo-Christian ones, contain xenophobic doctrine, which promotes the ugly side of our tribal tendencies. To varying extents in different religions, these exclusive religious emotions intertwine to create some of the strongest social groupings and thus some of the strongest social boundaries within our species, boundaries that create conflict.

I have already examined some of the specific conflicts that tribalism and religion continually produce, so we need not revisit them here. International news seems to feature the theme of religious conflict on most days should you need a reminder. The point I wish to reiterate in relation to tribalism is that religion, is, a significant cause of conflict and suffering for mankind. It is certainly true that nationalism is also a problem. Likewise it is true that tribalism itself is a problem with human nature. However it is impossible to escape from the fact that religion itself is a massive problem, both as it creates fundamental, illusionary divisions amongst humans and in some cases, as it actively fosters hostile behaviours towards people outside a given religious group. Perhaps the most grating fact about our situation is that we can be certain that most, if not all religions are in fact culturally perpetuated

The layers of human difference are like walls that prevent sight. Rise above nationality, put aside religion and learn to see through perceived personal and cultural differences to develop awareness of our similarities.
illusions. As they conflict with each other, the vast majority of the world's religious doctrines must be incorrect, whilst there is only one reality which we are all a part of.

Tribalism as a Global Problem

You may be thinking, yea-yea, tribalism and religion, sure, no worries; you've already mentioned it, so it's yesterday's news, really. Don't lose sight of the fact that we're talking about the mind in general here; tribal behaviours affect us in more ways than many people ever think about. If five thousand million people like to watch television, own a dog, have a career, smoke or go to war, these patterns give no necessary indication of how it is 'best' for people to live, yet we follow such social cues and patterns continually. Having said this, if everyone we know dances, wears fancy pants, travels or enjoys playing soccer, it is probably worth at least contemplating these behaviours in terms of whether we will enjoy them individually, why we enjoy them and what the consequences of our enjoying them may be. Schools of fish act in comparably instinctive groups and they look simply splendid.

I really wish to emphasise this point of mindless tribalism, so I'll put it another way. Mr Joe Bloggs (Esq 1939, Great Britain) loves his god and country, never hurt a soul and what's more, the Germans are coming! Besides, his nationalistic or religious feelings bring love and kindness to those around him. Tribalism starts to sound like rather a jolly good idea for the old chap. The easiest, most natural path for Joe to continue following is the tribal path. By the time he finds himself at war with the Germans, it's too late to do much but kill or be killed, or at least ruled by another tribe it seems. A problem arrives, when we imagine Herr Hans Schmidt, who likewise loves his god and country, is a splendid fellow all told, but through an accident of birth happens to be facing west as Joe faces east. In a stroke of tragic human irony, they shoot each other in the head simultaneously, both very dead and thus unable to contemplate their farcical situation. If you discount this example on the basis that the

"Know your enemy." Perhaps if you know them well enough, you may find that they needn't be your enemy at all.
Second World War was justified for the English, perhaps contemplate the unrestrained tribalism of the residential bombing campaigns that this war also involved. The point of this example is not that we might think that one side was morally superior to the other, but that the basic motivations of individual soldiers were essentially identical, regardless of such moral arguments. I could have chosen a religious example here of course, as Ali, Sanjay and Aaron all love their gods and countries too, however I do not wish to limit my comments on tribalism to its religious manifestations as this is such a global problem for our species. In any case, regardless of what Darwin thought, we’re not monkeys any more, there’s got to be a better way to play this game.

Whether or not you agree with my conclusions on atheism or anything else for that matter, it is worth noting of our tribal emotions that with sufficient effort we are able to override them mentally. Admittedly, tribal emotions can be directed positively in a number of ways but these seem to be unreliable as long as there is an out group which can suffer; I shall presume rather hopefully that we are all in some way opposed to the involuntary suffering of sentients. A humanist might define the ideal tribe as including all humans, a productive start point, though I suspect that many humanists are also likely to be the sorts of people who might share popular objections to the cruel treatment of animals. Perhaps the only desirable direction of our tribal emotions is to fight against our apparent natural inclinations, by forcing ourselves to place everyone and everything that might benefit inside the tribe and no such beings outside of it. For now, I shall leave it to you to contemplate the validity or usefulness of this idea until we return to it in discussing morality.
We have talked about how experiences and emotions drive our thoughts and behaviours and how emotions have evolved to favour our survival and reproduction. Neither our emotions nor our experiences will necessarily give us correct indications of what thoughts or behaviours are moral or correct in any absolute sense and often our inclinations can be quite selfish, blatantly wrong or inappropriate. This tendency for both thoughts and emotions to influence other thoughts and emotions is part of human nature; each of us is biased and thus any time we think or communicate, we must be aware of how bias can distort our perceptions. Perhaps one of the most crucial distinctions in bias that we must be aware of is that between the biases of other persons and of our own personal biases.

In examining bias, the most elusive, yet also the most important subjects may well be ourselves. We know that people are emotional and we know that we’re people, yet somehow it often seems to escape our notice that we are emotional people. The reasons for this have already been discussed in part, we are egocentric beings; the sum of our personal experience and natural temperament combine to completely define our view of the world. Thought processes naturally follow existing mental patterns; when something is explained to us, the words that are used are already associated with numerous concepts, emotions and other thought patterns within our brains. Existing thought patterns have a massive influence upon how we interpret new data and of course this situation seems natural to us as it results from the natural function of our brains. “Nobody acts irrationally according to his own truth”; if our thoughts and actions seemed irrational to us, we most probably wouldn’t be making them. Upon introspection however, we may realise that we are biased by the limitations of our experiences and personal biology. If something feels

“He who knows only his own side of the case knows little of that.” John Stuart Mill.
right to us, we must be aware of the potential that we are being driven by our existing perceptions or worldviews, which may in turn be inaccurate.

Case in point is the belief I hold that there are no ghosts, holy or otherwise, driven in turn by a personal worldview that does not allow for the existence of supernatural objects. If someone takes a photograph in a graveyard that they claim to be evidence of a ghost, I will be extremely biased in favour of explanations such as the use of image modification software, smudges on a camera lens, blurred tree branches, water vapor or spider webs in the foreground and so on. A religious person who believes in supernatural objects like ghosts and souls might think that the object at least could have been a ghost. Their view of the potential of this possibility is biased by their view of the world, which allows for the existence of supernatural objects. The only view that seems to be free from bias is that of the agnostic, who in this situation might maintain that it is impossible to know from a mere photograph whether the ghost was real or illusory. Of the two former parties, it should be noted that one must be correct and the other must be incorrect; either it could have been a ghost, if there are such things as ghosts or it could not have been a ghost if there are no such things as ghosts in reality. While the agnostic will always be neither incorrect nor completely correct, they at least appear to be relatively free from bias, except perhaps from an understandable desire to never be wrong about anything.

While it is to some extent legitimate that we should allow our biases or intuitions to dictate our actions where a decision must be made quickly or where insufficient evidence is available, even in these situations it seems most honest to be aware that our biases may lead us into error. Where possible, given our natural tendencies for bias, if we are to pursue the truth of any given matter, we must suspend judgment and collect as much evidence as possible before perhaps making a tentative decision. In any case, for any individual who claims to hold an opinion on a topic and for many who don’t, biases are clearly things that we need to be aware of.

“If you don’t read the newspaper, you are uninformed. If you do read the newspaper, you are misinformed.” Mark Twain.
in ourselves and in others. Our internal biases appear to be utterly inescapable, yet as they are our own, perhaps we are best equipped to deal with them once we have developed an awareness of them.

**Incidental Bias**

Particularly given that we are often unaware of our biases, it is possible to transmit biased information whilst being convinced that we are actually being truthful. An individual may be perfectly honest about their conscious ideas or impressions, yet this obviously gives us no indication that their picture of reality is necessarily an accurate one. This potential form of unintentional misinformation seems to be exceedingly common, both throughout history and in modern society. According to our awareness of the potential for unintentional bias and human error, it is logical to treat all information with a degree of skepticism, regardless of how positively we perceive the motives of our source.

Much of our perceived knowledge of the world is actually, perhaps often necessarily based upon hearsay rather than empirical investigation. As children we learn continuously; due to the innate ignorance and helplessness of humans in the early stages of our lives, it is generally evolutionarily pertinent to accept any information as factual in these vulnerable circumstances. As adults, we may continue to trust in the popular opinions of society that engines are what make cars go or that the moon is in orbit around the earth. While these may not be things that we have each tested directly, they are reinforced by the fact that they are commonly held beliefs and that our experience tells us that should we elect to investigate them, we would be highly likely to confirm our rudimentary understandings with more detailed explanations. I could experimentally examine the moon or develop my understanding of internal combustion engines, yet I do not tend to concern myself with frivolous investigations of this kind, as it seems somewhat impractical to investigate absolutely

*“Americanize, Americanise. View the world from American eyes. Bury the past, rob us blind and leave nothing behind.”* Rage Against the Machine.
everything in detail. It is both natural to our brains and convenient for us as individuals to follow these patterns of induction in constructing our pictures of the world.

A view's popularity is not necessarily an indication of its correctness, though popular acceptance certainly seems to provide a fairly reliable correlation with accuracy in many fields of knowledge, particularly in this relatively scientific era. Perhaps as we are naturally inclined or conditioned to follow this correlation of popularity and accuracy, people act like sheep much of the time, following the crowd rather than thinking for themselves. While this natural acceptance of ideas seems to be an efficient and superficially agreeable way of dealing with information, it leads us into some rather obvious problems. Particularly where human ideas conflict, it seems that we must develop an awareness of each party’s underlying motivations and attempt to understand the issues ourselves, if we are to avoid simply falling in with one existing bias or another. If we fail to do this and allow our own biases or the biases of a society to guide us, we become little more than cattle or perhaps flotsam and jetsam, riding along on the tides of humanity.

It seems that we should also make an attempt at being aware of our probable emotional inclinations and subconscious motivations. These will obviously be situationally dependent, so it is impossible to make many reliable generalisations here. Virtually every decision that we make could be biased by natural emotions or human tendencies such as xenophobia or egocentrism. For an examination of some of the specific emotions that may cause bias in favour of arguments that support religious belief, I would refer you to my previous examinations of emotion and wish fulfillment. The key in understanding bias may be to develop an awareness of the motives or worldview that may have lead you or another person to a given

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Religions are culture’s inadvertent red herrings, swallowed hook, line and sinker by almost every society in antiquity.
Of course, bias is not always accidental, many authors or advertisers are quite public about their motivations or pursue a given bias quite intentionally.

**Intentional Bias**

While biases in information are often completely intentional, often this fact will not be publicised. Occasionally people will be open about their biases, though far more frequently they will keep them hidden in an effort to subtly further their cause.

Advertising companies generally focus entirely upon the strengths of their products, emphasising the importance of these strengths rather than giving an objective overview of the alternatives. Political parties frequently disseminate biased information in favour of their own party or defaming their opponents. Many people entering into a discussion or argument may choose their position first, then attempt to justify it; ignoring conflicting ideas except in order to refute them. This is particularly likely to be the case if a person has strong feelings on the issue that they’re addressing.

An example of intentional bias is my claim that any belief in the supernatural is necessarily false. While there are clearly numerous popular alternate views on the subject, I have chosen to present my views as ‘facts’ in a number of places. If I held an opposing belief, I could just as easily have stated ‘factually’ that supernatural objects are real. In the interests of truth, we must each be aware that our own opinions along with those of those people that we encounter, regardless of how they may appear to us, are all prone to error. Yet our own ideas and opinions similar to our own will probably appeal to us the most, due to their well supported situation in our own minds. How are we to deal with this situation?

It seems that we would do well to be aware of as many alternate viewpoints, biases, emotions, motivations, facts and fallacies as we are able. We need also to

*“Turning away haughtily that he may lead (others) astray from the way of Allah; for him is disgrace in this world, and on the day of resurrection We will make him taste the punishment of burning.” The Koran* [22.9].

As an atheist I am just as vulnerable to bias as anyone else. If I am presented with a picture of the ‘eye like’ Helix Nebula, I will be inclined to see it as evidence of a Nebula, not of a god. After you finish reading this book, it will thus be in your best interests to read at least a few more books on every topic that I’ve addressed, in order to clarify matters and compensate for my unfortunately unavoidable biases.
develop our awareness of emotionally loaded language that might influence our views subconsciously. We can suspend our judgments wherever possible as we continue to learn about a topic and allow our actions to follow tentatively along with whatever patterns we are able to discern.

This thought may seem to come somewhat out of the blue, driven by my emotions and biases no doubt, but it seems to be worth noting here that life cannot be destroyed tentatively, only absolutely. The patterns of human error that we observe in our conflicting worldviews dictate that it is prudent to maintain openness to new information and to always at least be willing to entertain the possibility that we are mistaken, particularly where our knowledge is lacking. Our thoughts and actions must acknowledge our ability to err wherever possible.

Propaganda

The term propaganda originated from the Catholic school for the propagation of their faith, “Sacra Congregatio Christiano Nomini Propagando”. Propaganda refers to intentional or even systematic attempts to influence the opinions of an audience on a given topic and represents some of the most biased forms of information. Propaganda is a form of extreme and intentional bias, perhaps more common than might be imagined, depending upon how it is defined. A propagandist may stop at nothing in trying to persuade their audience. Society’s various propaganda machines may use lies, deceit, misinformation, censorship, selective information, emotional manipulation such as fear, violent suppression and many similar techniques. Often if people oppose larger social machines like government, religion or popular opinion, there is a tendency for their ideas or all too often even their lives to be crushed in the gears.

It may not be immediately obvious to a more cynical mind, but it seems at very least possible that many propagandists fully believe in the justice of their actions, as ‘necessary evils’ or simply as serving what they believe to be absolute
truths. Often their position will already have been arrived at through their personal experience. Take affiliation with a political party for example; a party member might view their party’s political ideas as being what’s ‘best’ for society or perhaps just for themselves or some other limited group, depending on the party concerned. From this start point, it may seem appropriate to the propagandists to lie to people, just as many governments restrict other freedoms on the basis that a given political end justifies an otherwise dishonest means. In modern societies exposed to the influence of the mass media and propaganda, a political party’s willingness to ruthlessly manipulate information in their favour may strongly assist their maintenance of or a bid for power. While in many societies the power of propaganda will only go so far, its potential for influencing people is unquestionably significant.\textsuperscript{cxxxiv}

Many forms of religious teaching and information, particularly indoctrination and religious texts could be viewed as propaganda. Now obviously just as with many kinds of information, religious information can be categorised anywhere from hard fact to obvious fiction or outright lies to honesty, however it also seems to be the case that religious information is just the sort of information that is extremely vulnerable to various forms of bias. The motivations of religious writers are frequently very emotional or their beliefs clearly dear to them. We have already discussed a range of other emotions that might contribute to the bias of religious folk. Terms like ‘sacred’ and ‘faith’ that seem to be reserved almost entirely for religion, quickly paint a picture of some of the strong emotional biases of religious writers and believers.

Probably the most important example of bias in religion, relevant to varying extents throughout the histories of various religions, is the treatment of religious texts. In almost every case, ancient religious texts were written and rewritten, modified and handed down through generations, often via oral tradition and memorisation. In almost every case, religious texts thus seem to be highly prone to human error. Yet in almost every case, the same texts are also treated as divinely

\textsuperscript{cxxxiv} It is worth making an effort to understand an idea completely before deconstructing it in order to assess its validity, at very least for the perspective this will provide.
inspired fact or at least as having some factual basis. This form of self perpetuating religious propaganda results in and from fallible texts continually being presented to impressionable children and emotionally vulnerable or superstitious adults as factual. Religious people continue to present various kinds of religious information to other humans as factual, as they believe that by doing this they are acting rightly, while in reality this belief in the infallibility of religious texts cannot be justified.

An individual’s specific religious beliefs may form the core of their understanding of the world, everything else being built upon these beliefs. Existing motivations such as those of religious people, often consciously or subconsciously drive the use of bias and propaganda. We are intelligent animals with powerful, flexible minds. For us, it is child’s play to construct explanations or rationalisations for any number of ideas within a given perceptual framework. This goes doubly for religious people, who can use magic to aid in their explanations. Magic can be used to explain virtually anything. The problem with magical things, and this goes for magical beings like gods, spirits and souls, is that we don’t have any evidence for them, only hearsay and supernatural interpretations of ambiguous experiences. The power of the human mind allows people to simply dismiss or reinterpret new ideas which conflict with existing ones that we have become biased in favour of. The flip side of this flaw is that, when ideas are in harmony with our own, this may be just as much cause for concern as when they conflict, as appealing ideas may be assimilated unquestioningly. We are all vulnerable to bias.

Throughout this book, obviously one must keep in mind that just like everyone else, I am clearly biased, though I have tried to be honest about the information that I have gathered and about my own biases – refer to the book’s title if you’re still unsure as to where I stand on religion. This is an important note to the reader as a learner and a thinker in a global context; if you notice my biases, please try to also notice your own and those of all people you encounter. Many of us may hold ideals

“The one who veils the imperfections of the believer, his imperfections will god cover on the day of resurrection.” Mohammed.
like that of objectivity, yet we are all subject to all the problems and intricacies of human thought and emotion that we have been discussing. While I’ve paid lip service to many religions in our various discussions so far, unfortunately, it seems entirely impractical to even attempt to explain here the perspectives of every individual religion that ever has been or perhaps will ever be imagined by humans.

In that I am writing upon a significant range of topics in relation to religion and given that these topics are in most cases extremely complex, incompletely understood areas of knowledge, I expect to make some mistakes by quoting or drawing ideas from others who have been mistaken in their thoughts. Likewise I expect that my biases and the limitations of my experience may cause me to err on one or two, hundred occasions. As such if you see a contradiction, I would encourage you to read deeply into the subject rather than rationalising that perhaps all my ideas must be flawed or cherry picking for the answers that you want. To do otherwise is simply to lie to yourself or anyone else who follows you and of course to deprive yourself of a potential learning experience.

**Illusion**

Patterns, patterns, we think in patterns, us humans see, good way of thinking it is too, efficient… but vulnerable, yes… very vulnerable to various malfunctions. I’m not insane, everyone else is.

Illusions can form in a range of circumstances, when our perceptions fail to correspond with reality. Our already naturally susceptible minds are typically attuned to the many patterns of our individual and cultural experiences. In any given situation,

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Magic is a cultural construct, used by primitive humans to explain the otherwise unexplainable. With the help of its beautiful assistant, mankind, magic has enjoyed a long, sometimes bloody career. Now however, as its one final act, by being turned inside out nonetheless, magic shall explain religion before being set free to frolic through the fields of fiction...
we are conditioned to expect our perceptions to correspond with our previous experiences. If a Star of David is drawn with its lower portions obscured, our brains might either complete the pattern of the star, or interpret the shape as a crude letter ‘A’, while in reality neither pattern has been perfectly presented. If two partially overlapping squares are drawn with lines connecting their corresponding corners, in a wire frame cube or ‘Necker Cube’, we are able to perceive either the actual two-dimensional lines on the page or the illusions of two differently orientated three-dimensional cubes. This illusion of depth in two-dimensional images is common to a great deal of our artwork. The ability to detect patterns is extremely evolutionarily useful for us, as it means that we’re able to make predictions about objects and how they will behave, based upon our experiences, rather than having to learn all the details of each object or situation anew. This propensity that people possess for pattern perception is not without its pitfalls however.

Natural camouflage is one of the best examples of how pattern detection can cause us to perceive either illusion or reality. Initially, camouflage relies upon the illusion that a potential predator or prey will perceive their opponent as being part of the background pattern of plants or minerals rather than as a potential threat or meal. A stick insect perched upon a branch and a lion creeping through long grass make equal use of the fact that other animals may automatically fit them into the existing patterns of inanimate flora. However the ability to detect patterns may also allow organisms to overcome camouflage. The slightest shifting of the lion’s segmented silhouette might alert us to its presence. We do not need to see the whole lion; the edge of an ear, the curve of its back or perhaps just a little more or less motion than the surrounding grass might draw our attention to its body. Once our brains have tweaked, they can fill in the rest of the details of the lion object; the pattern falls into place, triggering various associated thoughts and responses. Patterns of perception can either make or unmake an organism and so stand to be highly beneficial or
detrimental to evolutionary survival of a species in many different circumstances. The trick seems to be differentiating between patterns of illusion and patterns of reality.

Causal Illusions

Causality is one of the most obvious patterns in human experience. From an early age, we learn that actions have “predictable effects on objects and that objects influence one another in regular ways”\(^{1}\). This pattern helps us to learn some of the ways that we can interact with our environments. We discover whether or not our natural crying behaviour will result in the cessation of pain via an increase in parental attention, that pushing the pile of blocks knocks some of them over or later we may learn that taking a sibling’s toy may result in their anguish or perhaps a conflict. Cause and effect relationships are obvious in most situations throughout our lives.

Curiosity is an emotion native to many animals including humans, which interacts with our observations of patterns of causality. This drive to understand our world and learn about how it works is extremely valuable as it assists us in discovering new ways of interacting with our environments to our advantage, as well as helping us to know what situations to avoid. Together with curiosity and other desires, our awareness of causality has led to our race’s attempts to discover the causes of just about every phenomenon that we have encountered. Today, much of our discovering is done through science, which allows us to develop fairly reliable understandings of reality while maintaining an awareness of our shortcomings. However as we travel further into the past, the attempts of our species to understand its world become increasingly fraught with error.

Many causal patterns can be observed but are without an obvious explanation given the basic limitations of human perception. Particularly in ancient times, the first explanations that came along would often have been very popular with the ladies and gents, as any explanation would have seemed better than none.

\(^{1}\) Mind and matter we have positive evidence for. Magic we only have evidence against.
Primitive ideas may have been favoured due to their emotional appeal or perhaps how they fit in with other primitive beliefs if they were otherwise similar to competing theories in terms of explanatory power. Our ancestors were subconsciously aware of patterns of causality and in particular were intimately familiar with the pattern that people and animals often tended to cause objects to move intentionally. Where no person or animal could be directly observed as the cause of something, this often resulted in belief in some unseen spirit being, which obviously must also have had sufficient power to succeed in whatever task they were attributed causal responsibility for. Primitive belief systems of this kind are broadly known as forms of animism.

Throughout numerous cultures, the sun provides an example of an object that has been treated as being caused or moved by many different gods or as being in some way magical. The Greek god Apollo drove the Sun’s chariot across the sky each day, similarly to the Hindu sun god Surya, who also had a blazing chariot.\textsuperscript{cxxxvi} For the ancient Egyptians, Ra was at least for some time the sun god, riding the skies upon one boat then another, with the sun either resting upon his head or perhaps being his body.\textsuperscript{cxxxvii} The sun is just a glint on the tip of the iceberg of human superstition of course, all manner of unseen forces having been attributed to various deities or other supernatural forces over the millennia; diseases and their cures, droughts, military victories, aerial supply drops, emotions, lightning, rock formations, life, human consciousness, the creation of the universe, you name it. In the past, supernatural explanations for the unseen causes of these phenomena have often been the only explanations available and thus would also have appeared back then to be the best explanations. This natural human tendency to adopt the most immediately appealing explanation available for an unusual occurrence provides a

\textsuperscript{In times before people knew of bacteria or viruses, diseases caused death by invisible force; understandably, superstition flourished under these conditions.}
simple and comprehensive explanation for the origins of many of our race's beliefs in supernatural ideas and objects.

**Developing Illusions**

In ancient times, patterns of apparent supernatural causality would have been culturally and experientially reinforced once they became available, as they still are today, though perhaps to a lesser extent now due to the increasing number of competing ideas. Children provide us with timeless examples of the gullibility of the inexperienced, being naturally more open to and less critical of supernatural ideas, in part due to the smaller range of information they have to compare these ideas with. In the past, the tendencies of societies, parents or tribal elders to provide seemingly accurate or helpful explanations for the world would have further reinforced human superstitions. There seems to be little reason for a Stone Age person to have treated supernatural beliefs differently from their society’s useful beliefs about hunting, gathering or rules of conduct. Adding to these patterns of social reliability, we have already looked at how many religious and supernatural beliefs are naturally emotionally appealing to humans in the section on wish fulfilment. With all this cultural and emotional weight in favour of supernatural belief, ancient and modern humans alike have become ripe for the experiential reinforcement of supernatural beliefs, through illusions. For any mind that has been conditioned to believe in the existence of the supernatural, religious or otherwise, experiences that fit in with supernatural explanations can easily produce illusions of evidence for supernatural belief. Illusions of supernatural causality thus appear to result from the completion of culturally induced patterns of superstition. Religious people fill in the dots of the patterns that they think they see, thus reinforcing the patterns themselves.

While we have already glanced at these patterns of supernatural illusion in relation to experiences of awe, it seems pertinent to have another look at them here,

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Prayer is a placebo for moral action.
in order to clarify some of their potential implications. If a person entertains, even
doubtfully, the possibility of supernatural occurrences, any experiences that they
have which appear to fit with a pattern of supernatural causation may reinforce their
supernatural beliefs and reduce their doubts about supernatural forces.

In order to roll into one illustration some of the ways in which this might have
applied to ancient people, let us imagine that you are a cave chap or chapette and
that your mate ‘Ung’ has recently died from a coughing sickness. You still have
dreams, impressions and thoughts of Ung, in spite of the fact that her body has been
buried to stop the smell. The popular animistic explanation for your lingering
impression of her is that her spirit has come to haunt you for some reason; perhaps
she wants you to die with her. Little do you realise that your strong emotions of
attachment to your mate, fresh memories of the traumatic events surrounding her
death and possibly your fear of sharing her fate naturally direct your thoughts and
imaginations towards her.

A tribal elder suggests that you should make an offering of food at Ung’s
grave in order to placate her spirit, so you follow the elder’s instructions. This is to
some extent emotionally satisfying to you, as you feel that you have done something
to appease the restless spirit, your experience being that gifts of food tend to make
people happy. Lo and behold, the next morning, the food you placed at her grave is
gone, eaten by rats, although you do not know this of course; if you did, you might
rationalise that Ung’s spirit had ‘possessed’ the rats. Over time, with your fears
somewhat subdued by your continued offerings, her memory fades and it seems to
you as if her spirit has been put to rest. This example contains a handful of
experiences that might have led a primitive person to believe or increase their belief
in supernatural objects. The mysterious coughing disease, the haunting impressions
of a loved one lingering after her death, the disappearance of the food offering and

“Religions serve men as blinders serve horses.” Eric Williams.
the subsequent cessation of dreams or impressions of Ung might all best be explained by a primitive person as being caused by supernatural forces.

A simpler yet possibly more disturbing example might be imagined for a modern sportsperson, a soccer player for argument's sake. We might imagine that they are having a run of bad games, when suddenly one week they play extremely well and win unexpectedly. It occurs to our sportsperson that in the week they won, they had neglected to wash their shin pads before the game. Just to see if it helps, they decide not to wash them the next week either and they win again! The sportsperson decides that the pads must be lucky when unwashed and determines never to wash them again. I would suggest that beliefs such as these are more likely for an already potentially superstitious person and further that they may serve to reinforce other superstitions. Superstitious cultures provide fertile grounds in which supernatural beliefs, be they astrological, religious or miscellaneous, are able to reinforce themselves through illusionary evidence.

It might as well be noted, just to keep an even handed view of this problem with our minds, that non-sequiturs or errors of causal association need not be superstitious. If a person has a cough and tries three kinds of cough 'medicine', but only recovers from their illness while consuming the third, they may associate their recuperation with this third type of medicine, while in reality their recovery was entirely independent of these shameless syrups. To put my fanatical atheistic spin back on this example, I shall suggest that similar errors are frequently made in relation to traditional medicines of various kinds, which are thought to have magical powers.

**Miracles and Coincidences**

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Beware the poet. Rhyming patterns, rhythms, imagery and their ilk may evoke emotions and over excite the subconscious. Bad spirits: Alcohol may dull pain but reduce the means for pain's genuine alleviation. Pain often means that something needs fixing.
Miracles refer to a diverse set of purportedly supernatural phenomena that are frequently claimed to support the validity of religious beliefs or the authority of a particular religious persona. Many reported miracles, particularly in religious texts, are so shrouded in time and myth that it is impossible to say whether they are based even remotely upon real events, have been heavily embellished or simply lied about. As shall be discussed later in our glance at the history of religions, many tales that are reported as miracles actually appear to be the adaptations of myths from other religions. These considerations aside for the moment, I would like to discuss here the possibility that every miracle that has ever been genuinely perceived as such may in reality have been an illusion.

The combination of human familiarity with patterns of causality and existing superstitions goes a long way towards explaining many perceived miracles. However, as in any given situation when someone reports a miracle, we will be unable to know exactly what happened in reality, it seems that we can only guess at some of the possible explanations for a given occurrence. If someone claims they’ve experienced a miracle, this explanation can be the first in a list of possible explanations for the given phenomenon. Brain storming activities of this kind will reduce the chance that we will in turn be deceived by someone else’s delusion. If we are willing to entertain a range of possible explanations for an occurrence, we will not be so likely to unreasonably accept a supernatural one. It is important to note that unverifiable reports of miracles fail to provide evidence for supernatural objects and forces, particularly while alternative explanations are available.

Here are a few general examples of potential mundane explanations for some of the miraculous claims that might commonly be encountered. We have looked at how in many circumstances, including times of emotional stress, people are more likely to hallucinate. Alternately, any time someone claims to have seen a miracle, we should be aware that they might have been tricked by people wishing to gain

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Another illusion is that of ignoring the means in pursuit of the ends. Our brains often seem to ignore processes in favour of pursuing states, which may never be reached.
credibility, via methods similar to those of modern street magicians, such as slight of hand or misdirection. When someone recovers from a disease, there are excellent reasons to think that they may have recovered naturally, particularly given the frequent inaccuracy of medical diagnoses; in other cases a patient may think that they have recovered, when in fact they have not. Perhaps in cases of coincidence or freak occurrences that are acclaimed as miraculous, one should keep in mind how many mundane occurrences we are surrounded with continually. While ideas of this kind serve to produce perfectly natural and understandable explanations for occurrences that might be viewed as supernatural, many people not only favour supernatural explanations, but go so far as to cite unverified miracles as evidence for their specific supernatural beliefs.

One of the more interesting possible explanations for belief in many miracles is that of simple chance occurrence. I heard a few years ago of a chapati being baked in Bangalore, India with a burnt patch on it, which was supposed to resemble the face of the biblical character known as Jesus. A fairly trivial ‘miracle’, one might have thought, though if ‘church officials’ are to be trusted, over twenty thousand people thought it worth making a visit to see this piece of bread. The main counter to the miraculous explanation that I would offer in this case is that of chance. I am not sure how much bread the world’s religious people bake each day, but I imagine that it is rather a lot. Burnt patches are exceedingly common on breads of this kind, so with many billions of burnt patches to choose from, it should hardly be considered miraculous that one of them happens to vaguely resemble a bearded human face.

Illusions of chance and coincidence can compound with illusions of causality. In 1907, in Jacob’s Creek Pennsylvania, in the United States, hundreds of Christian miners were taking a day off work in recognition of the feast of St Nicholas. Hundreds of other people who did not take the day off were killed in a catastrophic explosion.

Ideas are wrapped up in words, discomfort in euphemism, lies in honesty, immorality in righteousness, monkeys in clothing, flesh in plastic, danger in normality, slaughter in safety and freedom is somehow wrapped in itself. Illusions are everywhere.
Some people thought this to be a miraculous occurrence, as it coincided with a religious festival; the faith of those miners that didn’t die could have been seen as having saved their lives. While technically their faith did result in their survival, there is no reason to think that this occurrence was in any way miraculous. There have been plenty of other coal mine disasters in which the devout have not been so lucky. The simple fact of the matter is that coal mining is a dangerous line of work and the chance of miners being killed while working will be reduced proportionately by the number of days they take off work, for religious or other reasons.

Francis Bacon is quoted as having said that, “The general root of superstition is that men observe when things hit, and not when they miss; and commit to memory the one, and pass over the other”. This insight applies particularly to perceived coincidences and miracles of chance, the two examples above playing out the pattern very neatly. Bacon’s observation was well ahead of its time, as you will no doubt recall from our recent neurological escapades that the heightened emotional salience of such unusual events would cause the release of neurotransmitters, resulting in the physical reinforcement of memories. Frequently, freak occurrences are seen as being miraculous when they come from sets of events so large that they should not only have been unsurprising but should have been expected to occur to someone at some point in time. We are surrounded continually by thousands of complex occurrences, it is to be expected that they will occasionally cause unusual patterns. While coincidences seem to naturally surprise most of us, as they stand out amongst the regularity of our experience, such experiential irregularities are to be expected as mundane and probable, not worshipped as divine or miraculous.

Of further interest where illusions of coincidence and religions are concerned is the phenomenon of apparently accurate prophecy. It is my impression that particularly in the past, across various religions, plenty of people have practiced professional prophesying at some point or another. While the Bible can hardly be

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Illusions are important; they can help to make life interesting! However they become problematic when they motivate or permit harm. To avoid these dangers, illusions need to be understood and managed.
regarded as a reliable source, perhaps just a single biblical quote can illustrate how common prophets may have been in some ancient cultures. “So the king of Israel brought together the prophets—about four hundred men…” (1 Kings 22:6). Now when so many people are making predictions about things such as who will win a battle or whether the rains will come, some of them are bound to be right most of the time, just by blind luck. If four hundred prophets were asked to determine the outcome of a series of coin tosses, it would be reasonable to expect at least one of them to guess every one correctly up to roughly the eighth toss, while many others would have at least a decent track record, while the poor chap who ‘prophesied’ incorrectly every time might well have given up or been discredited by this point.

When you take into account that a prophet might have been allowed to rationalise away some mistakes so long as they were usually right, would have been able to keep their predictions vague as modern astrologers tend to, and that they could actually play the odds in many cases, it is to be expected that some prophets would have gained significant credibility within highly superstitious, ancient cultures. The fact that a particular prophet belonged to one religion or another would be meaningless, except when combined with the illusion of prophetic credibility. The cultural standing that their apparently magic powers gave them frequently appears to have entitled prophets to spout or reiterate religious doctrine. On top of all this, if religious people later interpret vague or conditional prophecies loosely or metaphorically, they can be taken to mean or refer to virtually anything. Prophecy can be reasonably explained as yet another mundane, largely accidental human concoction, being little more than a combination of the illusion of coincidence with poor understandings of probability, causality, the nature of the world and perhaps an unhealthily generous dose of imagination.

The Placebo Effect

Everything is relative, particularly perception.
With many illnesses, when a doctor gives their patient a treatment that the patient believes will be beneficial, there is often an increase in the chance of the patient’s recovery, regardless of the actual effectiveness of the treatment itself. This psychological illusion is known as ‘the placebo effect’. The placebo effect is interesting in the context of religious illusions as it may contribute to our explanation of things like faith healing and the occasionally apparent efficacy of prayer. If patients and those around them believe that a set of religious behaviours such as prayers may be beneficial in combating an illness, then these behaviours may have the same indirect benefit as mundane placebos. In situations where prayer serves as a placebo, religious beliefs and practices have a benefit for patients, however these benefits can be explained via the placebo effect rather than the supernatural forces that religious people believe in.

Eternal Goals
The sense of self is another pattern that seems natural to us and thus makes us vulnerable to illusions. Except in unusual circumstances such as with certain kinds of meditation or drug use, whenever we are conscious, the feeling of self is present. Self, is being; “cogito ergo sum” – ‘I think therefore I am’ and all that business. Whenever we think, we find our sense of self, plodding along faithfully in the backgrounds of our minds. We have already talked about the evolutionary explanation for the apparently constant presence of self while we are awake or when we dream; the evolutionary point of the brain being the coordination of the organism’s actions, a task for which a strong sense of the organism is highly desirable. The fact that our sense of self seems to be a permanent and inescapable component of consciousness appears to be partly responsible for the aforementioned illusions of animism, when people attribute a self like essence to all manner of organisms and other objects; the underlying reasoning being that if we have a sense of self which
makes us act the way we do, then other causes and actions must also be driven by similar forces.

A more common extension of the pattern of self is that of the soul or other personal spirit, a pattern seen in all the major world religions, even referred to specifically as the ‘Self’ in at least one translation of the Hindu *Upanishads*. In these cases, perhaps reinforced by the natural human drive to survive, religious people may have originally extrapolated from the fact that their sense of self was always present during consciousness, that the sense must continue to be genuinely ever-present, even after death. Particularly as it relates to ancient animistic ideas of ghosts, the projection of the apparently continuous pattern we each experience every day in our sense of self, helps to explain the potential origins of ideas like eternal selves and souls.

**Supernatural or Natural?**

Whenever someone attributes an occurrence to a supernatural cause, especially from the specific set of supernatural causes that they happen to believe in, we should consider the possibility that there are perfectly rational, mundane explanations for their experiences. For every supernatural explanation given, there seems to be a selection of natural alternatives. If a person claims that they can feel gods, how can they know that it’s a god that they’re feeling and not just a figment of their powerful but fallible human imagination? If people maintain patterns of supernatural explanation in their heads, when they encounter a stimulus that fits one of these supernatural patterns, they may assume that they have had a supernatural experience. In religious minds, phenomenal experiences can create illusions of evidence for the supernatural, where no evidence actually exists.

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For some faithful folk, religion is like sausage shaped balloon. An argument against a religion is like a finger pressing down on the balloon. No matter where we press, the rest of the balloon may remain inflated, particularly if we just press at random, as the rest of the balloon may absorb the stress. Thus it is necessary to ensure that the religious person is brought to as complete and systematic an understanding of their faithly bubble as possible, if it is to burst.
**Lateral Thinking**

If it is true for any chapter on the mind, it is doubly so for lateral thinking; what you read in this chapter can change how you understand information in general, not just how you understand religion. Particularly if you’re new to lateral thinking, this method can provide insights into the most global processes of thought, such as how we view reality, how we interpret information and so on. Coined by Edward de Bono, the term ‘Lateral Thinking’ literally means thinking sideways and could be described as thinking of different possibilities, at different levels or analogised as thinking outside the square. Perhaps one of the best illustrations of a blatant *failure* to think laterally is the Gary Larson cartoon, of the entrance to the ‘Midvale School for the Gifted’.

A child leans all his weight against the door but it fails to open, which is unsurprising as the door is clearly marked ‘PULL’. Lateral thinking can be partly explained in connection with de Bono’s six hats of thought, which are summarised roughly below.

- A white hat represents a focus on the available facts as well as the corresponding gaps in knowledge.
- A red hat represents emotional, intuitive thoughts, including the emotional reactions of others.
- A yellow hat represents positive thoughts, investigating potential and hope for ideas that appear to be problematic.
- A black hat represents negative, critical thoughts, developing awareness of an idea’s potential flaws, errors and creating appropriate contingencies.
- A green hat represents creativity, alternatives and change; it is the hat most directly connected to lateral thinking.

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So I hear a good work environment should be free of distractions. Where should I put my brain?
• A blue hat represents thinking about thought – meta-cognition or process control, including which of the other hats should be used.

By using the six hats method, we think laterally both as we change our perspectives and when we create alternative ideas on a specific topic via the use of the green hat. Mental flexibility of this kind is arguably the key to lateral thinking, it’s all about being able to explore different options, rather than being railroaded into following a single, limited ideal. This flexibility of thought warrants serious consideration for all of us, particularly religious people and especially religious fundamentalists, as it seems to be something that they often lack. While religious people may be capable of thinking laterally in some respects, for example being able to brainstorm explanations for reality to make their experiences fit in with their religious beliefs, even in this case, they are only thinking within the bounds of their religion. Thus often when it comes to religious belief itself, the thinking of religious people can be uncompromisingly linear.

This train is bound for glory, this train.
This train is bound for glory, this train.
This train is bound for glory, don’t carry nothing but the righteous and holy.
This train is bound for glory, this train.

Religious people may be exceptionally vulnerable to close-minded, linear thinking, in so far as faith seems to be necessary for most religions to function. Due to this requirement for faith, religious belief is oftentimes like a railroad for thought. In certain crucial respects the religious train of thought has to follow the tracks already laid down, if it is to reach its exclusive destination.

Careerism is a secular example that helps to illustrate a pattern of linear thinking. A person is born, goes to school, gets a business degree, is married and

* Whether your mind is open or closed, fluidity of perspective is an invaluable tool.
has 2.3 children, stays with a single company until they’re sixty five and then retires. In accordance with the apparent expectations of society, the careerist in this case may have directed so much of their lives towards their job that they may have relatively little time to experience the world before they die. While this way of living may suit some people, who are happy to be defined by their work, it frequently fails to take into account some of the alternatives; arguably a serious mistake given that each individual has only one lifetime to work with.

Religious people often appear to follow comparably linear behavioural patterns to careerists. A child is born and indoctrinated into the religion of their parents. They may be taught to treat a particular religion as fact, from which point their religious beliefs will often take care of themselves, assimilating new information so that it fits in line with existing religious belief structures. Faith is one such necessary structural component that is found in most major religions; it is required for rewards and serves as a foundation for how the world is understood. Religious belief doesn’t seem to offer room for genuine lateral thinking on the topic of religion, as for a religious person to entertain a non-religious worldview they will often need to rebuild everything from the ground up. The emotional gravity of their situation is tremendous; to dispense with religious belief would entail the loss of life’s meaning along with the path to eternity, often with no obvious replacements available.

De Bono describes our brains as self-organising systems, comparing the mind to a lump of jelly. Information is like hot water being poured onto the jelly, forming channels which any further water, or information, will run into and deepen. In this metaphor, the first water that is poured onto the mold has a defining effect upon the shape of the jelly, just as the experiences of early childhood define a child’s world to a certain extent. This idea is connected to the ideas of egocentrism that we have already visited and patterns of evolution that we shall explore a little later on. In short, as the brain develops throughout life, earlier experiences or mental states contribute

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Discovering that you have been wrong is a good thing, as it means you’re learning and are now able to attempt to rectify your past actions. The greater the mistake you discover, the greater your gain when you find out about it.
to the definition of subsequent mental states, as they mold the mental context of learning.

Those of us who wish to be parents or teachers of young children, could be seen as having an obligation to consider the implications of our impact on this defining period carefully. In my view, given the impact of early childhood experiences and what we know of our own fallibility, it is an injustice to pour with certainty world shaping ideas into young minds, if we lack certain evidence for those ideas. More explicitly, I would argue that due to the lack of evidence for religious belief, religious indoctrination is morally irresponsible for anyone who values truth.

Fortunately, our minds provide a potential escape from patterns of indoctrination, as they are powerful enough to construct and store multiple, flexible, interchangeable thought patterns simultaneously. This simultaneous construction of ideas might be better classified by another of de Bono’s ideas, that he calls ‘Parallel Thinking’, by which ideas are constructed in cooperation rather than in opposition. In the context of this book, parallel thinking might mean the construction of two or more worldviews relative to religion, with interchangeable parts. We can imagine these worldviews as a toy castles made of movable wooden blocks, different blocks representing different ideas and explanations. Normally, we might be inclined to examine or replace one block at a time as we learn, but in the case of worldviews, such as are determined by religion, entirely independent views may need to be constructed simultaneously, due to the way that all the blocks will fit together.

The key difference between these views is their basis. One view might be based upon a set of general or specific religious worldviews, depending upon your particular inclinations. Another worldview could be constructed upon atheistic and agnostic grounds, as the implications of these views are extremely similar. Of course the worldviews can be further separated as necessary, atheistic and agnostic structures being explored independently, along with the many thousands of different structures being explored independently, along with the many thousands of different

*“If God does not judge America, He is going to have to apologise to Sodom and Gomorrah.”* Billy Graham.

Tangential thought is useful as it helps us to understand situations more completely through exploring aspects such as their contexts, alternatives and connexions.
religious views, perhaps reflected in our analogy by a city of different wood block castles. To clarify this idea, in a castle representing an Islamic worldview, the block that explains Mohammed’s revelation might be made of gold, representing the idea that he actually talked to an angel; the pillars of Islam would presumably be built upon this foundation. We might contrast this Islamic idea castle with several atheistic castles, each one having a different block to explain Mohammed’s apparent revelation. Perhaps one might use a bright blue block to represent the possibility that Mohammed had hallucinations as a result of epilepsy or a translucent gray to represent the possibility that his visions were the result of a stroke. These separate, imaginary idea sets need not determine our personal views yet or ever for that matter. They are merely useful ways of dealing with information, which we can compare and draw upon in order to determine how reality can best be explained.

Perhaps the greatest beauty of the technique of parallel thinking is that even if we never use the ideas that we construct, they will at very least serve to improve our understandings of the ideas of other people that we encounter. Given the natural xenophobic tendencies of humans, to fear the unfamiliar, a greater understanding amongst people seems likely to at least result in a reduction of fear and conflict. Thus ideally, the technique of parallel thinking might be used to compare any conflicting set of ideas, in order to encourage agreeable resolutions. We should try to avoid being immediately caught up in our natural tendencies to challenge views that differ from our own and to agree with similar ones; if we wish to learn the truth, all perspectives should be examined objectively.

Where religion is concerned, of all the views that we might choose or castles we might build, all but one must be wrong or incomplete. Against intuition, we have every reason to believe that we may often be the ones who are mistaken. Thinking laterally helps us to escape from narrow mindedness of self-centered certainty, so that in any given situation we might be able to draw upon a range of ideas or explanations. It lets
us utilise and combine aspects of different thought patterns in order to enrich our lives and likewise it allows us to understand the choices that other people make, encouraging cooperative thoughts and behaviours rather than oppositional ones.

It may often seem to be easiest for us to simply be swept along in the main streams of human thought. While swimming against the current or climbing out onto the bank and making our own way is harder and may get us nowhere, we can always just dive back into the stream if we become lost. When we allow our minds to wander, we may find new streams, perhaps better, perhaps even pristine ideas, previously untouched by human minds. An open mind can safely explore paths to which closed minds are blind.

If metaphors are not kept on a short leash, they may run off and start chasing the crested pigeons.
3. Reality

“All societies have had need to find an explanation of the way in which human beings came into the world... the Australian Aboriginals think it's a rainbow serpent in the sky, and the Thais think that it's a sea of milk being churned by demons... a tribe of people in the Middle East thought that it was a garden in which first woman was made by making a rib from Adam. Now they can't all be right... In the face of such conflict, why don't we look at the world around us... and try to make sense of that, because this evidence is the same everywhere.” David Attenborough.
Oh, Really?

‘What does reality have to do with religion?’ you might ask. Some would argue that each individual’s perspective on religion is determined entirely within their mind and thus that arguing about the nature of reality is merely an exercise in rationalisation from an emotionally predetermined position. This may be true to some extent, though I would point towards a more complex picture. As our embodied minds are real and as they appear at very least to be temporarily trapped in reality, reality is actually quite important to our discussion of religion as it seems to be all we have to work with. Our real experiences and our subsequent perceptions of them, continually contribute to our beliefs about the world, including our beliefs about the supernatural, such as religions.

My primary reason for preceding this investigation of some of the realities of religion with a broad examination of the human mind is that understanding the mind is crucial to the understanding of our understanding of reality. The embodied mind provides the specific context within which our perceptions and thoughts develop. It appears that it is only through an understanding of minds and thoughts that we can in turn understand religion, as religion is a form of human thought. As such, I shall continue to relate ideas about religion to the ideas about thoughts and minds that we have already examined.

It is clear, for example, that we’re really emotional animals; so don’t be too surprised if I spill some references to emotion on our lovely clean reality. On that note I would remind you once again to beware of your own emotions in reading these arguments, particularly if they conflict with ideas that are dear to you. It is all too easy to construct a running rationalisation to reinforce one’s own ideas when encountering an argument that conflicts with them. Try to understand and entertain each position and compare opposing ideas continually, rather than just focusing on the side with

It’s hard to know where I should draw all the lines as our perceptions of reality are just in our minds.
which you are familiar. This will hopefully allow you to contemplate which set of ideas best explains reality.

Further still, I would ask that you try to relate each individual argument below to global positions such as atheism, agnosticism and whatever you may know of the various religions in order to construct a working picture of each perspective. Even if our opinions do not change through such processes of comparison, directed at understanding alternative positions, I would argue that humanity would benefit greatly if we were better able to understand each other. If we can understand what other people think and why they think it, this may serve to reduce our natural fears and increase the potential for our cooperation.

Anyway, down to business. It’s time to take you back to Kansas Dorothy, you and your little dog too.

An Extraordinarily Brief History of Time

Many Hindus, at least in the past, have regarded the city of Varanasi as the center of not only India but of the entire cosmos. One can’t help but admit that it’s a very nice city, with a long and eventful, religious history; although it pales understandably in view of Jerusalem’s various head counts. In any case, along with the numerous religious creation myths that place mankind and earth as the focus of a divine creation, the belief that Varanasi is the center of the cosmos seems best explained as a product of primitive religious egocentrism and ignorance.

The fact that we continue to develop our knowledge of the history of the universe in ways that completely contradict relevant religious ideas creates two problems for religious belief. The lesser of the two is that specific creation myths

Beware the expert. She may be in an even greater position to err than the average lass, bravely treading the lonely frontiers of knowledge.
need to be massively modified or dismissed entirely in order to fit with the data we have collected about the nature of the cosmos. The second problem, which stems from this first, is that as creation myths are incorrect, (inaccurate myths, hard to believe I know) the accuracy of the various religious texts within which the myths are contained is brought into question. This is particularly problematic for any religious doctrine that bases its merit upon claims of divine revelation of one kind or another, as it provides evidence that the doctrine is either not a divine revelation thus undermining the doctrine’s credibility or that the divine revelation is false, in which case the deity supposedly providing the inspirations has proven to be fallible. Either scenario might be considered a fatal sword thrust to the belly of almost any religion, yet we must remember that religions are ideas, no more vulnerable to reason than their shields of faith – emotion – will allow.

In any case, astronomy, astrophysics and their associated fields are not perfect sciences, if such things exist. While I shall mention just a handful of the more relevant and widely accepted ideas, as usual we must remember to treat them appropriately as theoretical. It is enough for our discussion that they provide an alternative to religious beliefs based on patterns of evidence rather than hearsay and religious emotion. If you wish to develop a genuine understanding of these topics you shall have to do your own reading, as I lack the knowledge to explain them in any depth and there is a great deal of depth that might be discussed.

Space is big. You just won't believe how vastly, hugely, mind-bogglingly big it is. I mean, you may think it's a long way down the road to the chemist's, but that's just peanuts to space. Douglas Adams.

In 1929, Edwin Hubble published measurements indicating that the further away ‘extra-galactic nebulae’ are from earth, the faster they recede from us. Basically he...
had found that the universe appears to be continually expanding in all directions. This finding and its subsequent confirmations have lead to the popularity of the Big Bang hypothesis and similar ideas. A common analogy used in helping to explain the idea of the Big Bang is that of the movements of raisins in a loaf of bread as it is baked. As the loaf rises, the raisins move away from each other at increasing rates as the dough between them also expands. Of course the raisins in the Big Bang, which represent galaxies and their ilk, are only thought to have begun to form from the original matter of the explosion hundreds of thousands of years after it started. Also, currant evidence indicates that the explosion may be continuing to increase its rapidity, rather than trailing off to a ‘stable loaf’ like universe, but you get the idea.

Since 1998, a couple of international research teams have released findings indicating that the universe’s rate of expansion is accelerating. These findings have been based upon observations of type 1a supernovae, that apparently always occur when white dwarf stars accrete enough matter to reach a critical mass, know as the Chandrasekhar Limit, which is about 1.4 times the mass of our sun. As these stellar explosions are incredibly bright, often briefly outshining whole galaxies, last for around a month and are above all consistent wherever they appear in the universe, they make the perfect targets for comparison. Measurements of light from various 1a supernovae indicate that they are significantly further away than we would expect if their rates of recession were constant, thus indicating that the universe has an increasing rate of expansion.

One of the most noteworthy pieces of evidence indicative of the occurrence of an event at least something like the Big Bang, is the constant presence of cosmic microwave background radiation, discovered in 1964, which gives space a temperature of around 2.7 degrees Kelvin, just above absolute zero. This radiation is thought to have been given off a few hundred thousand years after the Big Bang, when the dense, expanding mass of plasma became cool enough to release photons into space.
Just how long the universe has been expanding is still not known precisely, though the hundreds of attempts that have been made have been trending more recently towards the 13.7 thousand million year mark, give or take one or two thousand million years. One example of the masses of research adding to this trend is the comparison of different sorts of radiation from one ancient star in our galaxy, given off by several pairs of radioactive elements that decay into each other at predictable rates. These comparisons produce estimates of this star’s age that average at around 13.2 thousand million years. Research of this kind in turn helps to give us an indication as to what the minimum age of the universe might be.

Turning briefly to the matter of the scale of matter, one estimate based on the surveillance of a strip of space is that there are approximately seventy thousand million million million or $70 \ 000 \ 000 \ 000 \ 000 \ 000 \ 000$ stars in the cosmos. For the minimal perspective it provides, this is also thought to amount to there being roughly ten times more stars in the universe than there are grains of sand in all the deserts and on all the beaches of our planet. Many scientists are using expensive toys like space probes and satellites to search for habitable planets other than earth orbiting these stars, though it’s hard to see such tiny things, so very far away. So far we’ve only found evidence of a couple of hundred larger planets, similar to the gas giants orbiting our own sun.

In short, while there are many ideas and masses of evidence floating around on space, we need only draw a couple of basic conclusions here. Sticking to what we can be relatively certain of, the universe is very big, very old, mostly empty and the first evidence of anything even vaguely resembling ‘intelligence’ is probably either a worm or a squid found on our own tiny planet, depending on how generous we are with the term. There is nothing outside of our colourful human imaginations to indicate that any of the patterns we can observe in the extant universe were formed

*What if you’ve spent your entire life worshipping the wrong god?” Steve Corbett.*
with the intent of spawning water bears, Goldilocks, porridge or anything of the sort. Natural forces explain everything in the universe that we have developed an understanding of, including life.

**Evolution**

At the most universal level, the evolutionary process is an observable law of nature rather than a scientific theory. Patterns of objects or events that are best able to reproduce themselves will also be those most likely to populate the next generation of objects or events. Where there is variation in reproducing or changing systems, the variants that are most likely to reproduce themselves will generally come to dominate or completely fill a given population over time.

One example that fits this general principal is that of the erosion of land into valleys by water, where slight depressions form and more water flows into them, thus emphasising their development and reducing the effect of water on raised areas of land. The highest areas only get the water that falls on them directly, whereas a riverbed gets pretty much everyone’s water, as well as rocks and assorted debris. So in a broad sense, river valleys could be said to evolve due to the effects of water and gravity over time. The similar pattern of hot water melting paths through jelly has already been borrowed to aid our examination of how our brains appear to sort information and how it can be hard to unlearn what we have learned. The knowledge or at least the beliefs of both individuals and societies continue to evolve over time under pressure from a massive range of forces extant in both information systems and their environments. A further, hideously mundane and artificial example of an evolutionary process would be to watch the proportional representation of different lines of products in a supermarket changing over time due to supply, demand,

*Like every other man of intelligence and education, I do believe in organic evolution. It surprises me that at this late date such questions should be raised.* Thomas Woodrow Wilson, in 1922.
innovation and various associated forces. Similar evolutionary processes are visible in the changes of other human systems such as the division of labour, fashion and government.\textsuperscript{cix}

The more commonly known theory of biological evolution, first presented in detail in Charles Darwin’s book \textit{The Origin of Species},\textsuperscript{clx} relates specifically to the evolutionary development of life. Modern evolutionary ideas with Darwinian origins tend to assert that life on earth started out at a microscopic chemical level, thousands of millions of years ago and has gradually developed into all its modern complexity through processes largely akin to blind but crucially cumulative trial and error. Every time there is variation amongst a group of organisms, the organisms that possess the most beneficial variations will be most likely to go on to survive and reproduce. To attribute all of life’s diversity to this simple pattern may seem like quite a bold claim on the surface, yet the theory is rather popular to say the least; it might even be called the pride and joy of science if it managed to sneak past the physicists. Many scientists view the evidence for biological evolution as being sufficient to label it as a fact. As, for example, we can directly observe genetic changes taking place in populations of organisms over time\textsuperscript{cxi} or view the clear patterns of development in the fossil record. As many of us lack a deep understanding of the evidence for evolution however, it might be best if we don’t cloud the issue with facts at this stage. We are better off examining the evidence for ourselves than simply accepting the opinions of experts, particularly as we are dealing with a process that is so important to our understanding of the world.

As you may have gathered, the theory of evolution bears rather heavily upon the discussion of religion. Not only does it conflict directly with the creation myths of many religions, but it also provides us with potential explanations for all manner of human behaviours and functions, such as those discussed in the preceding part of the book, on the mind. As religion is a human behaviour, if humans are evolved

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Most animals are thrust into their place by evolution; it seems that the mosquitoes will always be parasites, the tiger always a predator and the sheep always a herd animal. Our brains allow us to fill any of these roles and many others; within the animal world, we possess an unrivalled potential for self-determination and adaptability.
animals, then evolution can help to explain human behaviours like religion. The relevance of evolution to religion makes it extremely important for us to examine this topic in at least some detail, in order to develop an understanding of just how reliable it is and so that we may better understand some of its implications.

The Appearance of Life

In 1828, three decades before Darwin published *Origin*, the German chemist Freidrich Wöhler accidentally discovered how to produce the organic chemical urea from inorganic chemicals.\footnote{His discovery was significant, as organic chemicals had previously been viewed under the theory of vitalism as being producible only by ‘vital forces’ present in living organisms. As a component of urine, urea isn’t quite the right sort of chemical to make life by itself, although it does act as an effective fertiliser. While several other organic chemicals were synthesised over the next century or so, it was not until 1953 that Stanley Miller managed to synthesise amino acids and other significant organic compounds under conditions supposed at the time to resemble those in the earth’s atmosphere around four thousand million years ago, when the world was still young.} His discovery was significant, as organic chemicals had previously been viewed under the theory of vitalism as being producible only by ‘vital forces’ present in living organisms. As a component of urine, urea isn’t quite the right sort of chemical to make life by itself, although it does act as an effective fertiliser.

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There are a couple of other interesting hypotheses as to how life on earth might have started, one involving the possibility of organic particles forming in space under intense radiation and another involving reactions in clays, such as those commonly found on ocean floors. These hypotheses are somewhat more promising as potential sources of the first self-replicating molecules necessary to kick start evolution than an atmospheric scenario, as they are relatively free of the molecularly destructive chemical 'oxygen'. Adding to these possibilities, molecules called ribozymes have been found to be capable of causing autocatalysis or self replication in ribonucleic acid (RNA), which may in turn be an evolutionary precursor to the more modern deoxyribonucleic acid (DNA). The significance of ribozymes as autocatalysts is that they are simpler molecules than the proteins known as enzymes, which facilitate autocatalysis in DNA. Thus ribozymes could perhaps fit the role of the evolutionary predecessors of enzymes.

In any case, research in this area is ongoing and presently allows us only to make educated guesses as to the sorts of reactions that might have been involved in producing the first autocatalytic molecules needed to begin evolutionary processes. It seems unlikely at this stage that we shall ever be able to determine with any certainty exactly what chemicals were involved in the production of the first life on our planet, as life probably appeared three or four thousand million years ago and from there may have taken many millions of years to develop; this is hardly the sort of time scale we can easily replicate in a laboratory.

While all of the pieces of the jigsaw puzzle of biogenesis aren't yet in place and may never be; we do have evidence for the possibility of some of the most basic processes required. Most amino acids, purines and pyrimidines used in protein synthesis can be formed using inorganic chemicals. On the other hand, nucleotides and subsequently protein strands, formed in nature via enzymes, have so far evaded inorganic synthesis. Whatever the intervening steps may be, if we are ever able to

Evolution favours diversity; this also appears to entail favouring malfunction.
synthesize self-replicating proteins such as RNA, it becomes far easy for evolution to do the rest. Indeed biogenesis research makes sense primarily because of the stable context that the evolutionary science provides. Individual hypotheses of abiotic, chemical biogenesis are each intended as the potential predecessors of but are not prerequisites for evolution, which functions quite independently of them.

*Looking to the first dawn of life, when all organic beings, as we may believe, presented the simplest structure, how, it has been asked, could the first steps in the advancement or differentiation of parts have arisen? Mr. Herbert Spencer would probably answer that, as soon as simple unicellular organism came by growth or division to be compounded of several cells, or became attached to any supporting surface, his law “that homologous units of any order become differentiated in proportion as their relations to incident forces” would come into action.* Charles Darwin. (1859).

Such confidence in men writing before the chemical mechanism behind biological evolution was even known. It was not until 1869 that Freidrich Miescher discovered nucleic acid and not for almost a century that the implications of these massive molecules began to be fully comprehended. As far as we are aware, all life on earth grows and reproduces according to the patterns contained in either DNA or RNA. At a cellular level, these chemical maps, which are essentially the same in every nucleic cell of an individual organism, are transcribed into the chemical patterns required to form all the different molecules, such as proteins, needed for various cellular functions.

Not only is this mapping mechanism essentially the same in all the organisms that have been studied but many distinct organisms also share significant portions of their DNA. For example, around 60% of the drosophila fruit fly’s genes are present in human DNA. Unsurprisingly, we also share many of the genetic malfunctions of
fruit flies, such as cancer, Alzheimer’s and Parkinson’s diseases. Our genetic
similarities with chimpanzees are far greater, with roughly 93% of our DNA matching
with that of this, our most closely related living species.\textsuperscript{clxx} The evolutionary idea that
we share a common ancestor with fruit flies and more recently with chimpanzees
explains these genetic similarities very well, on the basis that the ancestral species
would also have shared the same characteristics and malfunctions.

Similarities such as these occur to varying extents across all life on our planet
that has been studied to date. Adenosine Tri-Phosphate or ATP is a complex
molecule, which stores energy in all known living organisms.\textsuperscript{clxxi} There is no reason
that this should be the case if the various forms of life that we encounter on earth had
formed independently of each other, as there are numerous alternative molecules
that are capable of performing ATP’s function. However, evolution theory’s prediction
that life shares common ancestry is supported by such observable commonalities of
cellular metabolism. It should be remembered that Darwinian evolution predicted
life’s common ancestry several decades before various discoveries of this kind were
made. Prior to the discoveries of genetics, the theory of evolution was grounded in
many more superficial observations.

\textbf{Unnatural Selection}
When we breed a species domestically towards our own ends, we take advantage of
naturally occurring genetic variation and inheritance to artificially dictate evolutionary
processes. Say for example that a Chihuahua breeder wishes to produce animals
that bark the loudest. She might observe in a single litter that one or two dogs bark a
little louder than the others and thus allow them to breed, whilst their siblings are
eaten or neutered and sold before they can reproduce. As the next generation
inherits some of the characteristics of each of their parents, the offspring of dogs that
bark loudly will thus be more likely to bark loudly themselves. If this process of
artificial selection is repeated over several generations, particularly if breeding pairs
are found where both parents bark loudly, the dogs that are bred will come to bark more and more loudly as far as natural variations allow.

Artificial selection is very much an observable process that can be used to gradually modify strains of organisms. Sheep might be selected for producing more, softer, stronger or lighter wool, horses for speed and guppies for attractive patterns or colours. Darwin kept and studied pigeons, which have likewise been bred towards various extremes of form and behaviour, though I shall leave it to you to discover the roller coaster ride of pigeon fancying for yourself should you wish to do so. For Darwin the extrapolation of these patterns was necessary to lend weight to evolution theory, however our understanding of the processes involved has increased somewhat since his time.

Mutations and Variations

We now know that in organisms that reproduce sexually, roughly half the genetic information is taken from the sex cells or gametes of each parent. Variations in the DNA of offspring often occur as a result of errors in its transcription. This will not surprise us if we consider that human DNA for example contains around three thousand million base pairs of either adenine and thymine or cytosine and guanine. Examples of transcription errors include when genes get twisted and become permanently ‘crossed over’ or undergo a ‘frame shift’ mutation if segments are not lined up correctly. Other mutations in DNA may occur due to chemical contamination or result from exposure to radiation, such as ultraviolet light from the sun. While there are proteins than can repair some of these mutations, we can expect to see a number of variations in every generation of organisms.

Mutations are generally so insignificant that they cause no discernable harm or benefit for an organism; organisms are full of such minor individual variations. Frequently mutations will cause an organism a disadvantage, potentially causing it to
be unviable or perhaps merely less competitive than average and thus more likely to
die before reproducing, along with its disadvantageous mutation. Nature is most
unforgiving in this respect and tends to prey upon the weak. In a great number of
species, the vast majority of young are in fact unlikely to reach breeding age. In spite
of this incredible waste, evolution actually tends to favour organisms that vary, as
variation is also necessary for improvement. In evolutionary terms, an improvement
or adaptation is any mutation that happens to increase an organism’s chance of
survival and reproduction.

In nature, such variations may only need to set an organism a little way ahead
of the pack to keep its mutations alive. In the same way as a selective breeder might
favour dogs that bark the loudest, a competitive environment might favour dogs that
hear better, run faster, digest food more efficiently, lose less heat in winter, are more
resistant to a particular disease, reproduce more frequently and so on. Such
adaptations can easily be observed in organisms that reproduce rapidly, such as
insect populations developing resistance to pesticides or colonies of bacteria
becoming better suited to living in different temperatures. Organisms with genes
producing the characteristics that prove best suited to living in a given environment
will be the most likely to survive and reproduce, thus over a number of generations,
the population will come to be dominated by organisms with such favourable
characteristics. A most famous case in evidence of the evolution of a novel
characteristic is that of a frame shift mutation in a Japanese bacterium that enabled it
to break down nylon. While this particular mutation would have been useless
before nylon was invented, causing the relevant portion of DNA to become obsolete,
it actually proved to be beneficial in this case, by opening a new evolutionary niche to
the mutated bacteria.

Over time, a group of organisms will occasionally evolve in such a way that
they are no longer capable of reproducing with other lineages of organisms that

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Design? When bacteria is observed to evolve through chance in such a way that it is able to thrive upon nylon, has its
purpose changed? No. This forces the creationist to retreat to the line that it is part of the divine purpose of bacteria
to evolve. Dodge! Retreat, retreat, retreat; rationalise, parry, riposte. Fencing is linear too, but the piste is short.
share a common parent species. This process is called speciation, as it entails the evolution of a new and distinct species. Much of the speciation that we have evidence for appears to be the product of the geographical isolation and subsequent continued evolution of separate populations of organisms over extremely lengthy periods of time, however there are also numerous cases where it is thought that speciation has taken place within contiguous populations.

One of the few examples of speciation that has been observed is that of the Llanos-A strain of the much studied fruit fly Drosophila paulistorum. Llanos-A has been classified as a new species as by 1964 it appeared to be unable to produce fertile male offspring when crossed with closely related strains, although it had been able to do so four years earlier. As the Drosophila’s life cycle is a mere two weeks, this genus is particularly capable of rapid speciation which humans are also able to observe directly. Generally speaking however, due to their infrequency, lengthy duration and gradual nature, complete instances of speciation are rarely documented. Humans for example, remain a single species in spite of our diverse habitats and even though our nearest common ancestors are thought to have lived in Africa tens of thousands of years ago. Particularly given that most species are prehistoric, many instances of speciation can only be inferred from observations of existing species and the rock solid evidence of the fossil record.

The Fossil Record
In Africa, perhaps sixty thousand years ago or so, there may have lived a woman, whom we shall call Samanya, who was the ancestor of all modern humans. The same could have been said for many generations of both her ancestors and perhaps her descendants, although that’s not a very romantic way of looking at it. It is possible that this Samanya was caught up in a flood one day in her late twenties and drowned, later to be deposited on the bed of some ancient river. Silt and debris washed over her in the flood and then once things had settled down, her body began
to decompose as bodies do. Gasses given off by bacteria during putrefaction caused her corpse to become bloated and buoyant, thus it escaped the thin layer of silt, washed up on a bank and was riddled by maggots then mauled by various animals. Eventually even her bones were cracked open and scattered by scavengers, so that even their fragments dissolved, leaving no direct trace to indicate that Samanya had ever existed.

Fossils are rare. The vast majority of animal remains usually decompose within a matter of weeks following death, with harder parts like shells and bones often disintegrating after a number of years depending on the environment that they are exposed to. Fossils are only likely to form under certain conditions, generally where a deceased organism is rapidly protected from the environment, by a layer of silt or volcanic ash for example. Given that soft bodied organisms tend to decompose rapidly, leaving no chance for fossilisation, it is unsurprising that until relatively recently the fossil record has been virtually empty prior to the appearance of the first hard body parts around 550 million years ago (Ma), the portion of the fossil record known as the Cambrian Explosion. Indeed larger organisms with hard body parts appear to populate only the final sixth or so of the current fossil record. If we look much deeper than this, virtually all life was so small that individual organisms would have been invisible to the naked eye, visible fossil formations typically only being made by bacterial colonies.

The earliest direct fossil evidence we have of life is that of imprints in rock from Western Australia that may have been formed by bacterial stromatolites around 3.5 Ga, which is the same as 3.5 thousand Ma or 3 500 000 000 years ago if that helps. That these particular formations are necessarily of organic origin has been debated however, with other forms of scientific evidence for the most ancient bacterial life ranging from around 3.8 to 2.7 Ga. The evidence used to determine various potential dates for the development of life include the controversial inference that the banded iron formations, dated mostly between
two and three Ga, were produced by the atmospheric oxygen given off by massive numbers of cyanobacteria over hundreds of millions of years. Evidence for specific bacterial fossils is generally based upon factors such as microscopic morphological similarities with modern bacterial mats and whether the chemical composition of fossils is consistent with biological origin.

**Geological Time**

At this point we should probably stop to put things in perspective, as rather a lot of time passes in the fossil record between the appearance of the first fossil bacteria and anything else really, erm, 'exciting' happening. Humans tend to live for decades, rather than thousands of millions of years and as such it is difficult for us to comprehend the vast expanses of time over which evolutionary processes have occurred. Let's imagine that we walk, at a steady pace, down a straight stretch of road for one hour; in this time an adult might expect to cover around four kilometres, which we shall use to represent the fossil record of the last four thousand million years, as the earth’s continental crust is thought to have formed by the start of this period, 4 Ga.

If this model represents the last 4 000 000 000 years of earth’s history, then each metre or each single large step out of four thousand large steps in total, represents one million years. On this scale, if you were lucky enough to live for a hundred years, your life would be 0.1 mm long, on our 4 km stretch of road this could be shown by a tiny scratch made with an extremely sharp knife. If all of human history is around 3500 years, then it would be a whopping 3.5 mm, which is the width of a line that might be drawn with a whiteboard marker. Modern humans would have appeared from six to ten centimetres ago representing 60 000 to 100 000 years, perhaps the distance across my hand from side to side. Our most recent common ancestor with chimpanzees perhaps five Ma or so could have lived a little over five
metres or five paces back according to current fossil evidence. So the divergence of hominids from other primates like chimpanzees probably happened during the second last thousandth of earth’s fossil record.

The Fossil Record (Continued) – Now With Dinosaurs

In any case, if we look back in time again to the earth’s distant past, the next significant development following the first signs of unicellular life is that of eukaryotes appearing around 1.7 Ga, although there is chemical evidence that suggests that they may have evolved by 2.7 Ga, so probably somewhere before the middle of our stretch of road. Eukaryotes are different to bacteria because they have membrane bound cell nuclei containing their genetic information and organelles to perform various functions within cells. Organelles are so named because they function like microscopic versions of bodily organs, acting on a cellular scale. While single celled eukaryotes, bacteria and for that matter archaea may seem superficially similar as they’re all rather tiny, on a microscopic scale their differences are comparable to those between plants and animals. Although microscopic organisms reproduce very rapidly, given the colossal differences between these organismic domains it should not surprise us that their evolutionary divergence appears to have taken hundreds of millions of years. The relevance of these early eukaryotes to humans is that they are understood to be the evolutionary ancestors of the various kinds of algae, fungi, molds, plants and animals that all share the same sorts of more complex cellular characteristics.

Possible evidence for the appearance of genuinely multicellular rather than colonial organisms ranges from fossils of leaf like structures, found in China and dating to 1.7 Ga to other probably algal fossils found in United States, dated to around 1.3 Ga. Evidence for multicellular animal life begins around 1100 to 800 Ma with what may be fossilised worm burrows. Following the appearance of these possible worms, things really start to heat up. The diversity of multicellular life
seems to take off like a forest fire, smouldering slowly at first and then growing with increasing rapidity. By 550 Ma we reach the shell shale signs of the Cambrian Explosion, where we start to find fossils of organisms with harder body parts such as small shelly fossils along with more soft bodied organisms that resemble modern molluscs.\textsuperscript{clxxix} Around 540 Ma, trilobites begin to appear as some of the first known arthropods,\textsuperscript{cxc} animals with jointed appendages and hard exoskeletons, closely related to the ancestors of crabs, insects and spiders. In the Burgess Shales of British Colombia, fossils of carnivorous worms called Ottoia, an arthropod claw, and bivalves have also been found dating to this period.\textsuperscript{cxci}

The rapid increase in the diversity of fossils which appears to have taken place during the Cambrian period can be attributed in part to the appearance of more hard shelled and bodied organisms, as these are more prone to fossilisation. It has also been hypothesised that the acceleration of biological diversification in the Cambrian was largely a product of increased heterotrophy,\textsuperscript{cxcii} heterotrophs being organisms that eat other organisms. Particularly with the appearance of carnivores, changes in size, colouration, speed, toxicity, hardness, the development of senses, coordination and many other characteristics that might previously have been mere inefficiencies would have become evolutionarily beneficial. In short, we could view the Cambrian Explosion as the beginning of a biological arms race that has never stopped since it begun; an evolutionary race in which competition encourages diversification, which encourages further competition and so on.

Echinoderms, invertebrate marine animals with segmented radial symmetry appear to appear around 520 Ma, towards the end of the Cambrian,\textsuperscript{cxciii} modern echinoderms including starfish, sea urchins and sea cucumbers. Beginning roughly around 485 Ma in the Ordovician period we find fossils of Hemichordates,\textsuperscript{cxciv} worm like animals that possess some chordate characteristics, though they may be more closely related to echinoderms than us.\textsuperscript{cxcv} From the late Cambrian to early Ordovician we see the appearance of corals and early fish, which may have been the
first vertebrates, as well as the tentacled cephalopods, ancestors of squids and octopuses that diversified rapidly. Due to the finding of fossil spores in Ordovician strata, it is also thought that plants may have colonised the land during this period, paving the way for animals to follow prior to 400 Ma.

During the Silurian period from 443 to 418 Ma, jawless fish spread widely, accompanying the appearance of the first freshwater fish and later jawed fish. So on the fossil record proceeds with seeded plants developing and fish giving rise to amphibians and tetrapods over millions of years later in the Devonian period, which extends until around 350 Ma. These early amphibians and tetrapods are interesting to us, as they form part of the transition for vertebrates coming from the sea onto the land; transitional forms being fossils or animals that appear to be closely related to two otherwise relatively distinct taxa. Specific species that may be closely related to the animals that formed a transition between fish and amphibians for example may include modern lobe finned fish and the ancient Ichthyostega, which possessed weak legs and claw like paddles.

Rushing ahead to the Carboniferous from 350 to 290 Ma, we find the first large land plants along with the first fossils of eggs on land. These eggs are significant, as they would have reduced animal dependence upon water for breeding. In the Permian from 290 to 248 Ma, reptile like tetrapods appeared. The Permian was ended by the world’s largest known mass extinction event, commonly thought to have eradicated around 95% of the species living at the time, probably including the last of the trilobites.

Between 245 Ma and 65 Ma, 180 paces out of the 4000 that make up the fossil record, we find the Mesozoic Era, also known as the age of the reptiles. This Era begins with the Triassic Period from 245 to 208 Ma, when a range of reptiles called Archosauromorphs, many resembling giant crocodiles, dominated terrestrial food chains along with the flying reptilian pterosaurs. In the Triassic we also find early mammal like reptiles, fossils presenting a gradual transition from reptilian into
more mammalian characteristics, which continued into the Jurassic Period. During
the Jurassic, dinosaurs reach their apex, with colossal herbivores, bipedal carnivores
and large aquatic carnivores such as plesiosaurs appearing. We also find fossils of
the first known bird, archaeopteryx, which shares characteristics with some reptiles,
though there has been some discussion as to whether it is more closely related to
either crocodilians or dinosaurs. The Cretaceous Period, between 144 and 65
Ma saw the rise of flowering plants, colonial insects such as bees and ants as well as
primitive forms of modern bird and mammalian groups. Mammalian fossils from the
Cretaceous generally remained relatively small, with increases in size presumably
being restricted by continued dinosaurian dominance. The Cretaceous ended with
another mass extinction event, possibly caused by glaciation following volcanism or a
meteorite impact. The extinction of many dinosaurs at this time may have allowed
mammals to begin their expansion.

At a relatively early stage in the Cenozoic Era, which runs from 65 Ma to the
present day, fossil and genetic evidence indicates that amphibious mammals related
to the modern order artiodactyla, which includes modern hoofed animals such as the
pig and hippopotamus became increasingly aquatic, eventually evolving into
cetaceans such as dolphins and whales. This evidence helps evolution theory
explain why cetaceans drink milk as do other land mammals, along with how a
humpback whale was caught in 1919 with four foot long rudimentary legs growing
from its hindquarters and how normal dolphin embryos have hind limb buds which
grow until the fifth week of gestation before degenerating. Throughout the
Cenozoic, mammals, flowering plants, insects, birds, reptiles, amphibians, fish and
other modern organismic groups have continued to diversify. In the last hundred
thousand years or so, there has been another increase in extinction rates, impacting
perhaps most noticeably on larger animals or megafauna. Forces such as climate
change including major glaciations, as well as the spread of humans and other
organisms, may have caused this relatively recent increase in extinctions.
Dating Fossils

Having sprinted through the fossil record, it seems worthwhile that we should at least gain some idea how paleontologists determine the ages of the various fossils they find. There are a couple of different methods. One of the oldest dating methods is stratigraphy; the rough description of the fossil record given above follows the predictable pattern in which different types of fossils appear in the ground. Older fossils almost always appear in lower layers of rock, having been deposited before the ones on top. The sequential appearance of fossils is sufficiently consistent that fossils themselves are often used to assist in determining their age or the age of surrounding fossils. Similarly, different types, patterns and movements of rock can be used to compare the ages of fossils contained within them. More recently, radiometric dating methods have been developed and used to find the ages of rocks and fossils more precisely, based upon concentrations of isotopes of particular elements contained within them.

One method of radiometric dating used on fossils up to around 60 000 years old is radiocarbon dating. Along with other isotopes of carbon, the unstable isotope carbon-14 occurs in our atmosphere in fairly predictable concentrations, being formed naturally via solar radiation. Plants continually absorb molecules containing these isotopes during photosynthesis and animals subsequently absorb them when they eat the plants. When an organism dies, it stops absorbing carbon-14. The isotope Carbon-14 decays into more stable carbon isotopes at a highly predictable rate, with half of any group of atoms decaying every 5730 years, give or take around one percent. Thus measurement of carbon-14 concentration in more recent fossils can be used to give accurate approximations of their age. Several similar methods of radiometric dating use pairs of other, usually different elements such as uranium decaying to lead or potassium decaying to argon. Different isotopes decay at different rates and can therefore be used to date fossils of different ages. Results
from multiple radiometric dating methods can also be compared in order to test each other.

**Phylogenetics**

All fossils, along with all modern organismic groups or taxa are arranged into classificatory trees known as phylogenies, phylo- meaning ‘kind’ and -geny meaning ‘origin’. These are just like human ancestral genealogies or family trees, except that phylogenies are based upon observed and inferred similarities between species rather than the familial relationships of people. Initially in 1735, a Swedish chap called Caroli Linnaei or Linnaeus wrote a book called *Systema Naturae*, which made an early attempt at classifying earth’s life on the basis of relatively superficial similarities such as the nature of reproductive organs in plants. Though many of his ideas are now outdated, Linnaeus did eventually sort humans with monkeys and cetaceans with other mammals rather than fish. A century or so later, Darwin found that these observable patterns of similarity amongst organisms could be explained marvellously by the theory of evolution. In chapter fourteen, on classification, of my mother’s copy of *Origin* he puts it as follows.

> Expressions such as that famous one by Linnaeus, which we often meet with in a more or less concealed form, namely, that the characters do not make the genus, but that the genus gives the characters, seem to imply that some deeper bond is included in our classifications than mere resemblance. I believe that this is the case and that community of descent – the one known cause of similarity in organic beings – is the bond, which though observed by various degrees of modification, is partially revealed to us by our classifications.

“Lacking language, animal brains have not had a way of inundating themselves with an explosion of combinations not found in the natural environment.” Daniel Dennett.
In a human family someone, probably an aunt, might say something like “Ooh you’ve got your grandfather’s nose.” Via phylogenetics, we are able to say things like “Ooh, you’ve inherited a non-functioning, vestigial tail like appendage from our distant arboreal ancestors.” There shall be more on vestigial organs in a moment; we just need to stop over in the twentieth century to mention molecular phylogenetics.

After the study of both evolution and phylogenetics had continued to develop in concert for about a century, scientists started to examine the genomes or the specific patterns of DNA in various organisms towards the end of the 1900s. I have already mentioned the high proportions of genetic overlap between drosophila, chimps and humans. As it turns out, this genomic overlap occurs throughout all known biota in ways that match the predictions made by the evolutionary phylogenies based largely on physical characteristics. Indeed, paleogenetics is a field in which scientists study the evolutionary lineages of various taxa by combining fossil and genetic evidence. For example, this field has brought the classical notion that primates could be descended from tree shrews into question,\textsuperscript{ccxiii} while the close relationship between hippopotami and cetaceans has been confirmed.\textsuperscript{ccxiv} Again, the study of genetics provides a massive body of evidence in support of evolution, though it was completely unknown when the theory was first formed.

**Vestigial Organs**

As promised, vestigial organs are the remnants of organs that no longer serve the function that they have evolved to serve; this does not necessarily mean that they are useless however. If, as an organism adapts to new or changing conditions, old adaptations prove to be evolutionarily beneficial in some other way, they may take on a different role rather than degenerating entirely. In fact a great number of adaptations appear to result from the development or modification of previous adaptations. I have already mentioned the example of a whale with vestigial hind legs, although it is worth noting that many whales normally have rudimentary pelvic
bones, which may still possess some limited function. Likewise the vestigial wings and tail feathers of many ground dwelling birds are of limited use for flight, but may still be utilised for thermoregulation or in mating displays. In mole rats, vestigial eyes may still perform limited functions in relation to activity cycle; in early stages of development their eyes form normally but later become overgrown with blood vessels. All humans are born with a coccyx or tailbone, which we might interpret as the only evolutionarily useful remnant of tails born by our ancestors. In rare cases people have actually been born with short external tails. Normal human embryos also have ‘tails’ that may make up as much as a third of their body length, although these all but disappear by the end of the second month of pregnancy.

Incidentally, comparative embryology gives us another line of evidence for evolution, as the embryos of evolutionarily related animals share similar shapes and structures in the earlier stages of their development. Fish, amphibians, reptiles and mammals all start out looking something like half formed tadpoles, before diverging along lines that are in keeping with their evolutionary relationships. For example, reptilian embryos continue to share a number of characteristics with bird embryos and dolphin embryos continue to share more characteristics with human embryos.

Even in their mature forms, mammals, birds, reptiles, amphibians and some fish possess pentadactyl limbs or limbs with five digits. These limbs perform diverse functions of course, from bat wings, to fish fins, to reptilian claws, to whale flippers and human hands, yet all these diverse appendages have five digits. Parathyroid glands regulate blood calcium levels in humans and many other animals thought to have evolved from fish. This case is of additional evolutionary interest as these glands appear in the neck, the same location as the gills of fish, which perform a similar function in addition to their well known role in respiration. Along with the molecular similarities mentioned previously, these patterns are explained perfectly by evolution.
Driving Evolution

There remains in the scientific community a continued discussion as to what extent the evolution of various characteristics is likely to have come about under various circumstances. That a range of selective pressures would have constantly come into play is almost certain, though there also appear to have been many opportunities in the past for more rapid evolution, when conditions have been particularly harsh. An excellent modern example of such rapid evolution is that which occurs when large populations of organisms such as insects or bacteria are exposed to some kind of toxin. One of best documented of these is the use of the pesticide DDT, which began in the mid 20th century, with the intention of reducing or destroying mosquito populations. Initially these sprayings devastated mosquito numbers, however the few survivors were of course far more likely to be those mosquitos which were in some way resistant to DDT. The following generations then inherited this propensity for resistance. In many cases, exposing just a single generation of organisms to a given toxin produces an observable difference in the resistance of the population. In protecting ourselves from insects and bacteria, this is a problematic trend, as previously successful methods of extermination become increasingly ineffective.

In more natural settings, the same sorts of rapid evolution may occur when a new predator appears on the scene through migration or in years of particularly low rainfall. If only one tenth of a population survives a drought, it will tend to be the portion of the population that possesses the most drought resistant characteristics. Such evolutionary pressure is of course compounded by successive droughts and thus may eventually form similar patterns to more gradual selective pressures such as predation. Of course, whether we define a force as gradual or rapid may merely be a matter of perspective, processes that humans might view as gradual can be catastrophic in their own way.

The evolutionary impact of gradual selective pressures is not to be underestimated. For example if you’re keen on wildlife documentaries and the like
you’ll no doubt have heard statements such as ‘the masked shrew can eat up to three times its body weight in insects in every day’ or ‘large blue whales may consume more than three tonnes of krill each day during their peak feeding season.’ In these situations, while the behaviours of the shrew or the whale might initially impress us, the impact that such predators have upon the species that they devour is also evolutionarily significant. Predation and competition continually exert selective pressure upon organisms in natural environments, driving evolution.

On top of this environmental selective pressure, many animal species often exert sexual selective pressure upon themselves. Sexual reproduction has proven to be a highly beneficial trait for many species as in addition to its oft presumed primary benefit of increasing rates of genetic variation, it has lead to sexual selection, which serves as a form of evolutionary training. In many cases, females will only mate with the most powerful or attractive males, while other males may have no chance to mate at all. Sexual selection allows a species to force itself to stay ahead of the competition, by ensuring that only the best competitors are able to reproduce. The offspring of the male lion that is most able to fend off competing males may also be more capable of bringing down larger prey. Likewise the offspring of the bowerbird that lives and forages most efficiently, so that it is able to build the most elaborate and apparently frivolous bower when attracting a mate, may also be better suited to collecting food against rival species in times of dearth.

Oftentimes the harshest selective pressure comes from directly within a species, whether organisms are competing with their own kind for territory or mating rights. Jane Goodall may have been one of the first people to record observations of male chimpanzees systematically exterminating the males of rival groups. Humans are such highly evolved predators that we can kill any other organism on the planet with ease, including ourselves. We might hypothesise that human characteristics such as our powerfully adaptive minds, bipedal gait and associated weapon use may

Advice: Don’t mess with lions. If you are very small, don’t mess with ants. If you are an ant, don’t mess with antlions.
have evolved largely due to selective pressures within our own species or amongst closely related species. Having reached the top of the food chain, in no small part via lethally competitive behaviour, man has continued to turn the same processes of violent competition upon himself, so that in many cases only the most violently competitive humans have survived. The observation that leads to this final inference is of course not conjectural; human history is frequently defined by staggeringly violent competition.

The Chance of a Lifetime

Just to clear something up, evolution does involve chance; everything up until evolutionary processes come into play is a matter of chance, although this is fine, as we know that the universe has plenty of chances. Where life in the cosmos is concerned, chances are, you’re not it. Even once biological evolution is up and running, chance seems to best describe the pattern of whether or not a given mutation happens to be useful. A mutation can’t know whether it will be beneficial in advance, although natural systems that internally weed out less evolutionarily beneficial mutations do exist; for example the competition amongst nascent organisms, like hatchling queen bees and pushy piglets.

Only once a mutation proves to be useful is chance forced to step away from the macromolecule, at least until the next mutation occurs. Until the moment when a variation proves to be beneficial in some way, thus forming a pattern of survivability, it can rightly be considered random along with all the other less auspicious variants. As already mentioned, sexual reproduction seems primarily beneficial because it increases the chance of such random variations occurring, sexual selection merely adding to this benefit. Chance is essential to evolution, as it is necessary for variations to occur. Biological evolution is the process of nature making its cutthroat selections from these endlessly repopulating fields of organisms. Shiver me timbers.

Humans have come to value knowledge, along with that which has the appearance of knowledge.
Avoiding Fundamental Misunderstandings

Since its earliest days, evolution has not wanted for challengers. In fact its controversial nature has in many ways served to strengthen and refine evolutionary science, as it has encouraged a great deal of debate and investigation. After a century and a half of verification, the mainstream scientific community has increasingly come to accept macroevolution or the evolution of all life as fact, although the same is not necessarily true for the general public, particularly in countries with high proportions of religious people such as the United States or Turkey. Consequently, in recent years the vast majority of those who try to argue against evolution have conspicuously been religious folk of more fundamental mindsets.

Religious belief is probably the greatest hurdle that continues to face the public understanding of evolution. As literal interpretations of religious doctrine have been undermined in much of the developed world while flexibility and religious moderation have increased, the difficulty that religion presents to the public’s understanding of evolution has lessened but not disappeared by any means. For an individual who emotionally determines that they believe in one religion or another, ideas like evolution that conflict with religious belief will always face the barrier of blind faith and its incumbent rationalisations. As evolution relies upon evidence, people who value faith over evidence will often find evolution unappealing. Many religious people attempt to reconcile science with faith in various ways however; faith certainly doesn’t preclude an understanding of evolution. In any case, it is important to be aware of the motivations and general worldview of those debating evolution or in any other area for that matter. After all, our desires are merely the products of evolution; they do not determine reality.

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It is my opinion that our evolutionary observations provide scientific proof for the falsehood of creation myths. Should you disagree with this, I apologise for my lacklustre explanation of evolution but would go on to suggest that you may find an understanding of the falsehood of faith to be productive in permitting an understanding of evolution.
In light of this cautionary note, I would encourage you to read further upon evolution, particularly if you’ve actually found my paltry overview informative. For the avid reader, *The Origin of Species* remains an insightful and detailed account of evolution, although it is somewhat dated and obviously lacks any of the more recent evidence. Many modern biology textbooks include a good introduction to evolution, although again it is worth being aware of who has written them. *The TalkOrigins Archive* is an online discussion forum, which focuses on the controversy between evolution and creation, including detailed scientific information on much of the evidence for evolution. The University of California Museum of Paleontology has also produced a couple of good introductory web sites including a site on *Understanding Evolution* and a *Tour of Geological Time*.

**Cultural Evolution**

Evolutionary processes are clearly evident in the development of the world’s religions, just as they are in much of human behaviour. It might be viewed as somewhat ironic that the evolution of our understanding of Darwinian evolution should play a significant part in the undoing of the evolved religious beliefs of many people. On a broader scale however, we could simply look at both religion and science as components of human thought, which evolves as a whole in both the individual and as a part of our culture.

To recapitulate one of my previous sentiments, the awesome evolutionary success of the brains of intelligent animals and particularly humans appears to be due to the fact that ideas can evolve exponentially faster than DNA. In stark contrast with biological evolution, the rapidity of cultural evolution is truly astounding; in our technological era, an idea can form and have influenced most of the planet within a

“Religion is easier to learn and pass on than science, and it seems to better appeal to human nature, by providing easy answers to complex questions, as well as assurances of life after death for the faithful.” Steve Corbett.
day. Not even a new viral or bacterial strain can spread so fast. Our minds are able
to develop technologies that change from being state of the art to obsolete in just a
few years, most obviously in the computing industry. Our brains are adaptive
adaptations, though in a sense, they have allowed our ideas to take on a life of their
own.

Richard Dawkins refers to evolving cultural entities as memes,\textsuperscript{ccxxv} noting that
memes compete in the cultural meme pool, rather than the biological gene pool. To
evolve, cultural entities first and foremost have to survive and reproduce themselves
and as such they will generally also profit from the survival of their host organisms.
Cultural evolution is nested within biological evolution, though the relationship
between these two is to some extent reciprocal. For example the meme of
‘gunpowder weaponry’ has been rather successful over the last few centuries due in
part to its interplay with biological evolution; of course the resulting changes to
society have been far more obvious to us than the changes to genetics.

It is interesting to note the animalian behaviours conveyed in various tales of
feral children, such as those purportedly raised by wolves, in contemplating more
generally the differences between cultural and biological evolution.\textsuperscript{ccxxvi} Without
human contact, children may behave a lot like other animals, especially those they
have been exposed to. In light of this ‘natural’ or animal behaviour, it seems probable
then that current cultural phenomena like language and religion have taken a very
long time to develop indeed, observably many thousands and perhaps even millions
of years. For cultural evolution, brains were the beginning and then later on the
development of languages, weapons, agriculture, settlements, granaries and perhaps
the end of the last ice age may somehow have collectively produced a cultural
version of the Cambrian Explosion. Whatever the case, this conjecture is all far too
intriguing, so we’d best get back to the business at hand.

\begin{itemize}
\item Biological systems adapt genetically via evolution.
\item Brains adapt within these biological systems via learning.
\item Memes adapt within brains and information systems through competition.
\end{itemize}
A range of forces has contributed to the formation, development and distribution of the world’s religions. We have already looked at several aspects of religious phenomenology, including some of the emotional and psychological patterns through which religion may affect individuals, as well as the tribal forces that contribute strongly to religious and other group dynamics amongst humans. Here I wish to develop our understanding of the cultural forces, trends and events that have influenced the success and spread of various religions.

As a prelude to examining the transmission of religions, it may be of use to explore and review some of the ways in which developing cults attract their followers. New religious ideas can form during psychotic episodes or hallucinations, which may actually be responses to perceived societal or personal deficits or crises. Individuals who control the spread of a given cult or religion may also quite intentionally seek material wealth or perhaps power over other people, a natural social desire, which may of course be extensively subconscious. In modern societies, religious bodies may benefit even more so by manipulating material wealth than they have done historically as religions are frequently subject to significant tax exemptions. Cult initiators also usually have experience of other cults or religions and tend to imitate the most successful or appealing components of their predecessors.

The most evolutionarily successful religions are those that survive, reproduce and adapt well. There appear to me to be two major ways of viewing religions as evolutionary entities. Religions survive and reproduce gradually and often peacefully by themselves but can also become intermeshed with other cultural groups and thus piggyback along with them. In being peacefully transmitted as information within societies, religions expand by competing directly with other ideas. By causing religious folk to kill other differently religious folk or convert them by forces such as law, religions expand violently. The most successful religions in the world compete
well as ideas in addition to encouraging their violent spread as cavaliers riding upon
the minds of 'men.

Christianity and Australian Aboriginal Religion
The first case of religion’s spread that I wish to discuss will provide us with a good
example of the non-violent evolutionary competition of religious ideas, although this
example also includes a large, unmistakably violent component. For thousands of
years, Australian Aboriginal religions have been passed down within their traditional
tribal cultures, specific stories from neighbouring tribes perhaps competing with and
contributing to each other to a limited extent. More recently however, Christianity has
become the dominant religion amongst Australian Aboriginal people.

We must not overlook the violent side of this instance of competition amongst
religious ideas. Since 1788 many Aboriginal people have been shot or killed by
disease, destroying any religious ideas that they may have had. In more recent
history, the Australian government kidnapped Aboriginal children, before they could
learn religious ideas from their parents. The violence in these situations was more a
product of British Imperialism and racist Australian government policy than Christian
religion, although it is hard to avoid noting the religious component of cultural
arrogance that has contributed to the widespread abduction of Aboriginal children in
the past. They were, after all, frequently deposited in Christian missions following a
forceful removal from their parents. Indoctrination following kidnapping is certainly
one major cause of the increase in Christianity amongst Australian Aboriginals,
representing Christianity’s violent free ride with white imperialism. Imperialism
doesn’t account completely for Christianity’s spread however; many Aboriginals have
become Christians and continue to be Christians voluntarily.

Generally speaking the native religion of Aboriginal people has not been
transmitted outside of the boundaries of their race. Christianity on the other hand,

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Memetics is the study of the unnatural world.
"Gods don’t make people, people make gods." Unknown.
has thoroughly penetrated the minds of Aboriginal people. In the 1991 census, “74% of Aboriginal and Torres Strait Islander people reported a Christian affiliation, the same proportion as the total Australian population”. I’ll wager you a shiny dollar that the proportion was a lot closer to 0% in 1787, before the British invasion.

When a well adapted, exotic species enters a new environment, the species will often undergo explosive population growth and spread rapidly. To pick one suitable example, rabbits have reached plague proportions in Australia since Europeans introduced them to the country. Like other exotic species, the rabbits simply out-compete the local fauna; they’re better adapted to the conditions and breed very quickly. Religions that have evolved successfully amongst more competitive environments are likely to have developed characteristics that make them appealing to humans. To remind us of a few of the ‘adaptations’ that give Christianity its appeal; it offers an escape from death, is available to everyone, is easily modifiable, readily assimilates the ideas of other religions, isn’t particularly demanding, provides an emotionally appealing moral code, gives life apparent meaning and advocates developing a relationship with an all (three) powerful being that apparently loves you. These last two points may be particularly relevant for Aboriginal people living in a society that has historically devalued their culture and their very persons, not guaranteeing them the right to vote in federal elections until 1962. The evolutionary puissance of Christianity helps to explain how, just as rabbits spread over the Australian landscape, this western religion has spread through the minds of Aboriginal people of Australia like wildfire.

**Early Christianity**

So how did Christianity develop its massive appeal? Christianity appeared in competition with many other religions under the Roman Empire, which was highly polytheistic, tolerating the worship of a variety of gods for different purposes and...
even permitting the continuation of troublesome cults such as those of the Jews and Egyptians.\textsuperscript{ccxxxi} This was not always the case however; for example the Romans were highly intolerant of the dissident deviant Druids of Gaul and Britain. Having been derived primarily from Judaism, which is an exclusive monotheism, the new Christian cult was likewise seen by many Romans as potentially troublesome, particularly as it was capable of spreading throughout any portion of the population unlike the racial religion of the Jews. Furthermore, like Judaism, Christianity entailed an intolerance of pagan gods, including the state cult of emperor worship that was of great importance to Roman life. As a result, the Christian cults experienced significant Roman persecution in their early stages.

In order to examine how Christianity flourished in the face of this adversity, I shall compare it to one of its developmental contemporaries, Mithraism. When Christianity first appeared, Mithraism was also increasing in popularity, offering its adherents the potential for life after death that seems to be present in some form in the most successful modern religions. Similarly to the early ‘underground’ forms of Christianity, Mithraism was a secretive mystery cult, with ritual initiations and a hierarchical structure within which its members could progress.\textsuperscript{ccxxxii} As with many of the cults that flourished under Roman rule and unlike the Christians, initiates of Mithraism were also permitted to participate in the practice of other religions.

By itself, such tolerance can act both for and against a religion’s proliferation. Religions that allow for polytheism may be more appealing, as they don’t necessitate the dismissal of ancestral gods for example. So Christianity had a boundary to overcome here, as it stood in the face of tradition. On the other hand, if an intolerant religion is able to overcome such problems via the assimilation of competing religious ideas or through other modes of appeal, it will be at a distinct advantage, as other religions will be far less able to compete in minds where their practice isn’t tolerated.

Christianity qualifies on all accounts here, having assimilated many of the practices of other religions throughout its history while forbidding the practice of the
religions themselves. A list of some of the further appeals of Christianity has already been given above. What may have been the telling factor in this case was that Christianity allowed for the inclusion of women, while Mithraism was a strictly male cult.

Small Differences, Large Advantages

Jainism and Buddhism are another pair of religions whose comparison may be of interest to us, both having appeared in India around the same time, perhaps in the fifth and sixth centuries BCE. Jainism has continued in India as an influential minority, whilst Buddhism had almost vanished in India prior to a mild resurgence in the 20th century. However Buddhism has spread throughout East Asia to become the world’s fourth largest religion. Particularly in their incipient stages, Jainism and Buddhism had and now continue to have a great deal in common. They were both heavily influenced by Hinduism, they both advocate altruism, non-violence and degrees of asceticism. With so much in common, we might wonder why their difference in success is so pronounced.

The differences between early Buddhism and Jainism may seem quite subtle at first. Jainism maintains the Hindu focus upon how one’s karma or merit influences cycles of reincarnation, with Jain ascetics demonstrating how little they care for the material world through acts of self deprivation. Buddhism aims to remove the focus from the impermanent self entirely, yet advocates the following of the middle path, rather than the practice of extreme asceticism. While these religions may produce similar sets of actions, there are also significant philosophical distinctions between them. Early Buddhism was largely independent of and sometimes even dismissive of any supernatural cosmology, where Jainism actually focuses upon a physical life force in all things, which is quite the opposite. The fact

Gnats evolve in nature; cults evolve in culture. Simple. The meditative hides inside their head just as the tortoise hides inside their shell. “Even as a tortoise draws in its limbs, the wise can draw in their senses at will.” The Bhagavad Gita.
that early Buddhism was not so heavily bound to a specific set of supernatural ideas made it a more adaptable meme than Jainism.

I will tentatively suggest in this case then, that the difference in the success of these two religions is primarily a result of Buddhism’s comparative compatibility and philosophical flexibility. Of specific importance was Buddhism’s ability to function, apparently by invitation, in concert with the existing religions in China, Confucianism and Taoism. It has also been suggested that as Jains are discouraged from pursuing worldly experiences and from causing harm, both of which might result from travel, they are thus indirectly discouraged from becoming missionaries.

One particularly auspicious twist in the chain of Buddhist history is the development of Pure Land Buddhism. This sect is of interest to us not merely as the most popular form of Mahayana Buddhism in East Asia, but due to its specific doctrine. A key feature of Pure Land Buddhism is that a Bodhisattva called Amitabha claimed that he would grant his faithful rebirth into a ‘Pure Land’ when they died. While western influence cannot be ruled out in the development of this idea some time around the 4th or 5th century CE, the parallel with the Judeo-Christian traditions is obvious. Seemingly regardless of how it is achieved, those religions that claim to overcome the natural mortal fears of human animals frequently seem to be the most successful.

The Appeals of Hinduism

As a group, Hindu religions have been highly successful, despite never being attached to a significant military empire. It will not surprise us then that Hinduism has a number of naturally appealing features, in addition to having had thousands of years to expand. Hindus view death in an interesting manner, encouraging adherents to escape a cycle of death and rebirth, with the fate of each individual being tied to their karma. It makes evolutionary sense that the idea of karma should be naturally

Culture has allowed us to evolve beyond our biology in almost every direction.
appealing; it feels ‘right’ to our social emotions that our actions should have consequences. Supernatural rewards for doctrinally acceptable behaviours are a common feature of several of the most successful religions. Many forms of Hinduism also allow for potential interactions with various gods through prayer and sacrifice. Along with the cultural stability of their infamous caste system, these features have helped Hindu religions to flourish for over three millennia.

Hindu religions seem to have developed from the blending of beliefs held by the local Indus River peoples and those of the Aryans who arrived from the northwest around 1500 BCE. It is difficult to say whether or not Hinduism’s beginnings were accompanied by much violence, though the inequity and racism of the caste system suggest that their introduction may not have been universally agreeable. For the most part however, Hinduism’s spread appears to have been very gradual or simply stable, being transmitted peacefully and hereditarily. As Hinduism is diverse and pluralistic, it has not tended to conflict with other local religions such as Buddhism or Jainism. On the other hand, Hinduism’s strength of identity has proven to be sufficient to hold off the onslaught of Islam, just as the local people have managed to prevent Muslim invaders from ever quite gaining complete control over the Indian subcontinent.

**Faith as a Meme**

I feel that I should make further mention of the meme of religious faith here, as its presence seems to be a hallmark of the world’s largest religions. Many of the emotions, thoughts and behavioural patterns discussed previously contribute to the spread and perpetuation of religions, yet faith is by far the strongest example. From our previous discussions of faith, you may remember my claim that it is a flawed mode of thought due to our strong track record of fallibility and the fact that faith

“All armed prophets have conquered, and the unarmed ones have been destroyed... the nature of the people is variable, and whilst it is easy to persuade them, it is difficult to fix them in that persuasion. And thus it is necessary to take such measures that, when they believe no longer, it may be possible to make them believe by force.” Nicolo Machiavelli.
encourages people to ignore evidence. An interesting twist in this scenario is that human fallibility has actually been used in attempts to justify faith; the idea being that reason is fallible and thus that faith is its logical replacement. We can even see how this should appear to be convincing. As faith doesn’t allow a person to think that their religious beliefs could possibly be wrong, any evidence against them is ignored or rationalised away. Thus the illusion of faith’s reliability perpetuates itself through highly circular logic. Through a blatant failure of reasoning, the faithful manage to ignore the fact that emotions are also highly fallible.

Faith is an incredibly seductive emotion that can be crucial to or even defining of religion. In Christianity, faith is not only acceptable, but it is a necessary component of the religion. If you don’t have faith in Jesus, you don’t get to go play with the rest of your god’s children when you die. Faith is seen as giving meaning to life, thus further reinforcing itself in a manner similar to that of an addictive drug.

Under Islam, the emphasis on faith is similarly pronounced, in one of the religion’s highest virtues, Iman. Muslims might define Iman as reasoned faith, so the choice to believe might be regarded as rational. Of course, this rational choice apparently involves at some point accepting with ‘conviction’ the various recitations of Mohammed, in spite of a complete lack of evidence to support them. This is quite plainly irrational, although calling it reasoned faith probably serves to direct attention away from this fact. We shouldn’t ignore the fact that there is still all that business about a painful chastisement having been prepared for the unbelievers; so Islamic faith is still very much an all or nothing choice. In practice, Islam might not actually allow a choice at all, as in the case of Azlina Jailani, also known as Lina Joy, a Malaysian ‘Muslim’ lass who was at least legally prevented from converting to Christianity in 2007.

At best, Iman seems to be a reasoned choice to abandon reason. Thus Iman’s distinction from other brands of faith, such as those of the Christians, is a rather trivial one.

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Sometimes patterns destroy other patterns. The destroyer continues; the destroyed does not.
Religious Superpowers

As the primary cultural ancestor of both Christianity and Islam, we might expect Judaism to be very widespread, as it shares many of the characteristics that have produced these two most popular of the world’s religions. Yet we find that Judaism has only a tiny following. There have always been two significant hurdles in the way of Judaism’s popularity. Even though conversion to some forms of Judaism is possible, it has always been considered a racial religion, tied to the Jewish people. This has provided the Jews with a strong tribal integrity at many points in their history, which has helped to preserve their religion against competitors, but has also discouraged its spread to outsiders. The second hurdle may actually be the greater of the two however; Judaism has never become the official religion of a significant military empire, while its two descendant religions have.

This capacity for both peaceful and violent transmission has been of colossal importance to the spread of Christianity and Islam. In the natural world, we could liken Judaism’s spread to that of hemophilia, a rare hereditary illness that prevents the clotting of the blood. Christianity and Islam are communicable religions, at times finding their way into new host organisms almost as easily as the common cold. One could argue that when a religion is passed down hereditarily through indoctrination, the parents are forcing the religion upon their child, although they are almost certainly under the impression that they are acting in their child’s best interests. We should not underestimate the critical importance of hereditary transmission as a staple of religious stability.

Christianity and Islam have had their cake and eaten it too so to speak, building their empires by the combined might of the pen and the sword. Only through a few crucial tracts of history have these two religious giants taken to the backs of their trusty steed *Homo sapiens*, who are perhaps not so sapient as we might like to

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The power of the rivers, seas and oceans of human knowledge is truly daunting; a careless chap could be drowned in an instant and barely cause a ripple.
imagine at times. The first was that of Christianity in the Roman Empire. The Christians prospered through peaceful means under Roman rule, sometimes tolerated and at others persecuted but never eradicated. The turning point came when Christianity infected the highest echelons of Roman society, with the conversion of Emperor Constantine in the early 4th century, followed by Christianity becoming the official Roman religion under Emperor Theodosius in 380 CE. While the Romans had previously tolerated a variety of worship, Christians proved to be far less forgiving of pagans and heretics, even attacking deviations within their own ranks. Christianity of course retained its intolerant institutional position throughout much of Europe over the next thirteen centuries or so, while the Roman Empire became ancient history.

Islam was far quicker off the mark as an empire, its initial spread taking the form of an explosive military expansion that began in the few years prior to Mohammed's death in the 7th century CE. Over the next hundred years or so this empire spread from Arabia across Northern Africa to Spain in the west and east as far as India. While this was essentially the full extent of the Islamic Military Empire, just as Christianity had been given a massive head start on the shoulders of the Roman Empire, Islam was able to continue to spread from this solid base that had been conquered by the sword.

Most recently, European colonial imperialism has further fostered the spread of Christianity in the Americas and elsewhere. As these empires have been less focused upon religion, their impact has been somewhat reduced, sometimes acting only as vehicles for religion's spread, with a reduction in the 'convert or die' scenarios of the ancient world. Often in cases where there has been a strong, well established native religion, such as the Hindu religions in British occupied India, the impact of western religion has been extremely limited. In most cases, Christianity and Islam have profited immensely from their attachment to military empires, although there
have also been many military empires tolerant of local faiths, that have not played quite the same role in instigating the rapid spread of religions.

Ambiguous religious doctrines, that can be used both to justify both peaceful coexistence and that in some circumstances encourage violence toward their competitors, have benefited from their flexibility in different situations. At times when they form minorities, they may prosper through their ability to infiltrate and grow peacefully within a society. When they are in the majority, their hostile components may allow them to eradicate their competition. The world’s two most successful religions, Christianity and Islam, both possess this kind of flexibility, which has been of great historical importance to their expansion.

**Mysticism**

A final religious microcosm that I would draw your attention to is that of mysticism. Whether Sufi, Yogi, monk or other meditative, several religions include some such esoteric branch. These all tend to contain some idea of becoming one with a higher state or power, though in each case, the power tends to be specifically associated with one particular religious doctrine. Mysticisms generally include the significant common component of detachment from the self, reached through ‘religious medication’, meditation, deprivation or other means. Physiologically, traditional mediative states tend to be marked by changes in regional cerebral blood flow, indicating a change in the direction of attention.\textsuperscript{ccxxxix}

For a religious person who is dedicated enough to follow one of these demanding paths, the aim is to reach some experiential religious goal. The process that leads up to this experience is explained in religious terms. As such, when they finally reach the religious goal, it shall not surprise us that the experience is interpreted as a profound and direct evidence of the truth of their specific religion. To give a more explicit example, the experience of perceived detachment from one’s body leads easily into a perception of having become one with infinity, the
consciousness of infinity being a notion that fits neatly with many religious
worldviews.

These genuinely unusual experiences are of barely passing interest to us as
religious memes due to their relatively small scale, although it is noteworthy that the
ascetic lifestyle that accompanies them may in some cases result in the elimination
of an individual from the gene pool. When memes like religious violence, suicide
bombing, mysticism or other religious practices cause chastity, they act like parasites
or deadly diseases, subtly influencing genetic evolution, destroying its host
organism’s chance of biological reproduction. Mysticism, chastity and martyrdom
survive and reproduce; the suped up worms with the opposable thumbs, complex
brains and high explosives do not.

Religions Evolve, Just Like Fishing Stories
It is another of life’s little ironies that evolved emotions should cause the destruction
of their organism’s genes through leading us to religious behaviours, though not
much more ironic than when a fish bites a hook in pursuit of a meal or when a fly is
sucked in by the putrid stench of a carnivorous plant. On something of a tangent,
parasites are a highly successful group of organisms in nature, which like religions,
often rely upon the continued survival of their host organisms. Take influenza viruses
for example; like many other diseases, influenza causes coughing, which is a change
in host behaviour that can help to spread the disease. Better yet, look at Cordyceps
fungi, which infect insects. As part of their life cycles, some Cordyceps release
chemicals that change their hosts’ behaviours. For example in bullet ants,
Cordyceps causes its host to climb a plant and clamp onto the stem before it dies.
From this elevated position, the fungus is better able to disperse its spores, thus
spreading to still more ants.

Deism and religious moderation could be viewed as vestigial forms of faith.
In evolutionary terms, we should have little reason to expect parasitic religions to simply disappear any time soon. Religions have a long and successful history but then so did the trilobites and they’re no longer around. On the other hand there are plenty of extinct or endangered religions floating about; the Egyptian, Greek, Roman and Norse pantheons, Druids and Manicheans have all become religious fossils for one reason or another. Our biological immune systems certainly have no way of removing inaccurate ideas from our bodies. It seems that only ideas are able to compete with other ideas, directly through our minds or indirectly at the point of a sword.

Human knowledge has evolved over many thousands of years. Sometimes this knowledge loses its value and becomes extinct, frequently as a result of new knowledge appearing to replace it. Most of us are now dreadfully unpractised at making stone axe heads or digging for yams; penny-farthings are gone and vinyl records seem to be well on their way out, although records continue to flourish in a vestigial form through the technique known as ‘scratching’, heard in hip hop and other styles of music. Religions appear to be unusual as memes however, as they are not so much attached to our experiences in the real world as to our ancient evolved emotions, which do not change so rapidly. Thus religions give the appearance of maintaining their value.

For individuals and societies that value evidence, an understanding of evolutionary processes undoes religion both from without and within. We are able to see both the errors of religions in their explanations for the origins of life and the mundane cultural patterns that contribute to the formation of religions themselves. It is clear that many different religions become popular due to forces such as hereditary indoctrination, emotional appeal and violence rather than evidence of some divinely realised truth.

Whether or not a given religion affects a person is largely a consequence of their circumstances. If you are a Muslim for example, know that had your parents
been Catholic, you would probably be Catholic, if they were Buddhist or Hindu or had followed some isolated tribal religion you too would be far more likely to follow those faiths instead. To various extents, the same is of course true for every religion. This fact alone gives a clear illustration of the irrational nature of religious belief. On the bright side however, emotion can be overcome through reason and circumstances can be changed through learning.

**Religious History**

You’re probably already familiar with at least a handful of religious stories, most likely those versions that are currently popular. The world snake made all the lakes and rivers. Brahma made the world from a lotus flower. Elohim made the world in six *yom* or ‘days’. Yahweh told some bloke to make a big boat to save the animals. Allah destroyed the city, killing all the people, because he was angry with them. Jesus once slept for three days straight. Mohammed went to Jerusalem one night and made a quick stop over in heaven to chat with Moses and his buddies. Some religious stories may have formed independently, while others have been adapted from other traditions.

In critically examining religious doctrines, a fact of great significance is that many more recently appearing myths seem to follow the same plots and patterns as older myths from different religions. If religious stories have been adapted, borrowed, inspired or plagiarised from other religions, this indicates that they are of human rather than divine origin. These patterns of myth copying might further lead us to question to what extent, if any, a religious text is reliable. If their authors were willing to borrow or accept unverifiable foreign myths once, they may have done so every time. It could be that many myths were only subconsciously modeled on patterns.

Several of the more recent religions are pretty much the same basic models as the old ones, maybe with a fresh coat of blood or two.
already known to their authors. In some cases, it seems most likely that old stories were continually handed down, changing gradually to match other beliefs of the times as the need arose, to fit what their conveyers rationalised ‘must really have happened’.

Such gradual changes are clearly present in the vast majority of modern religions, as their practical applications and thus interpretations are changed over time to fit with the development of other cultural forces such as moral philosophy. Where more recent changes are concerned, we tend to have written evidence to give us a good indication of when and why they have happened, although back in the days when religious stories were transmitted orally, such changes could easily have occurred more subtly as knowledge of changes to a story would often have disappeared with its teller’s death.

One example of doctrinal change is that western society stopped stoning homosexuals quite some time ago, sometimes in favour of burning them alive in the Middle Ages. More recently, gays have been subjected to criminalisation, which has waned to legal discrimination and then finally, at least in some places, acceptance. These changes have in part reflected the waning influence of the church on western society as a whole, but in any case, many religious people have chosen to interpret their religious texts very differently as culture has changed, in order to reconcile religious and secular influences. Such change is not necessarily constant however; one year’s expedient and trivial modifications can become the next year’s unquestionable divine revelation.

Evidence that might verify the notion that many religions have been formed in significant part from the myths of their competitors is, like so many aspects of religion, shrouded in the mists of time. Just like paleontologists studying fossils, anthropologists often only have so many dirty bits of rock and other durable cultural refuse to work with. Of course to humans, with our varied experiences, this evidence

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The word ‘Amen’, which is still used to conclude many Judeo-Christian prayers may stem from Judaism’s Egyptian roots, referring to the god Amon or Amen-Ra.
will be highly ambiguous and doubtless our interpretations will be polarised by our tendencies to sort information according to existing patterns of thought or belief. Due in part to this ambiguity, I will only take the time here to relate a few fragments of the possible mythical lineages of the Judeo-Christian traditions before continuing our discussion. In any case, these western religions appear to be the most heavily researched and are certainly the most widely followed, through the traditions of Christianity and Islam.

Sumerian Religion

A couple of key concepts present in current Judeo-Christian mythology are found in ancient Sumerian texts, some of which have been dated to at least as far back as 2000 BCE. In a similar vein to the Judeo-Christian version of creation where Yahweh separates the earth and sky, fragments of Sumerian texts indicate that the gods An and Enlil separated their heaven and earth, which had been given birth to by the sea goddess Nammu. In both mythologies, humans are later produced from clay or dust and then given breath and in both cases they appear in a state of ignorance, at first not knowing about clothing and the like.

Far more striking are the ancient Sumerian deluge stories, which provide a clear model for the Judeo-Christian story of Noah’s ark. The Sumerian gods were displeased by the noise of mankind, so they agreed to flood the world in order to put a stop to this disturbance. Before the flood, the god Enki decided to warn his favourite King, Zuisudra, known in another version of the story as Utnapishtim, that he should build a large boat, aboard which he and the ‘seed of all living things’ might avoid destruction. The gods ended up flooding the world as promised and King Zuisudra survived, literally to live happily ever after, having been granted

“Monotheistic religion is a plagiarism of a plagiarism of a hearsay of a hearsay, of an illusion of an illusion, extending all the way back to a fabrication of a few nonevents.” Christopher Hitchens. – Alone, faith is fallible, yet it is far more so when founded in other unreliable information. With characteristic irony, this shroud of mystery often seems to protect religious belief, rather than undermining it.
immortality in return for his piety. Versions of this distinctive myth also continued into Babylonian times.

A handful of further parallels have been drawn between the more recent Babylonian Enuma Elish and the Judeo-Christian versions of creation. The tablets of the Babylonian epic were found in the late 1800s in the library of Ashurbanipal, who reigned in the 7th century BCE, though the tale itself may date to the early 2nd millennium BCE. The Enuma Elish details how Marduk, a champion amongst gods, manages to defeat the chaotic water goddess Tiamat and her minions.

Obviously, as the Jews were not in the habit of recognising the legitimacy of gods other than their own, most of this myth would have been unacceptable to them. If the Enuma Elish had existed amongst the Jewish people as a myth that conflicted with their exclusively monotheistic religion, its modification or replacement would have been necessary to deal with the blatant polytheistic inconsistencies. Nonetheless, there are a few similarities between the details of the two myths. For example, the Enuma Elish continues the Sumerian idea of heaven and earth being initially connected as a single body of water and then separated by a god. However it is not until relatively late in the Babylonian epic that Marduk separates Tiamat into a covering of the heavens and her other half into the earth. It may be of limited interest in this case that the Hebrew word tehôm, meaning ‘the deep’, is similar to the name of the Babylonian water goddess Tiamat, although this link could be purely etymological. After dividing Tiamat, Marduk gives the moon god specific instructions regarding the timing of its behaviour, just as the moon is set to mark the days and years in the biblical Genesis. Of course, the Mesopotamian religions weren’t the only ones to influence the Jews.
Egyptian Religion

Individually, the similarities we are examining might be seen as having little consequence, thus it is important to be aware that they form parts of a broader pattern of apparent imitation in the construction of religious doctrine. For western religion, this pattern continues with the Ancient Egyptians, whose religion included many different gods that fluctuated in favour over time. Like Judaism, Egyptian religion contained sacrifice, symbolism, magic words and an afterlife. As its following was finally eradicated in late Roman times as Christianity rose to power, Egyptian religion is now commonly accepted as a false, though intriguing set of beliefs by the religious and non-religious alike. Several Egyptian religious beliefs and customs have been maintained and transmitted through Judeo-Christian religions, under which they are still treated as being perfectly valid.

In the Egyptian Pyramid Texts, the most important gods squabble, much as gods are wont to do. At one stage, the evil god Set tricks and kills his brother Osiris, whose spirit then impregnates his partner Isis, who consequently gives birth to the god Horus. Fearing Set, Isis places baby Horus in a basket in the rushes. A myth attached to the infancy of the Jewish figure Moses is almost identical, Moses being hidden in a basket in the rushes from the Egyptians rather than from Set. Horus goes on to triumph over Set, whereas Moses goes on to triumph over the Egyptian Pharaoh.

Another possible linkage has been drawn between the negative recitation in the Egyptian Book of the Dead and the biblical Ten Commandments. The prime similarity between these texts pertains to their structure rather than their content. While there is a little content overlap, this should hardly be surprising in that each of them forms a kind of religious moral code. Depending how you count them and which version you’re reading, around twenty of the forty or so denials of the Book of the Dead follow the pattern ‘I have not’, similarly to eight of the Ten Commandments.

The word ‘evidence’ seems almost synonymous with the word ‘natural’. Why is it that we have no evidence for supernatural things? Could it be that they do not exist?
which translate to ‘Thou shalt not’, instructions. It is possible that the authors of the Commandments used this well known pattern to lend a little weight to their new rules, it’s possible that it was done subconsciously, though it is equally impossible to make these connections with any certainty.

Zoroastrianism

It seems that the tradition of doctrinal adoption has continued through many religions. We have previously encountered similarities, such as resurrection, between the ideas of Christianity and its more senior contemporary cult Mithraism. Mithra was originally an Indo-Iranian god, present in the Zoroastrian pantheon. Zoroastrianism too contains a few key commonalities with the Judeo-Christian religions. As in Egyptian religion, upon death, Zoroastrians are judged in terms of their life’s merit in order to determine whether they should attain eternal life, with a hell available for those found wanting. For what it’s worth, Zoroastrianism also has a ‘good guy’, an uncreated god known as Ohura Mazda and a ‘bad guy’, Angra Mainyu\textsuperscript{ccxlvii} just like the Judeo-Christians have Allah and Shaitan or whatever you want to call them. Angra Mainyu even gallivants about, causing mischief with a cohort of Daevas, the counterparts of Judeo-Christian devils.

Miscellaneous Myths

Many further potential linkages could be drawn between the myths of various religions. The Tree of Life in the Garden of Eden could be linked to the Tree of Life in the Epic of Gilgamesh. The Immaculate Conception could be linked to numerous divine conceptions from Greek or other mythology, perhaps being tacked on, apparently in order to gain credibility. Christianity’s Easter resurrection coincides with the new life of the pagan spring equinox festivities. However it is enough that we have noted the existence of these patterns in general. We have neither the need nor

\footnote{“At Leith, in 1589, a man confessed, while his legs were crushed in the boots and wedges were driven under his fingernails, that several hundred witches had gone to sea in a sieve and raised the tempest that had delayed the Princess of Denmark, James’s bride.” Homer Smith.}
the means to find a potential pagan predecessor for every myth of every religion. By now, hopefully the pattern should be clear.

As I have already indicated, this is another case of merely circumstantial evidence against religion, inconsequential to those folk who are incapable of infidelic inference. For the rest of us, we need not draw certain conclusions from this information, but merely take note of some of the various possibilities. One religious interpretation might be that the correlations are mere products of chance, although from such a perspective it appears that they must also then claim that the other religion formed its similar beliefs due to mundane forces such as misinterpretation, desire and superstition, whereas their comparable beliefs are apparently true. A personal favourite of mine, as it provides a clear example of religious rationalisation, is the early Christian idea that Satan spawned other religious myths in anticipation of various Judeo-Christian miracles and events in an attempt to undermine their credibility before they had even occurred. The approach of the religious moderate might be to allow that the correlations may represent some form of imitation, but that this should not extend to the important doctrinal components that they need for their faith. To me this is only a pragmatically watered down or rationalised version of fundamentalism, a fundamentalism of their personal religion's foundations.

On the other hand, we might consider the mundane possibility that religious ideas occur entirely within the minds of humans. From here, we can be open but not limited to various specific explanations for the creation of religious ideas. Once again, in the cases above we might be led to suspect the subconscious influence or direct adaptation and misinterpretation of extant myths in the creation of new ones. In many cases we need not assume that religious writers consciously lied about what they were writing, it may be that they chose to rationalise that a miracle or event must have occurred, as this was the only or best option to fit with their faith. Perhaps ancient writers and narrators were at times less concerned with retelling old tales

“For any given doctrine one wants to believe, there is never a shortage of arguments by which one can support it.” Leszek Kolakowski.
precisely than avoiding blasphemy, which was punishable by death in many
circumstances.

Some stories may also be partially true. In the case of the deluge myth for
example, there is every possibility that the original story was actually based upon a
flood of some kind. Floods occur frequently and ancient peoples often had a very
limited idea of how large the ‘world’ was; as such, a ‘worldwide’ flood could be seen
as a truthful interpretation of such an event. Many ancient peoples were also inclined
to blame virtually any unusual or phenomenal occurrences on gods or magic,
particularly something so dramatic as a flood. In times of superstition when gods
seemed real, as there were no better explanations, myths could easily come to be
treated as truths. Hearsay continues to plague human thought, perpetuating urban
and religious myths alike. Clearly, critical thoughts do not always come naturally to
us.

On a slightly more cynical note, if you can imagine yourself in the shoes of an
exponent of some new religion, wanting to compete with the numerous existing
religions already banging about the place, you might be inclined to borrow or invent a
few miracles to support your doctrine. This would be particularly true if you thought
that you were a member of the ‘one true faith’ and thus that any other religious
progenitors must obviously have been either lying or at least dangerously misguided
anyway. For those who believe fervently in their chosen faith, it will often seem that it
should be in everyone’s best interests to join them in believing. It would seem to
these people to achieve more for the ‘greater good’ to permit the adaptation of a few
pagan beliefs than to have people continue with their heathen traditions or to have to
resort to bloodshed.

The apparent plagiarism and modification of myths gives us an indication of
their falsehood, as well as providing examples of how religious doctrines are formed
and collected as myths, rather than truths as which they are so often presented. The
romantic religious notion of divine inspiration has no evidence in support of it. All that
we can observe in reality are patterns of mundane inspiration and divine illusion. Thus the acceptance of doctrine or religious faith is once again a product of emotion, of desire standing in the face of reason. Religion’s misinterpretations of our world appear once again to be malfunctions of the mind, rather than representations of reality.

Further Reading
If you’re interested in reading further on this topic, I recommend *Man and His Gods* by Homer Smith as a slightly dated but detailed and readable account of some of the possibilities in the history of western religion. Whatever you read in this subject area however, and this includes Mr Smith’s and my own writing, you should be prepared to encounter a great deal of bias. As there may be little or no direct evidence leading one way or the other in this field, an individual’s interpretation of religious history will often be largely predetermined by their worldview.

Religious Inconsistencies

Religions and religious doctrines are often very complex, so I am hardly able to analyse them all here. Yet it also seems that I must confront every religious doctrine in some way or another if I should maintain my claim that they are all false, at very least in every superstitious detail. This chapter then, shall be an attempt to provide a set of pertinent examples of the inconsistencies in religious doctrines, which shall once again be focused upon the western religions. To a significant extent however, each of us must necessarily be responsible for the development of our own critical capabilities and the analysis of ideas that we encounter, religious or otherwise.

Would an eternal bliss won by killing be an eternal bliss worth having?
Amending ‘Revelation’

In the previous two chapters, we’ve gleaned a glimpse of how the god of the Judeo-Christians seems to learn or change over time, with changes in doctrine reflecting changes in culture. A quick read of a Bible or similar text will leave an average modern human feeling vastly morally superior to the god of the ancient Hebrews. The law attributed to Yahweh advocates the killing of homosexuals, adulterers and insolent offspring; further it condones slavery, the subjugation of women and religious genocide. While there remain a few hundred million fundamentalists who might claim that some of these behaviours continue to be genuinely virtuous, most of the developed world, including many members of the modern versions of these ancient religions, would agree that these religious rules are highly immoral and thus try to discount them from their religion in some way.

These changes are inconsistent with the Judeo-Christian claim that their god is omniscient and to a lesser extent with the broader claim that their holy texts are credible at all. The claim of an all-knowing god is perpetually rationalised under an anaesthetic of faith, using arguments such as that the conflict of doctrine with society is part of a plan or a trial for humans. Alternately a religious moderate might claim that stoning homosexuals and uppity youths was appropriate for people back then or that slavery was a necessary part of society at the time and that religions were often comparatively progressive. These are pure rationalisations or best fits for faith.

In assessing the claim that the development of the moral codes of a religion have been gradual as a matter of necessity, we should ask whether the apparent need to make immoral rules in order to keep people on side by fitting with prevailing cultural norms is more consistent with the will of an all-powerful god or with the very human tribal politics of the ancient Hebrews. The morals in ancient Hebrew texts clearly reflect human morals of their day, rather than some perfect divine plan. In any case, the argument for the necessity or appropriateness of gradual change is weak. If

Infantile? Infinity is the logical conclusion for any childish game of one-upmanship.
there was an all-powerful god that intended to make a gradual change for the better, it does not make any sense that he would have actively encouraged people to throw rocks at other people until they died, for such trivial offences as filial impiety. These so-called morals reek of primitive humanity. Such human fallibility is indicative of the absence of divinity in these most major religions. There is no evidence of gods or magics involved in religions, just superstitious people making mistakes.

Nobody’s Perfect

It is often claimed that the Judeo-Christian god is omnipotent, omniscient, omnibenevolent and omnipresent; all-powerful, all-knowing, all-loving and existing everywhere. Yet a common observation of our global situation is that there is rather a great deal of suffering, while there is not even the slightest trace of an omnipotent god to do anything about it. This problem is compounded when one considers another common Judeo-Christian claim, that their god created the universe. This implies that he knew perfectly well what would happen in advance, when he put everything together.

Religious folk might start to amputate their god’s powers in an attempt to deal with this ancient inconsistency. Some suggest that there is a passive (aggressive?) god, who chooses not to participate in order to permit freedom. While I also value freedom, I don’t value it quite that much. A deistic god, who makes the universe then backs off to run an exclusive party in the afterlife, would be guilty of the most heinously genocidal neglect imaginable. Complete non-interference is akin to a parent allowing their toddler to swim at the beach unattended. Such a god could not be said to be omnibenevolent.

Removing omnibenevolence makes things a little easier. An uncaring god fits better with tsunamis and volcanoes. Similarly, a blind or incompetent god, while

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*I form the light and create darkness, I bring prosperity and create disaster; I, the lord, do all these things.* *The Bible, (Isaiah 45:7).*

Impractical: Does it speak poorly of me that I find a fragment of frustration in the notion that I should spend several months of my life trying to convince the majority of my species that faeries are fictional?
somewhat inconsistent with the idea that he was powerful enough to create the universe in precise detail, does fit with reality a little better. Incidentally, this fallible deity seems to match more closely the temperamental god that the human character Moses convinced to calm down so that he would elect not to destroy the idolatrous Hebrews when they worshiped a golden calf (Exodus 32). Amputating divine attributes even fits well with the Christian idea of cutting off offending body parts, perhaps on the basis that it should be extended to cutting off offensive doctrine. Perhaps they’re on the right track. If bits and pieces of divinity are negotiable, there seems to be little reason to stop at just one or two characteristics. The list of real attributes for the gods that is most consistent with reality is an empty list.

For a spot of fun, here’s another way of looking at the whole issue. If you worship something that is omnipotent, omniscient, omnipresent and omnibenevolent, then you necessarily worship the entire cosmos. As a single collective entity, these attributes are seriously inconsistent, although you could perhaps view them as being the total of all of those attributes available in the universe as a whole; all the love, all the space, all the power, all of the monkeys and so on. This ‘cosmic object of worship’ will need to include yourself, your neighbour, the lion in Kenya that ate your daughter, a bloke you’ve never met from the Azores Islands and the solitary photon flying through interstellar space 1234 million light years away. This indiscriminate direction of positive emotion towards the entire cosmos may seem a touch promiscuous, though I must say that I’ve encountered less tasteful doctrines in my time.

It might make sense to believe in the cosmos, though we’ve already addressed that issue under the heading of epistemology. Metaphorically speaking, there may even be a great deal to be said for loving the cosmos in terms of having a positive outlook on life and endeavouring to ensure that all the relationships we develop with other beings are positive ones. Peace and love, great. At no point in this cosmic picture do we find justification for either a specific religious doctrine or
anything remotely resembling a cognisant supreme being however. While the cosmos is full of interacting objects and on our tiny planet even interacting beings, there is no indication of the existence of some superior being operating on a larger scale. The Judeo-Christian conceptions of their gods are neither consistent with our observations of reality nor even with their own religious doctrines.

**The Apparent Tendency of Supreme Beings to Outsource Their Revelations**

While we're on this omnibus, it is worth noting the inconsistency between omnipotence and the doctrinally purported methods of divine communication. Again, traditionally Judeo-Christians have claimed that there is an all-powerful god, capable of creating the universe. They further claim that at various points in time he has endeavoured to communicate his rather strange and variable set of rules to mankind. These rules are supposed to be sufficiently important to him that amongst other things, he has determined to burn those people who disobey him in hellfire for all eternity once they die. Now to top it all off, this rather brutal god perhaps naively decided that the best way to communicate his desires was to dictate them to just the leaders and a few eccentrics of a specific tribe of chosen people in the Middle East. A fairly central location I will grant you but not very effective, amongst other things having produced all manner of misinterpretations. If these rules were so important and this creator being was actually able to communicate with absolutely anyone at all, it would be more consistent and intelligent for him to simply inform everyone of his wishes directly.

The Christians and Muslims would have us believe that this god fellow not only failed to effectively communicate his ideas once, but kept coming back to essentially the same location or very nearby in order to try virtually the same thing. What’s more he tended to change his ideas slightly each time, in order to keep up with the moral changes in human society. So after many Jewish prophets apparently

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Religious Implosion: From the start point of religious belief, you may find that it is doctrinally required, on pain of death and/or damnation, that thou shall not lie. Should this be the case, you will be obliged to immediately admit your ignorance and relinquish your belief.
came Jesus with his divergent little Jewish sect, then Saul of Tarsus all of a sudden announcing that the Jewish god had given up on tribalism and gone public. For Muslims, perhaps Allah went through a mid life crisis, changing his name again and refusing to give any further revelations. I can just about imagine Allah now; “Alright Gabriel, you can tell Mohammed that this is the last time! I’m fed up with these imperfect humans that I made in my own image. They never listen to my perfect divine rules, even though I continually change them to fit with modern tastes…”

Given what we know of the superstition saturated ancient world; and yes, it seems that they tended to actually be even more superstitious than modern people; we must ask ourselves what seems to be the most likely explanation for their claims of divine revelation. Is it more consistent that Saul of Tarsus, Mohammed or whichever prophet you might name was genuinely in communication with some all-powerful being or that these religious leaders most probably hallucinated, imagined, lied or simply presented collections of hearsay and conjecture as divine revelation.

To restate this idea in the most embarrassingly obvious manner, if gods are omnipotent or even just competent and they genuinely desire to communicate specific and important ideas with humans, then it makes complete sense for them to do so. However they do not. What scant claims of divine revelation we do have are almost exclusively limited to a few individuals and can be superbly explained by an assortment of commonplace phenomena such as, but not limited to, the least cynical possibility of superstitious hallucination; refer back to the chapter on psychology again if you missed that one.

Possible counter-arguments at this stage include that this god was just plain lazy, again impotent or that he works in a manner that is beyond human comprehension. Perhaps along the lines that their god values blind faith, a Christian might entertain the notion that being born in the pre Christianised Americas or almost anywhere else in the ancient world was really part of a grand moral test. A

All religion is idolatry, yet idolatry is often considered a sin amongst the religious.
suggestion more fitting to the old Jewish perspective would be that Yahweh just plain
didn’t like non-Jews because they were idolaters and that he would have wanted
them to be killed if they had been living anywhere near the Jewish holy land.

Along the same lines as the apparent ineptitude of divine communication, we
find that miracles supposed to provide evidence for religion are generally relatively
mundane, transient and universally non-verifiable. If there were any omnipotent gods
that wanted people to know about them, then they could at least have given reliable
and perhaps even consistent indications of their presence. This is yet another of
those points that almost anyone could think of, yet it is almost always ignored due to
the prevalence of cultures of self-perpetuating superstition. A religious apologist
might perhaps go so far as to claim that miracles are not actually intended as
evidence, however this seems to be inconsistent with the idea that gods should have
sent messengers or revelation specifically to communicate with humans in the first
place.

Monkey Heaven
A few writers have noted that the rewards of religious afterlives often seem to fit far
better with the evolved drives of monkeys than some idealised perfect existence.
Rivers filled with milk and honey, numerous subservient virgins, lush gardens that are
ever fruitful and the physical protection of gods. However crop failure, virgins to
maintain male lineages and a full stomach are the concerns of the living. An eternal
spirit would not need to worry about where their next meal came from. Yet for Iron or
Bronze Age folk, for whom life was often harder and perhaps more dangerous than it
is now, these might well have seemed to be appropriate features for a divine dream
world as they entailed an escape from the hardships of their lives as well as a
compliance with their most natural drives.

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The Judeo-Christian god would benefit immensely from a primary school education.
Greed and Bloodlust

From the Aztecs and Mayans of South America, to Pacific Polynesians, to the Druids of Europe, to the Carthaginians of Africa and the Ancient Hebrews of the Middle East, sacrifice of both humans and animals was a common theme in ancient religion. The rationales supporting sacrifice are many and varied. Cannibals have often eaten the hearts of their victims with the intention of magically gaining their strength. Some South American peoples may have killed other people to appease their sun god so that it would keep moving, just as many other sacrifices have been made throughout the world to keep the gods happy or to gain their favour. The Hebrews made animal sacrifices to atone for their moral indiscretions, as their god apparently liked the smell of burning animal carcasses. At least this last reason is consistent with the destruction often wrought in the name of Judeo-Christian religion.

One related aspect of the ancient Jewish faith is the use of a scapegoat, as detailed in Leviticus 16. Apparently, the goat was laden with the sins of the Israelites and then lead away into the desert, taking their sins with it. What a fantastic magic trick this must have seemed. A similar process was thought to occur when a sin offering was made, individuals placing their hands on the head of an animal in order to transfer responsibility for their sins to it before it was killed. All of this may have seemed emotionally appealing to these ancient, superstitious people. We may reasonably assume that those making the sacrifices would have felt that this loss of a valuable commodity was an appropriate payment for their sins, which might otherwise have incurred the wrath of the gods, or the god where the Hebrews were concerned. In a way, they may also have seen themselves as appeasing the destructive thirsts of the gods, as there was still suffering and death on the part of the animal to be sacrificed in their stead.

In the case of the ancient Hebrews, I cannot help but notice the heavy emphasis on delivering all this high quality food to the priesthood. Early on, this was intended, supposedly by divine edict, to be limited to Aaron and his descendants;
quite a sweet deal for his family. To be fair, the pattern of religious leaders and devotees viewing it as appropriate for the greater community to feed and provide for them, often to the point of considerable luxury, is exceedingly common throughout many religions. While we’re on the topic of religion’s composers making rules to their own advantage, it is worth noting that in the 33rd Surah of *The Koran*, ‘The Clans’, Mohammed managed to determine that Allah had made an exception to his regular marriage rules, which are given in the 4th Surah, ‘The Women’. This was done specifically for the benefit of the prophet and not for other believers.

[33.50] *O Prophet! Surely We have made lawful to you your wives whom you have given their dowries, and those whom your right hand possesses out of those whom Allah has given to you as prisoners of war, and the daughters of your paternal uncles and the daughters of your paternal aunts, and the daughters of your maternal uncles and the daughters of your maternal aunts who fled with you; and a believing woman if she gave herself to the Prophet, if the Prophet desired to marry her-- specially for you, not for the (rest of) believers; We know what We have ordained for them concerning their wives and those whom their right hands possess in order that no blame may attach to you; and Allah is Forgiving, Merciful.*

So far, so bad, for sacrifice or doctrine being consistent with the desires of gods. Religious doctrine and practice seem to be dictated by various forms of greed, such as the gustatory or sexual hungers of prophets, in combination with their superstition and that of their followers. Of course, blood sacrifice has generally become highly unfashionable of late, for some Jews giving way to prayer and the like as a matter of necessity after the temple of Jerusalem was destroyed, whilst forms of sacrifice in

Ideologies, religious or otherwise, often contain excellent ideas. However these create a problem, in that good ideas make bad ones easier to swallow. If you want an ideal, you could do worse than doubt – the antithesis of faith.
native religions have typically been beaten out of native populations by zealous Christian colonists.

There remains however the most important sacrifice story of the largest religion in the world, the crucifixion of the character known as Jesus. In this case, as Jesus was supposed to have potentially atoned for the sins of all believers forever, he needed to be someone suitably potent, like the son of a god. Of course, simultaneously he had to be the same god himself, in order to avoid idolatry. Many people have noted that it doesn’t make any sense that an omnipotent god should have to temporarily sacrifice part of himself to himself in order to convince himself that it should no longer be necessary to punish people for breaking a number of arbitrary rules that he has never quite made up his mind about. However faith seems to cause people to overlook such massive inconsistencies. I would even hazard a conjecture that the subconscious befuddlement these inconsistencies cause may add to their sense of magic or mystery; that something is ‘beyond rational understanding’ may resonate subconsciously with the religious explanation that it is also outside of nature or magical in nature.

**Faith’s Fallibility**

Faith is used in attempts to justify religious belief to greater or lesser extents in most major religions, yet the idea that such justification is of any worth is not consistent with our experience of faith’s inability to reliably comprehend reality. Faith can lead to one belief just as easily as the next and tends to lead to those beliefs that an individual has already been exposed to or that are emotionally appealing. I might have faith that I am a little teapot in some parallel spiritual reality or that Santa Claus genuinely is coming to town. Faith provides no justification for these or any other beliefs however. I might have faith that I’m sitting on a chair, however faith cannot justify such a belief; any justification comes from sources such as my sensory

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Is faith important to religion because higher powers want people to believe without evidence or because there is no evidence for higher powers? Faith functions by inciting intentional ignorance, as its own self-righteous champion; it is the ultimate emotional propaganda, the antithesis of reason.
perceptions and my experience of chairs. I might even intuitively think that I have forgotten something on my way to the train station, but such an intuition is not validated unless I find evidence that my pants are missing or something of the sort. Faith itself neither proves nor justifies anything. It is merely an admission of an individual’s dependence upon emotion to maintain their beliefs.

Faith is utterly circular and staggeringly popular, a monument to the fallibility of human neural systems. It seems often to get in the way of truth rather than helping us understand it. In a manner fundamentally different to science it convinces people emotionally, by actually bypassing evidence and jumping directly to belief. This justification by pure emotion is no justification at all, but merely provides a self-reinforcing illusion of justification. Emotion, is not evidence, thus faith is a profoundly fallible guide for belief.

Of course, we should not ignore the diversity of religion. Each of the world’s major religions seems to use a similar faith-based rationale, yet in each case, either partially or completely, these religions tend to rule each other out. I believe I may have mentioned this problem of the hypocrisy of faith earlier. This pattern of mutual exclusion makes perfect sense for successful memes, as it aids religions in defeating their competition. However once again it demonstrates the inconsistency of faith. It is utterly illogical to deny the possibility of one doctrine and to accept another if both doctrines share the same level or lack of justification, both being founded on the same basic emotion.

We can look at the problem of the intrinsic mutual exclusivity of religions as a game. Imagine that each of the world’s religions is represented by a token; a crucifix for Christianity, a crescent for Islam, a Star of David for Judaism, an Ohm for Hinduism, one of those happy little Buddha statuettes sitting on a cartwheel for Buddhism and so on. Imagine also that there are two baskets for the symbols, one is marked ‘True Religions’ and the other is marked ‘False Religions’ (or at least critically

Faith is the baseless claim that claims need no base.
flawed religions). If we allow each religion to sort the tokens according to its own perspective, in each case the religions would place their own token in the true basket and all other tokens in the false basket. It is interesting to note here that an atheist would simply leave all the tokens in the false basket, while an agnostic would probably refuse to play, leaving the tokens on the floor. We may also observe that practically all religions are in general agreement with the atheist position that religions generally tend to be false. For religious people, this claim of falsehood is likely to be rationalised from the start point that the various other religious doctrines are incompatible with a person’s own religion. This provides us with yet another indication that faith is blind in exactly the same way that luck is blind.

Science uses evidence to develop uncertain understandings of reality; faith uses emotion to reach certainty of belief. One of these methods appears to be more likely to help us to develop an accurate picture of reality whilst the other is clearly more prone to developing dangerous delusions.

**Rationalisation Does Not Make Right**

It is interesting to note that many of the objections made above might easily be conceived by a child who ‘doesn’t understand’ how an inconsistency ‘works’, though a child will be likely to allow their objection to be overruled by the apparent wisdom of religious adults. If an ignorant individual is fed a religious idea, they will not necessarily be able to criticise it, as there is much that we humans, particularly children, fail to comprehend or even imagine. Indoctrination involves the continual strengthening of patterns of religious explanation. An indoctrinated individual may never contemplate the possibility that a god might be called omnipotent, simply because this attribute is a necessary component of the idea to which their religious elders are emotionally attached.

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**Beware Reason.** The fact that we are able to rationalise away virtually any problem if we put our minds to it should lead us first to question the strength of our reasoning, particularly as it relates to understanding reality.
A child or even an adult can be palmed off through an apparent loophole, “The lord works in mysterious ways,” or ‘Don’t try to understand that which is beyond human comprehension.’ These anti-explanations even aid in putting religious inconsistencies beyond discussion, as they allude to supernatural forces. Essentially, they say that ‘magic’, is the answer. Yet everywhere we look, and we look everywhere we can, magic, is nowhere to be found. Ah but wait, we have found magic many a time, magic is simply superstition, an illusion, accepted by children and cave folk.

Religion, gods and superstition do not make sense. Their supposedly divine doctrines are generally not internally consistent, nor are they externally consistent with reality. Consistency is not their thing. The only position that appears to be consistent with religions is that they are ancient but purely human misconceptions.
Objections to Atheism

A number of arguments seem to surface time and time again in the discussion of religion, seeking to somehow disprove or discredit secular perspectives, or simply to serve as justifications for religious belief. There are at least two perspectives in each case, though there is only one underlying reality. It may come of something as a shock to you that for each religious argument below, I shall try to offer an alternate atheistic explanation or counterargument, as befits the purpose of this text. If you wish to understand religious perspectives in greater depth, I would encourage you to look elsewhere, a lifetime could easily be spent upon the study of religions.

Designating Designers

The famous Christian theologian, Thomas Aquinas made a few contributions to the defense of his faith that remain worthy of discussion, due to their continued popularity. His first such idea was that there must be an unmoving mover to have created everything; this is known as the cosmological argument. Aquinas thought that as we can observe patterns of cause and effect something had to cause everything else initially, therefore his god must have been the first cause. One fundamental and obvious flaw in this idea is that there is no reason that the cause of the existence of matter should be one specific god over one or more others, anymore than it should be Astronomical Dax's Universe Creation Kit. A second fatal objection to the cosmological argument is that as it relies upon these patterns of causality, we might just as easily ask what in turn caused the first cause of our universe; what caused gods or what caused Astronomical Dax.

If after cutting off its head and extracting its heart, for the sake of discussing the cosmological argument, we ignore its inability to prove anything at all; we might wish to note that the patterns that we observe in the universe are not indicative of

*"If you have problems thinking how matter could just come into existence, try thinking about how complex intelligent matter or complex intelligent entities of any kind could suddenly spring into existence." Richard Dawkins.*
gods, purpose or even sentience for that matter. The universe is vast, ancient and uncaring. It is shaped by large scale forces such as gravity and the molecular forces of chemistry that, by themselves, have nothing to do with sentience. So what evidence we do have is in total disagreement with the notion of divine intent.

Strangely enough, the second of Aquinas’s arguments that has retained significant popularity is based upon just the opposite claim, that in fact there is evidence of design in nature. This is also known as the teleological argument. Aquinas based this idea of divine design on his impression that all objects seem to move towards specific ends and that they must thus have a purpose. Just like the Stone Age animists, Aquinas reasoned that intelligent beings are the only possible causes of such purpose, thus there must have been a creator to give purpose to all those objects lacking any intelligence of their own. This design idea has been extended to all sorts of things, from the attempts of religious fundamentalists to provide a suitably religious alternative to biological evolution, to explaining the grossly fortuitous cosmic circumstances of our tiny planet.

Design arguments are defeated by science, as science provides rational explanations for phenomena, which are based upon evidence. In Aquinas’s defense, he wasn’t to know this as he was writing in the thirteenth century, a time when Europe was ruled by faith and feudalism. Copernicus was still a few centuries away and Darwin a few more. I have already addressed biological evolution in some detail; so, much further discussion is not really warranted here. It is enough to note that biological evolution is an observable process, which explains not only how life has developed over time, but also that it might create a convincing illusion of design in a religious mind. The process of natural selection favours the preservation of adaptations that happen to serve an end or ‘purpose’, specifically that of contributing towards an organism’s survival and reproduction. This pattern of favouring apparently

Intelligent design? So intelligent that it doesn’t need a designer.
purposeful features has been continually magnified over thousands of millions of years.

Space may appear to be a more promising frontier for design advocates. They note the impressive improbability that a given planet, such as ours, should have formed and developed in such a way that life has been able to evolve and exist. There are many variables that if shifted only a little would have made life on Earth impossible. Our planet needs to be the right age, we need to be in the right sort of galaxy, orbiting the right sort of sun, several molecular forces that we don’t understand the origins of need to be as they are and so on. We need only observe our nearest planetary neighbours, Mars and Venus or the Earth’s moon with its limited size to see what might have been; these bodies are either too hot or cold to retain liquid water that seems to be necessary for life or too small to possess an equally important atmosphere. Seemingly against the odds, the conditions for life on earth are just right; we live in a ‘Goldilocks Zone’. The chances for any given collection of matter that it might be able to contemplate its own existence are extremely small. The teleological argument again takes this as an indication of divine intervention, the universe appearing to be fine-tuned for our existence.

However there are far better explanations for our situation than this repeated, drastic and rather forced reconstruction of ancient religious creation myths. Some have estimated that the universe is sufficiently large that the existence of extraterrestrial life may actually be likely, given the many millions of galaxies that we are able to observe. There has in fact been considerable investment, particularly in the US, in the search for such life. While no life has been found to date, the search has produced some interesting contributions to our understanding of the potential conditions for life. For example, scientists have found microorganisms living in increasingly extreme conditions, such as near underwater volcanic vents, where they thrive at temperatures hot enough to melt lead. Life may not actually be so

*There must be religion. Otherwise the poor would murder the rich.* Napoleon Bonaparte.
unlikely as we might imagine. If people play the lottery for long enough, eventually someone will probably win three times in a row. Similarly if there are enough opportunities in the universe, extremely improbable events such as the appearance of sentient life become more likely.

Probability aside for a moment, to be able to contemplate our good fortune, it is a matter of necessity that we should be in one of the rare locations or perhaps even the only location where life is possible. Particularly when we take into account how evolution explains the development of our sentient minds from single celled organisms living in primordial mud and that scientific cosmology provides at least some excellent naturalistic explanations for our general situation in the universe, our ability to observe our good fortune seems to be nothing more than that, good fortune. I shall go so far as to officially decree that we may hereby consider ourselves rather smashingly fortunate to be sentient when compared to a random sample of matter, reliant on the obvious proviso that we consider sentience to be a desirable condition. It would be cool to be a comet and likewise very lucky in so far as the vast majority of matter does not appear to take the form of comets, although comets are of course no more sentient than fingernails or pulsars.

The design argument might have seemed a little more credible if the entire universe consisted of only the earth, the sun and a few pretty little lights for decoration, exactly as was perceived by many superstitious ancient peoples. Under this outdated view of the universe, there would be a low chance of earth’s existence and apparently only a single opportunity for it to have formed. However, what we observe now is an unknown but low probability of life in a universe of nigh unfathomable opportunity.

There’s a great deal that we don’t know about the processes and probabilities required for the development of life. From my perspective, one of the prime reasons for the continued popularity of the design idea appears to be that faith thrives upon

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The Universal Rule: Universes that cannot exist, do not exist.
these unknown factors. Religions answer life’s big questions in an emotionally appealing manner, without any evidence to support their claims. It seems that for science to answer all the relevant questions adequately, it would need to compose a grand unified theory of everything, yet science can only extend as far as evidence will allow. Many components of this problem of the gaps in our knowledge are so complex, so far in the past, on such alien scales and with so few observable effects, that it has thus far proven impossible to develop a reliable understanding of them all. While I am by no means alone in my dismissal of design as religious rationalisation, if the Goldilocks arguments are the best hope that teleologists have of proving the existence of gods, I shall at least let them play out their hand.

Perhaps the best opportunity that Goldilocks universe design advocates have is jumping back to the origins of the universe, before observable processes, a place where it is difficult for scientists to tread. Fortunately I’m not a ‘real’ scientist, so I’m allowed to form conjecture in order to compete with religion. Let us play.

One of the more interesting pieces of theoretical astrophysics that relates to the Goldilocks Zone design arguments is that of the apparently perfect rate of the universe’s initial expansion. If this rate had been slightly slower, the universe would have collapsed and we wouldn’t be here. If the rate of expansion had been slightly faster, then galaxies would never have had a chance to form, producing a similarly unhelpful result from a human perspective. From this point, design advocates claim that the rate of expansion must have been set by their god or at least some being with intent to create an interesting universe that wouldn’t collapse but would form galaxies and thus life.

The suggestion of an intentionally defined Goldilocks Zone seems stronger in this scenario as it appears that the universe’s explosive velocity was only determined once in the observable universe. Thus at this point, the usual secular counterargument that we must be in the right sort of universe for life to occur in order to observe its existence may seem less compelling, at least if we ignore the
possibility of multiple universes. However, the teleological argument still fails to get any particular religion off the ground, as the runway is crowded. The design argument only appears to be able to exist, because there is no evidence to contradict it or any other idea. If Yahweh or Brahma can determine the rate of the expansion, then so can any other powerful being we care to imagine. Alternately, without evidence to hold it back, mindless naturalism has an equally free rein.

We might imagine for example that the universe’s original singularity or hot, rather farcically dense mass had started off relatively small, exploding repeatedly over countless millions of years, but always collapsing as it produced explosions that were too small to continue expanding. Through some unknown process, perhaps simply through the gradual accretion of ambient energy, each cycle of explosion and contraction increased both the universe’s mass and thus its explosive velocity, presuming that higher universe masses produce more powerful explosions, until it reached the critical density at which it would no longer collapse, thus producing the current explosion. Alternately, the initial singularity’s mass could have decreased from an excessive density, to a point where it could explode successfully rather than collapsing, perhaps shedding mass in the form of photons or other radiation through its cycles of explosion and contraction.

These patterns would be analogous to that which we observe in the formation of hailstones, getting larger and larger as they rise and fall, before finally reaching a mass at which they descend to earth. Perhaps forces in this imaginary process allow matter to multiply itself, breaking the first law of thermodynamics (the conservation of energy), which seems to hold more reliably at the stage in the universe’s history that we are able to observe directly. After all, other laws of physics are thought to have broken down under the conditions in the early universe. While this fanciful notion is perhaps interesting as science fiction, it appears to be untestable, as it attempts to

Creationism: So tsunamis are fine-tuned for the destruction of a random selection of innocents? No wait, that won’t hold up, we know the processes involved in tsunamis and they don’t involve sentience...
The scientist aims to understand reality.
The creationist aims to protect their religious addiction.
explain events of which we are essentially unable to observe even the indirect effects. Thus it cannot be counted as genuinely scientific, nor can it be used to prove anything else.

The hailstone option given above might have initially appeared to be at least vaguely scientific as it is at least comparable to existing patterns, while the design option is clearly created out of religious necessity. In fairness, both ideas should be seen as nothing more than conjecture or rationalisation. They are both based upon existing worldviews, cannot be verified in any way and thus are at best interesting extrapolations of other idea sets. However, while the hailstone universe idea is entirely disposable, some religious people actually seek to count their favoured rationalisation as evidence of a particular supernatural creator.

This is only a small part of the broader pattern of egocentric rationalisation that we see in religious people, a pattern that we have examined previously. Their start point is generally religious belief and their rationalisation in support of that belief comes in whole or part from human ignorance. Their gods become like the *deus ex machina* from Greco-Roman drama, deities designed to artificially fill plot holes. The theologian Dietrich Bonhoeffer’s name for such a necessarily constructed deity was a ‘god of the gaps’.

The general rationale for the god of the gaps takes the form of a question; ‘How do you explain this <poorly understood or unknown phenomena> then?’ This appeal to the unknown is yet another commonplace error, that cannot prove anything. Ignorance can logically be used to justify belief’s suspension but not its application. A person might reasonably say that as we don’t know what caused the universe’s initial expansion, they choose not to accept that it should necessarily have been a natural occurrence. Even in this case however, belief in the possibility of supernatural occurrences has to be artificially inserted by our race’s ancient superstitions rather than by evidence.

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*“It is very difficult to reason someone out of a position they did not reason themselves into.”* Rich Rodriguez.
Classical Confusion

Ontological arguments proposed by minds as great as that of Descartes and Spinoza appear to my half trained brain to be hardly worth mentioning, yet again as they have been classically popular I shall afford them a moment of our time. The ontological argument is roughly as follows. ‘By definition a perfect god is perfect; that which exists is more perfect than that which does not exist; therefore there must be a god.’ This argument is circular however, basically like a fancy version of faith. The fact that you are able to imagine something that exists does not make it exist, nor does the fact that you can imagine that something is perfect make the perfect idea a reality. It could at least be argued that the perfect thing that you imagine would be most perfect if it existed, but in no way does this indicate that the thing actually exists. At a tortured stretch, we could offer some thought to the proposition that god or gods are literally everything, yet this seems a pointless venture, as it doesn’t reflect a popular understanding of the word ‘god’. In any case, neither this maneuver, nor our scientific observations do anything to indicate that a collective ultimate reality is conscious or anything of the sort.

Pascal’s Wager

In ‘Pascal’s Wager’, the mathematician Blaise Pascal didn’t come up with any evidence for religion, but rather a rationale supporting blind faith. He compared religious belief to a gambit, favouring belief on the basis that there’s everything to gain, nothing to lose and no way of telling which belief is correct. While it often resurfaces in various forms, there have been numerous criticisms of Pascal’s position from several different fronts.

Pascal’s assumption that reason cannot be used to influence our opinion on religion is in my view flawed, although that should be obvious from the nature of this book. Further, I would object that we in fact have a very great deal to lose, through

“God is seen not by the eyes but by the heart’, I am an atheist because I don’t recognize the heart to be a sense.”
Michael Bell.
religion’s contributions to conflict and the hindrance it often causes to our understanding of the world, to list two of the broader examples. In this life, the one that we can verify, we actually have everything to lose through religion.

A significant religious objection to the wager is to question the sincerity of the faith that Pascal suggested; surely any half omnipotent god would be able to see through such a mercenary rationale. Also, there is the issue of which god should be chosen, Vishnu, Aten, Ohura Mazda or Quiahuirl? I suppose as a numbers man, Pascal would stick with the most popular, Yahweh, though my impression of the Jewish god is that he was always pretty dismissive of non-Jews anyway and Allah probably wouldn’t have gone for the bait either. Of course Pascal thought he had nothing to lose, so for him even a small chance would have been better than none at all.

As a final response to Pascal, if you’ve consciously chosen to believe as a matter of prudence, from a position of non-belief, at a certain level it seems that you must always be aware of this fact and thus you may well fail to even convince yourself. Pascal’s belief that reason could not decide between a god’s existence and non-existence seems to resonate with agnosticism rather than religion. In any case, I often hear religious people state that faith is a matter of emotional conviction, rather than reason; to paraphrase more closely, they might say that ‘faith is in their heart.’

*My heart is a muscle and it pumps blood, like a big old black steam train.*

The Cruel Sea.

It’s a Kind of Magic

Many different kinds of belief, faith and so on are in turn cited as evidence for religious belief. There is a popular conception amongst religious people that their faith adds a distinct and genuinely spiritual aspect to life, which might be seen as some kind of ‘real magic’. Common claims of this kind include that a given religion
‘enables humans to reach their full potential’, or that it allows people to ‘contact higher powers who are otherwise beyond the reach of our senses’. These ideas are also closely linked to the notion that religion gives life genuine meaning. Some might claim that prophets or miracles provide concrete evidence for religion, though in essence, these purportedly tangible evidences are nothing of the sort, as they are no more verifiable than claims of direct spiritual contact. Perhaps the simplest emotional justification for belief is that religion brings joy or happiness to many people, a point that can be a little more difficult to argue with, as it often seems to entail little care for reality or evidence in general. Spiritual positions such as these evidently appear to make sense to believers, as by their very self-defined natures, from the believer’s perspective they appear to be distinct from testable reality.

Spirituality is apt to grow in superstition, being watered by faith. Often but not always the seeds of religion are planted early in life, along with the idea that faith is not only ok, but that it is a necessary part of the right way to live. Superstition seems to be largely taken for granted as a necessary component of religious worldviews, although obviously they do not call themselves superstitious. Thoughts of this kind grow in the mind, where they are protected from the world of evidence. As long as spiritual ideas are seen as being independent of the senses, particularly as they remain vague and flexible, they appear to be immune to mundane explanations.

Natural processes can explain every supposedly spiritual or supernatural experience that anyone has ever had. A dream of a recently lost loved one could be interpreted religiously as communication with a ghost or naturalistically as just a dream produced by emotionally stimulated imagination and memory. If a candle blows out when someone in a séance asks for a sign from the spirits, it is worth noting that candles are rather apt to blow out. The fact that someone thinks that the eternal spirit of some divine being brings joy into their heart can be explained as a religiously acceptable version of an imaginary friend.

Religion brings a lot of things to the table that science cannot. Examples include the social acceptance of systemic superstition, irrational complacency in the face of adversity and apparently absolute justifications for killing people.
We can take this process of naturalistic explanation all the way through to ancient reports of miracles and prophets, although it would be impractical to try to give counter examples for every prophetic individual and every miracle in every religion as this task would be colossal. I have previously presented several potential categories of explanation but in the end, if you wish not to be caught up in primitive superstitions, you will need to be able to remain skeptical where no evidence is available and preferably to be able to think of your own naturalistic explanations to counterbalance such claims. I'll have a quick play with ‘Jesus’, who is possibly the world’s most popular supposed miracle worker, just to remind you of the sorts of ideas we might throw around in questioning religious doctrine. One should keep an open mind here, as all manner of possible explanations are available to us for each claim, even without resorting to the magical infinity of our imaginations.

Jesus is supposed by some to have been immaculately conceived by magic. Given that under Jewish law, his mother ‘Mary’ might have been put to death for failing to scream loudly enough if she was raped or stoned for committing adultery etc (Deuteronomy 22), a more plausible interpretation of the basis of this claim of immaculate conception might be that Jesus was simply an ‘illegitimate’ child and that Mary was trying to conceal this fact out of fear for her life. Many Christians appear to believe that Jesus was a god-man, sent in human form as a sign to humans, as this is the form that people would most easily understand. Yet like most of us regular, non-divine humans, he seems to be an imperfect and inconsistent fellow, at one time advocating pacifism in the turning of the other cheekxii and at another bringing ‘not peace but a sword.’ At one point he claims to preserve every letter of the Torah, yet at other points he directly contradicts it with his novel stance. In the book of Mathew, he snubbed a Canaanite woman and then spurned her as a dog as she was not Jewish, although modern Christian notions of Jesus indicate that he intended to extend the Jewish religion to all humans. It has been argued that there is little

*Jesus stuck up for the meek; he said ‘turn the other cheek.’ But that'll put you up $#! Creek; spit the dummy.* TISM.
evidence to suggest that the Jesus character portrayed in the Bible even saw himself as the Jewish messiah, let alone the saviour of the gentiles. Stories of Jesus curing sick people could be compared to modern ‘faith healing’, which produces no medically observable benefits beyond what might be expected of any placebo. Alternately, Christian writers may have added these miracle stories of magic well after their leader died, in order to increase his credibility as a divine agent. The idea that Jesus was resurrected may have been constructed as a necessary addition to the doctrine of his cult, following his inconvenient death. We might add broader objections such as the evident flimsiness of Yahweh using a human as a sign to communicate with humans in the first place. If there was an omnipotent god that wanted to send a convincing message, there seems to be no reason that he should not have sent something permanent and impressive. It makes more sense to infer that Jesus had to be a human because humans are the only beings with religious ideas as there are no real gods, angels or goblins in existence that might be able to spawn this mega cult.

While no solid evidence is available on this ‘Jesus’ chap, one of the most popular religious personae in history, simply by reading the first book of the Christian New Testament, we can easily form some very reasonable alternatives to the claims made about him. It seems to be perfectly feasible that the biblical character of Jesus developed via the Christian cult’s superstitious embellishment of a completely normal human, specifically a Jewish religious teacher who was relatively radical in his stance on many issues. Given what we know of how miracle myths have tended to build up around many religious characters in just about every ancient religion, it seems reasonable to expect that this pattern, rather than a supernatural one, also explains the miracle stories surrounding the character of Jesus. We have lots of evidence for superstition in the world, but no evidence for miracles.

It might be argued that it is desirable to delude people for their own benefit, just as some might foster the fantasies of children. I object to such patronising paternalism for the same sorts of reasons that I value education and object to totalitarian tyrannies; people should be made aware of the facts in order that they may make their own decisions.
Ancient prophets and miracles provide interesting contributions to the supposed evidence for religion, in that they tend to be seen as being necessarily true from existing positions of faith. In reality, they too rely upon faith, forming parts of the larger, self-supporting memetic loops known as religions. Faith leads people to believe in ancient miracles and belief in ancient miracles reinforces faith. Feelings of faith, spirituality or other religious emotions are interpreted as evidence of divine contact. Miracle myths are likewise taken as evidence for the actions of divine beings or their empowerment of humans. All of these religious ideas feed into each other, strengthening patterns of belief, some claiming to constitute a form of evidence but failing to do so in any genuinely verifiable manner, while other contributions stem from various forms of social reinforcement, desire or wish fulfillment that might bias religious minds.

I find that I still have not dealt adequately with these emotional ideas, such as that faith somehow provides direct evidence for religion. A religious fellow might say that ‘if you surrender to faith you will understand it,’ or that ‘man has an innate desire for religious experience.’ The former idea, is met with the counter claim that if you surrender to faith, of course you cannot help but believe, as you have given up your will to do otherwise. The latter idea of an innate yearning for religion is perhaps of slightly greater interest to us. Many people claim to be beholden to a desire for religion, as it gives their life meaning. This desire is in turn taken as evidence that we have either evolved to take advantage of a spiritual reality or that one god or another programmed a desire for faith into us. Once again, I can only remind you of some alternate naturalistic perspectives to this position.

If a baby is born to a mother who has an opiate addiction, the newborn will often share her addiction; this has moral implications against drug use for expectant mothers, although these are beside the point here. If you have sugar in your tea or coffee each day at noon, you may develop a dependency of sorts upon these.
substances. Humans can develop addictions and attachments to things as diverse as beloved family and friends, computer games, reading, knowledge, work, sex, all manner of foods, cigarettes, gambling, drugs and alarmingly even soap opera. Religion is no exception. Religious beliefs can create illusions of fulfilling many natural human desires, from the avoidance of death, to the formation of loving relationships and in the broadest sense by even giving life apparent meaning. Particularly for a person who has been raised upon religion or for whom religion has filled a void, this apparent fulfillment of a need will be particularly strong, even if religion has largely created this need itself. You may or may not find this notion convincing, however if you do not, I would remind you to consider again the fact that our experiences influence the development of our perspectives.

Many or perhaps even most religious people bypass evidence for their belief entirely, skipping straight to purely emotional justification. These people simply believe because they want to, a choice most of us agree that they should be free to make. After all, there is no absolute reason that a "man should be a slave of reason if it does not want to. Perhaps such thoughts might lead us to philosophical questions, such as what the meaning of life is, but of course the religious person already has their answer, in that meaning is provided by the pursuit of an afterlife or some such and thus their faith is reinforced. It may seem almost impossible to argue against this position directly if emotional satisfaction is all that matters to a person.

As long as these people are at least willing to reason however, there is still room for discussion. It seems that my best bet is to have the emotionally religious compare a complete explanation of their position with its mundane alternatives, as an understanding that their beliefs are false may serve to undermine their apparent emotional satisfaction. If their beliefs are incorrect, then they may be spending their finite lives poorly, by devoting them to an end that will in reality be of no benefit to them. Further, it may concern them that they might harm others unnecessarily by

"The fact that a believer is happier than a sceptic is no more to the point than the fact that a drunken man is happier than a sober one." George Bernard Shaw.
acting on the basis of their mistaken beliefs. For some people, a convincing case shall also need to be presented for the potential joys of secular life, as a religious individual may prefer to cling to their delusions if the alternatives fail to excite their desires. Such a case will be one of the focus points of the final quarter of this book, although for now I will point out that very many ‘men presumably lived contentedly enough before religion and many more live very happily now without it.

**Moral Misconceptions**

Some religious people seem to think that the various shades of morality associated with religion provide justification or in a few cases even evidence in support of religious belief. Other religious folk would appeal that without religion we would have nothing to encourage moral behaviour or that if humans are the highest authority, then this apparently paints a bleak picture for humanity. Obviously these arguments cannot prove that there is any truth to religious belief, they merely restate the desire of some people to be religious, in this case apparently for what they see as moral reasons. The core of these ideas, that religion is necessary for morality, is demonstrative of a relatively narrow worldview, with very little consideration of morality in society. People, not just paid police forces, coming from a wide variety of backgrounds, almost universally seem to encourage some kind of moral behaviour, as a matter of expedience if nothing else. Individuals adhering to just about every belief structure imaginable often act in ways that might be seen as either moral or for that matter immoral. It seems that morality is seen as highly desirable in some form or another by just about everyone, regardless of what their personal thoughts on religion happen to be.

The claim that I would like to get out of the way first however, is that a god or gods have installed the uniquely human conscience in order that we might know how to behave morally. This has occasionally been presented as evidence that gods exist. I have already addressed human emotion in significant detail and along with
many other thought processes, would categorise conscience as a clear product of emotion and experience. For example guilt and fear of repercussions serve as a warning from past experiences; if you, steal the cookie from the cookie jar, then someone may well come asking after you. Of course you can lie about not having stolen it and this may or may not be a problem for your conscience depending on your experience of lies. You might value your reputation or you may have found that you are very good at telling lies and find it empowering or exciting; presumably confidence artists fall into this category. In each case there will likely be some form of anxiety, as the discovery that you have been dishonest may have negative consequences. Once again we are forced to choose between divinely installed magic and these wacky naturalistic explanations based upon the evolutionary benefit of emotion.

Perhaps our dog Luci has a conscience. She knows that she may get in trouble if she steals the cat’s food or barks at neighbouring dogs, yet continues to do so if she thinks that she can get away with it. Perhaps she will go to doggy hell. I suspect we could train her to feel guilty or not guilty about virtually anything if we wanted to. The same goes for humans, although the idea of conducting a clinical test for this human guilt training idea sounds moderately unethical and in any case is unnecessary given our existing knowledge of psychological conditioning.

Religious conceptions of conscience can actually be quite misleading. Some people seem to have the idea that we possess some kind of innate, absolute capacity for moral judgment. However this capacity is clearly flawed, as it varies from person to person. It might seem right to one man that a murderer should be slain for his offense and wrong to the next. It might seem right that women and children should not be permitted to speak unless spoken to in one century and wrong in the next. It might seem unjust that one’s brother should be so heavily punished for a crime, yet just to the other folk in the courthouse. It seems that at least historically,

“The way to see by faith is to shut the eye of reason.” Benjamin Franklin.
every second monkey with an assault rifle has been willing to pop off a few rounds for the benefit or freedom of his motherland, while maintaining a clear conscience, regardless of which motherland that might have been. In its inconsistency, conscience is best explained as a set of evolved desires, influenced in individuals by environment, culture and so on.

At the extremity of religious conceptions of morality we find the notion that secularity is the root of all evil. A detailed position that contrasts with this claim shall be given later, in the chapter discussing ‘secular morality’. We have already encountered the idea that atheism can be used as part of an immoral regime, such as the totalitarian communist states of the twentieth century, however atheism alone cannot motivate immoral behaviour. Put simply, atheism is the belief that there are no gods, which I extend to asserting falsehood of any supernatural belief for the sake of convenience. Atheism is not the belief that ‘there are no gods; so you should kill anyone else who disagrees with this assertion’. The latter portion of this construct has been rather clumsily tacked on.

If the objective of morality is to guide our interactions in ways that shall benefit all sentient beings, then an open, non-religious perspective such as atheism or agnosticism is superior to a religious perspective. Religiously neutral perspectives will allow us to observe our common ground as a constructive basis for morality, whilst religious perspectives may lead to the erroneous acceptance of predetermined absolute values of right and wrong.

Follow the Leader

Einstein was a rather clever chap, who once said that he believed “in the god of Spinoza.” Ludwig Van Beethoven made beautiful music and had obvious religious influences. Mohandas Gandhi claimed to be broadly religious and was quite plainly heavily influenced by religious philosophy. Leonardo da Vinci was presumably

Religion is a euphemism for organised superstition.
Catholic, although he only really learnt the rituals of his religion in later life; of course in the 15th century every horse and her monkey was Catholic too. Indeed the religiousness of many of the intellectuals of antiquity can be dismissed on the grounds that there was rarely much alternative. Even if they were in some way irreligious, this might have been concealed as a matter of prudence, particularly during the heights of Christian power, in order to lower their bodily flammability. Nonetheless there seem to be a few ideas floating around, along the line that if highly intelligent people believe something, it must be true.

At a glance, the few intellectual celebrities listed above give us an interesting picture of religion and intelligence. Einstein appears to have believed in Spinoza’s impersonal god that could be defined as nature itself rather than a being that one might be able to interact with. It is worth noting that Spinoza himself was technically excommunicated from the local Jewish community for his unorthodox beliefs. Beethoven appears to have been Catholic, with some early rationalist influences for what it’s worth and he indubitably gained a great deal of inspiration from church music.

Gandhi was a fantastic example of the potentially positive practical applications of religious philosophy. His dramatically effective use of the Jain and Buddhist idea of Ahimsa or non-violence may have been something of a world first, contributing through passive resistance to the eventual winning of India’s independence without a war, at least with the British. On the other hand, Gandhi lamented the division between Hindus and Muslims that tore a would be united India apart, resulting in persistent conflict and bloodshed both during his life and even more so following his death. He was also vehemently opposed to the caste system of Hindu society. All in all, Gandhi’s god was probably fairly eclectic, rather than being tied to a specific doctrine.

So we see these geniuses and many others if we look, with divergent religious beliefs or none at all. Religious philosophies have certainly had massive
positive influences upon many great minds, although at least in the popular examples listed above, the inspiration that may stem from religion seems to result from picking and choosing from religious ideas rather than embracing any particular doctrine wholeheartedly. For humans in general, the broader correlation is that rates of religious belief decrease as intelligence and education increase, although this is only a trend; the religious greats already listed provide ample counter examples. We need not favour these arguments with more than passing interest in any case, as they are entirely beside the point. In the end, it doesn’t matter what Einstein thinks, what matters is the truth.

Our cosmological observations indicate that the universe is not externally validated, at very least having existed for several thousand million years before humans began to think about it. While our beliefs determine our perceptions of reality, it seems obvious that whatever underlying reality there is, has always been independent of belief and will continue to be so. No ‘man’s beliefs determine reality, no matter how brilliant they are. Even Einstein made mistakes.

We might reasonably respect or spare time to listen to the ideas of a genius, on the basis that intelligent people tend to be more likely than average to produce useful thoughts or profound ideas. However, it would be foolish for us to follow the beliefs of someone simply because they are intelligent. It is likewise unwise to believe or accept a belief or view simply because it prevails in society. Evolution should not be accepted simply because experts claim that it’s true but because we understand that the evidence in support of it is superb. If we fail to reconstruct or at least understand the justifications for a given belief, hypothesis or idea, we will often be better off withholding our judgment than following blindly.

Whenever we fail to think for ourselves, we give up a portion of our independence and become part of one social machine or another. This can be dangerous, bordering on being morally irresponsible in some cases. On a number of

occasions, history has exposed flaws in the views of even the greatest human minds, along with the prevailing views of religions or societies. An increased capacity for independent thought in average individuals, which may be partly linked to average levels of education, could even be seen as a direct indicator of societal development. Of course there are those religions that view mundane knowledge as essentially idolatrous, claiming that faith is the only true knowledge. I would cite this as yet another example of religious rationalisation, as worldly knowledge so often conflicts with religious doctrine.

Agnostic Doubt

A final objection to atheism is the global position of agnosticism; one I have limited motivation to argue with, as like atheism, the agnostic worldview cannot independently provide motivation for harming others. However I am rather a perverse fellow at the best of times and happen to think that agnosticism falls short of genuinely understanding religious behaviours in humans. Agnostics maintain, quite reasonably and often with scientific zeal, that we cannot go so far as to claim that there are no gods as we are unable to test this idea empirically. My response to agnosticism, along with the broader conclusions of my arguments against religion shall be detailed over the next two chapters. In short, atheism provides us with a far more complete explanation for reality that agnosticism. Just as all but the most colourful agnostics would presumably maintain that faeries do not exist, it is appropriate that we should conclude that gods do not exist.
The Realities of Religion

I’d like to just assume that reality is important to everyone, but to do so somehow seems ever so slightly reckless. My understanding of the human brain is that at least in part, it’s out for the benefit or at least perceived benefit of its organism, to which end the individual’s understanding of reality may be somewhat warped and twisted. I would appeal to such minds as are dismissive of reality, that it is in our interests as individuals to understand reality as accurately as possible, as reality is the organism’s and thus the mind’s actual context.

If morality is of importance to you, then knowledge of the genuine rather than the perceived effects of your actions will also be of great worth. Further to the argument for reality’s value to morality is the goal of developing a shared understanding of reality based upon verifiable evidence, without which we may be forever destined to conflict over fundamental differences of perception.

If freedom and responsibility are important, then each of us must try to develop a genuine understanding of our world, lest we should merely fall into place as a part of one social machine or another. If we don’t think for ourselves, then we’re probably letting someone else think for us.

I am not an expert by any means and I doubt that anyone could easily be considered an expert with regards to all of the subjects that we have discussed, however I have tried to give an overview of most of the topics that I see as being relevant to the understanding of religion. We’re all capable of learning about these things and in any case, a broad understanding of reality may in many ways be of more value to us than a depth of knowledge in a single area.

As a final frivolity, I shall note that a number of major religions mandate honesty, often on pain of death. Reality is truth, thus its pursuit is honest.

“When finding the truth makes no difference to you, any way you look at it you’re gonna get screwed. You lose.” Pennywise. Saying that Buddhism is a religion is like saying that Einstein’s ideas were dangerous.
Religions are Human Ideas

How are we to go about understanding the realities of religion then? Science cannot prove or disprove religious beliefs, as ghosts cannot be tested. However, just as we can compare evolutionary evidence with creation myths, we can compare naturalistic explanations for religion with religious explanations. Whilst our understanding of evolution undermines creationism, where religion is concerned, we must also use the opposite tactic and attempt to understand religions themselves as fully as possible in order to contrast secular understandings of religion with their alternatives. We may never be able to explain every phenomenon in the universe, but we can explain religion. Religions are contained within the minds of men, so first we must understand our minds, their thoughts and processes in order to understand religion.

A chocolate bar sits before me at a shop counter and I wonder if I should purchase it. Health, cost, pleasure and hunger come into play; neural patterns driven by fluctuating emotional salience drive my decisions. In a way, the simple pleasure I might feel in tasting the bar would be real, as real as any feeling, yet my knowledge of chocolate leads me to other considerations; perhaps it is not so sweet as it seems. My ancient hunger can mislead me and so must be tempered. It is only tempered with further desire however, desire for longevity through health this time, again built upon an ancient relic; dead organisms can't reproduce or satisfy any of their other drives, thus death is the ultimate pain. Yet pleasure is what drives action and in some ways seems to make life worthwhile. After all, the bar will provide some energy and this can be burnt off; this thought could perhaps be viewed as rationalisation in support of my taste for chocolate. The brain continually performs its situational cost-benefit analyses on behalf of the organism and its genes. Our brains can't be trusted; they are evolutionarily biased and limited by our experiences.

Our brains sort information according to emotion, experience and circumstance. This is an efficient and practical mode of operation, as it helps us to

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I have heard of some people harbouring anger towards their parents in response to a religious upbringing. While such emotion may seem natural, it may also be largely inappropriate if they thought that they were acting in your best interests.
construct a coherent picture of reality as it relates to our organism and its needs. New experiences are compared to old, in an effort to make sense of them collectively; thus existing experiences and their associated emotions influence our perceptions. A major downside inherent in the structure of our neural systems is that they tend to dramatically distort or otherwise influence our perceptions. Particularly if a thought is emotionally important to us or seems particularly reliable in our organismic experience, conflicting ideas may be forced to stand aside. Further, we must remember that we are social animals, inclined towards accepting and imitating the ideas and actions of those around us. If we are to understand reality, we must try to remove these social and emotional biases from the equation, if nothing else by understanding them. If we honestly wish to consider an idea, it is necessary to have an open mind.

In support of our investigation, we must also collect as much data as possible in order to compare different possibilities. Simultaneously we must try to develop an awareness of just how much or how little information we have, how reliable it is and why, where it came from, the potential influence of what we don’t know and so on. To be at least contextually accurate, our conclusions must eventually reflect what we know about our knowledge, including most crucially an acknowledgement of its fallibility. The continual presence of our fallibility seems to suggest that our minds must remain open, as our knowledge seems set to remain incomplete.

While there is much that we have not discussed about the specifics of religion, I hope that by now I have provided a relatively coherent overview of some of the arguments in favour of atheism as well as some insights into the nature of religious belief. I cannot hope to provide potentially accurate explanations for the origins of every religion or explain the faith of every person in history, the task is simply too complex. Of note however, if you are enthusiastic enough to learn the specifics of one religion, it seems only appropriate to learn the details of several of

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It is a tragic irony of religion’s impact upon ‘man’s mind that the martyr seeks to reach eternal life, through suicide.
the many different religious options. Here, I can only ever hope to equip you with some of the knowledge that might be of assistance in constructing an explanation for reality from an atheistic or agnostic perspective, while hinting at some of the religious alternatives.

**Dealing With Information**

By building the fragments of our knowledge into coherent pictures, we are able to compare these pictures with each other and all the available evidence. Religions are such massive idea sets, that these comparisons will take a lot of reshuffling of information. To ease us into this process, I shall begin with a few abstract examples.

An old fable tells us of a few blind men comparing their perspectives on an elephant. The first holds a leg and thinks it to be a tree, the second thinks that the trunk is a rope and the third thinks that the elephant’s belly is a boulder or some similar object. We can learn from the mistakes of the blind men that we should be aware of the limitations of our perspective. In this tale a seeing man often comes along, is easily able to observe the elephant and will obviously be metaphorically associated with whichever position the narrator happens to favour. The story may thus also inadvertently serve as a warning against bias.

A steam train is a huffin’ and a puffin’ along a mountainside. All of a sudden, it disappears into a tunnel! A little smoke comes out of the tunnel and eventually a train comes out another opening much further along the mountainside, but we don’t actually know what has happened to the train. Perhaps it vanished and was magically replaced, perhaps it stopped in the tunnel and another identical train started moving instead or perhaps the same train traveled through a continuous tunnel. At this point, technically we can only guess as to which of the three, if any, is most likely, by bringing our experience and perception to bear on the task. We can think here about some of the other evidence that we might collect to influence our
decision or perhaps why we would not bother to contemplate two of the options given above and what that says about how we think.

Here’s one final example, of the sort of comparative process that I shall be using, just to whet your appetite. Tragically, a few weeks ago, we were forced to dispose of around 400 mLs of milk that remained in a bottle, as it was out of date; fortunately it was only low fat milk. Imagine however that a man tells me that this milk was in fact magic molk, which tastes and looks just like real milk and what’s more it never goes off, so it turns out that we’d wasted perfectly good eternal molk. However I maintain my belief that the wasted substance was in fact milk. I have never encountered any evidence for magic, in molk or elsewhere. I have good explanations for the numerous claims of magic throughout history in general. There is also an excellent existing explanation that the ‘milk’ was in fact, milk. I’ve seen lots of milk, it comes from cows and so on. The idea that the substance was milk seems to be perfectly reliable, as it fits with the evidence from significant range of my experiences. The explanation that the substance was molk is more than a little off however. While I cannot disprove it directly, I maintain that the molkman’s belief is false on the basis that there is nothing to support his claim and multiple lines of evidence that indicate that it is false, including the excellent existing explanation of ‘milk’.

Metaphor is all very well and good, but we need to take a more direct approach, by comparing some religious ideas with some of their possible secular alternatives. Religious or non-religious worldviews are far more complex than the trivial examples given above, thus there is a lot more to take into consideration. Using everything that you’ve read here so far, along with whatever else you might know, I would ask that you try to mentally construct a few complete religious, agnostic and atheistic worldviews in order to compare them, like the wooden block castles discussed earlier in the city of parallel thoughts. The outlines given below generally revise the topics we’ve already discussed, in order to assist you in this

Religion: It is said that one can play games with death, but that death can never be beaten.
comparison. Once again, our conclusions can only be associated with apparent probability and possibility, on the basis of the evidence available to us.

Don’t worry, there won’t be a test afterwards. Although to be fair, there will be the rest of your life, including your moral decisions and actions. No Pressure.

**Ghosts or Brains**

In some Norse burials, it appears that all the grave offerings were intentionally broken; examples including bent swords and shattered furniture. Along with ritual sacrifice and cremation of slave girls as netherworld brides to be, it has been suggested that Vikings thought that these objects had to be made ‘different’ or ‘dead’ in order to be taken along with the deceased. People of many of the world’s older religions have commonly made burial offerings on the basis that these will have utility value for the dead. Boats, food, chariots, cattle and even whole armies via ceramic proxy have been found in various tombs and burial mounds. In every case, we have little reason to doubt that the people who made these burial offerings thought that they would benefit the deceased and further we have no way of disproving their belief in the efficacy grave goods.

Perhaps an open minded Pascal would have us play along, each ensuring that our graves were well furnished with food and friends or at least magically symbolic statuettes. Or would this be a grave waste of perfectly good goods? The atheist must surely answer that it would be a waste and the agnostic probably that they cannot know whether or not having grave goods is worthwhile. Before I allow the religious fellow to answer that it is surely naught but superstition, I would point out the similarity betwixt other religious worldviews and that of the Viking or ancient oriental king. All religious beliefs are unjustified by evidence; all are easily obtained from existing culture.

“Which is it, is man one of God's blunders or is God one of man's?” Friedrich Nietzsche.
Science gives us an excellent explanation for what happens when people die. Their brains, within which all manner of thoughts dwell, cease to function; thus mind ceases to function and being ceases to be. All that remains are their influences, impacts and the memories of those around them, perhaps along with any offspring and recordings of their life.

We can easily guess at some of the ways in which burial superstitions might have arisen, through poor understanding of mortality and consciousness, emotional trauma, possibly hallucination, dreams, stories and any other thoughts that might be interpreted as supporting a supernatural idea set. As the prevailing levels of superstition grew stronger, it would have become easier to interpret new occurrences as supernatural. Together, superstitions develop as a component of culture, which feeds upon itself, as well as any new apparently supernatural experiences. So grave offerings would be just a small part of a superstitious worldview.

Religious people who believe in an afterlife necessarily have some idea that consciousness is independent of our observable neural systems or is somehow reconstructed after death. Even if they accept the scientific explanations that help us to understand the minds of the living, they must add some parallel soul or karmic entity to carry on being after a person dies. Yet there is nothing to separate their belief from that of the Viking; neither is based upon evidence, both can be explained beautifully as superstition descended from animism, both are undermined by an alternative scientific worldviews.

Prophecy or Superstition
Ask yourself what kind of universe you are living in. Did consuming certain hallucinogenic ‘plants’ or fungi allow ancient Hindu seers to commune with the gods or did it perhaps allow them to commune with themselves while stimulating their imaginations in an unusual manner? Do gods and god-men contact individual prophets like Zarathustra, Elijah, Saul, Mani and Mohammed with important
messages about what they want done in the world or is it more likely that all of these people either hallucinated, lied, had fits, dreams or some such, in which they expanded upon superstitious ideas already present in their own human heads?

All of these prophetic types claimed to possess knowledge of some divine revelation, yet all of them would have sought to contradict the others in some way. Every one of these people might easily have been perfectly sincere in their beliefs, however we have absolutely no evidence that might confirm the supernatural ideas of any of them. The sciences and studies of our own species provide us with worldviews that conflict dramatically with all of these people, while providing us with a list of possible explanations for their thoughts and actions. If you met one of these prophets now, who presented themselves under a different name if necessary, what would you think of what they were saying? Fair enough? Maybe? No way? Please don’t hurt me? Would you laugh at them? Might you offer them help? Perhaps you would ask them to back up their claims with evidence.

Which pattern best explains this group of people? As an atheist, I am committed to the opinion that they were all just superstitious humans. People from several major religions must claim that at least one of them was telling the divinely revealed truth while the others were either partially or completely incorrect. The agnostic is presumably unable to make any such wild assumptions.

The Fact of Evolution
From the fossil record and other evidence, we know that humans have evolved from apes, which through a phenomenal series of gradual changes eventually evolved from fish and if we look far enough back, from single celled organisms. A superficial explanation of evolution such as this would have sounded farcical a few centuries ago; thus a broad knowledge of the evidence involved seems to be necessary to produce an understanding of evolution. Before such evidence was available, it was

As a child, I remember one of my many would be Christian indoctrinators telling us that there were more miracles in biblical times than there are now. She didn’t even appear to consider that there might have been more superstition.
commonly thought amongst many peoples of the world that humans were created by powerful magic beings. Given how much human behaviours have changed, even since our more ape like early Stone Age ancestors, it is easy to see how superstitious ancient humans might have believed in a creator. It's not as if monkeys maintain accurate genealogies. Once humans started wearing clothes, making fires and building bridges, they would have seemed a world apart from old world monkeys, perhaps more like miniaturised creator beings than powerful primates.

Religious people have typically dealt with evolution in one of two major ways. The fundamentalist approach has been to continue to deny it, on the basis that their doctrine is divine revelation, which must somehow be correct. The moderate approach is generally to accept evolution and claim that the conflicting creation myths of their doctrine are either nonessential to their religion or are flawed in some way; thus religion is reconstructed. Atheists on the other hand have no trouble accounting for evolution, as a proof of the falsehood of religious creation stories as these stories rely upon supernatural forces, which the atheist dismisses as false in the first place. Of course, many people may be atheists or agnostics primarily as a result of the massive explanatory power of evolutionary science.

**Shifting Stories**

A comparison of various religions throughout history and pre-history reveals a number of overlapping myths between them, in spite of their otherwise highly distinct mythoi. Myths are adopted and modified to fit with different doctrines. The ancient world in which the major religions and myths were formed and transmitted seems to have been ruled by superstition. People believed that magic was real as there was so much in their worlds that it explained. As magic was accepted as a fact of life, these people would have had little reason to question magical components of stories that they encountered. New myths would have been constructed in the same superstitious contexts; being transmitted in similar ways, perhaps passing from fiction
to fact through memory loss, perhaps being presented as fact from their outset and perhaps at other times being based roughly upon fact but embellished with supernatural trappings.

We need to ask which interpretation of these observations seems to be the most fitting. Religious explanations of the patterns that we observe in the development of myths range from the obvious need for religions to have some overlap; to the idea that all myths explain the same events; to the suggestion that the myths were composed by an evil being in order to discredit the one true religion. On these bases, religious people must make the assumption that their religion merely happens to be the right one, perhaps on a hunch but more likely as an accident of birth. Atheists or agnostics might instead guess that religious people have modified and adopted myths in order to make their religions more appealing or to make old myths more acceptable in light of religious or other cultural changes within their societies.

Santa Claus
At least in western countries, small children are often encouraged to believe in a magical chap called Santa Claus; sheer marketing genius. Many children appear to hold a genuine belief in this jolly fellow. Yet I do not see how we can disprove their belief directly. Perhaps Santa only comes to nice children and the fact that parents have often been seen filling their children's stockings is actually more of an indication of them covering up for their poor parenting than proof that this Santa individual doesn't exist.

There is essentially nothing that might separate religious believers from Santa believing children. Neither belief set can be disproven directly. Neither belief set is based upon evidence. Now, as adults, we all know, apparently, that there is no Santa Claus. We are privy to the information that children are in fact born into the world as rather ignorant folk, who will believe almost any idea we feed them, particularly if it's
coated in enough sugar. Religions are far more complex than childish beliefs in Santa Claus, so the patterns of behaviour are harder to see; yet they are basically the same. In the case of religion, we must contemplate to what extent adults or all humans are like children, basing their beliefs upon a limited picture of the world.

To be fair to the little folk that believe in this character, my objections about the violence often stemming from superstition may not apply here. While I am admittedly not in the habit of browsing American tabloids, I am at least yet to hear of one child killing another over a Santa Claus related belief.

**Deities Don’t Add Up**

It has been claimed that omnipotent beings allow suffering because they work in ways that are beyond our comprehension. The same explanation is given for the failure of supposedly perfect gods to communicate consistently, coherently or reliably with humans, in spite of simultaneous claims that they have desired to do so. Is this apparent divine ineptitude more consistent with a mysterious plan or no plan at all? Is the fact that prophets and their ilk have always been nothing more than humans more consistent with the idea that there is or is not a supreme magical force, by which these individuals might have been given some lasting or genuinely impressive power?

**Our Natural World**

While there have been many attempts, nothing supernatural has ever been proven to exist in our world. This is unsurprising as the term ‘supernatural’ means above or beyond nature and nature is generally seen as all that which we are able to observe. Perceptions of magic in our world have frequently been shown by science to be false or illusionary. Is the combination of our inability to observe magic and the persistent pattern of falsehood found in magical explanations best explained as a universal exception to the genuinely magical worlds presented by a particular religion? Are
such religious explanations perhaps best explained in turn as necessary rationalisations in defense of faith, whilst all belief in the supernatural is by definition superstitious? Can we say anything at all with certainty?

**Forgotten Faith**

From patterns such as these, along with all of our experiences of the world, we are able to construct various alternate views of reality as a whole. As there is no evidence to support religious beliefs, it seems that at some point in the process of constructing a religious worldview, there is always reliance upon the emotion of faith. Faith and its associated belief structures can also be used to stand directly in the face of evidence, by simply denying it or rationalising it away as is necessary to support religious belief. Alternatively, faith can be used as a fallback; as long as there remains room for doubt, there is room for religion, fuelled by faith. On the surface of it, as supernatural ideas cannot be directly proven or disproven, religious emotion, along with the realm of the unknown that is so soundly based in human ignorance, may forever remain the hiding places of religion.

In light of these faith based systems of belief, I shall once again note that religion ‘happens to’ its adherents as a result of circumstance, far more often than through a genuinely informed choice. Most religious people could just as easily have been born into another religion, particularly given the global patterns of indoctrination that we can observe. This commonplace pattern of religion resulting from circumstance provides us with a significant cause for doubt in faith itself, particularly given the clear vulnerability of our minds to beliefs of these kinds. A person’s faith cannot be seen as a justification of one specific religion if it could just as easily have been directed towards a completely different religion. Yet it seems to be part of the nature of blind faith that it is able to support religious belief in the face of all evidence.

If you thus remain religious through faith, I hope that I have at least enriched your understanding of some of the alternate perspectives on the nature of reality. If
you have religious faith and you encounter another person who likewise justifies their view by faith, it is worth recognising that their choice is no different to yours. When faithful folk encounter other faithful folk suicide bombing sky scrapers or shooting abortion doctors, at least they can be very, understanding of each others motives and actions.

I would posit, on the above bases, that faith is neither acceptable as a guideline for thoughts nor for actions. Faith is completely unreliable, yet is treated with utter certainty. Faith can be dangerous and even deadly. Faith can lead people to diverse ends that may be in complete conflict with one another, often leaving no room for rational debate. To continue advocating this emotion in support of religion is patently irrational and morally irresponsible.

Where's the Proof?
While I continue to argue that faith is blind and thus cannot distinguish one religion from another, I must admit that atheism can no more be proven in an absolute sense than religion. With only a moment’s reflection upon what I should think of religion, it is thus clearly the agnostic position – stating that we cannot know whether there is truth to religion – rather than the atheistic one, that remains the only position that can be held if we require direct causal evidence for our claims. Supernatural forces cannot be tested; therefore we cannot deduce the truth or falsehood of their existence. On the surface, this is fine by me, as agnosticism and atheism are almost identical as worldviews in terms of how they influence our thoughts and actions. In short they don’t influence us at all, except in so far as they both relegate religious philosophy to being treated as at least as mundane and fallible as any other area of knowledge, if not far more fallible due to its tendency towards antiquitous iniquities.

Regardless of which worldviews we individually happen to see as most accurately interpreting reality or which ideas are most appealing to us, for our
species as a whole, I would continue to argue that it is in our best interests to base our moral actions upon that which we have evidence for. I might think that atheism is correct, an agnostic might maintain that we cannot know if there is a supernatural side to reality or not, you might think that we’re all just parts of the supreme cosmic beings collectively known as Krishwehbub or someone else might imagine that she’s a goldfish tree and that we’re all just the tasty figments of her imagination. Whatever the case, as all claims that attempt to define the supernatural are untestable, it seems inappropriate to use them to guide our moral actions, as these actions affect others. Surely we should not restrict the freedoms of others or worse still, cause them harm on a basis that we can neither verify nor justify. For any action that impacts upon another sentient, we should base our decisions upon that which we can agree upon. If we are to cooperate rather than conflict, it seems only practical for us to put aside our personal untestable opinions, whatever they might be.

**Atheism**

If faith is the sea and evidence against it is a rock, perhaps a trilobite fossil, we can imagine the rock being dropped into the sea, swallowed up, ignored, the water reforming around it as it vanishes from sight. Perhaps enough evidence can fill in the sea but really, the sea is in the mind; it can be as deep as desire. In the end, each of us chooses how we see the sea and whether it shall dry up, freeze over or envelop the universe.

**Religions are Cultural Constructs**

While a minimal assessment of our inability to measure the supernatural precipitates in the finding that we are unable to determine the truth or falsehood of religion, a

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Religious belief = Supernatural belief = Superstition = Falsehood.
more in depth investigation, such as I hope you have found in the chapters of this book, leads us to a stronger conclusion. Not only does the supernatural appear to be causally impotent and thus untestable, but also beyond this agnostic doubt, spread throughout the sciences and studies of our race in its tiny world, we as a species have developed a detailed account of how human religious beliefs, many of them proven to be false, have been developed and perpetuated through human culture. Not only is religious belief brought into doubt by the lack of evidence inherent in its untestable nature, it can be completely explained by other forms of human knowledge. To justify being religious, a person may view the world from a certain limited perspective, whilst remaining ignorant of the causes of their belief. To justify being an atheist, a person must understand and accept mundane explanations for religious belief in addition to accepting natural explanations for the broader reality that confronts us.

For me, atheism is an incredibly well supported interpretation of reality, even though it must necessarily be constructed indirectly via inference and thus cannot be verified empirically. Atheism would be defeated if there was evidence to contradict it, but all experience indicates that evidence of this kind, supernatural evidence, is not actually able to exist. There is no evidence to suggest that we live in a supernatural universe; however we do live in a superstitious world.

Religions as a set of belief structures can all be explained as patterns of superstition. The evidence for superstition is undeniable and saturates human culture, as it has done since prehistoric times. The paths of the histories of myth and religion can be traced and studied as massive memes or even whole cultures of superstition. Specific religious beliefs are the products of emotions and mental processes, which can in turn be explained. Our brains are also prone to making the sorts of mistakes that lead to belief in magic, illusion and superstitions such as

As we are not omniscient, the evidence for atheism is comparable to the evidence for evolution, essentially limited to inference, yet so comprehensive as to be overwhelming. While evolution theory initially exchanged broadsides with religion, refuting creationism, atheism confronts religion – one of the most popular kinds of belief in the history of our species – head on.
religion. Religious belief is not just belief without causal evidence, but it persists in spite of extremely strong correlational evidence against it. To be fair to religious people, they are of course frequently unaware of much of this evidence.

In so far as I am epistemologically inclined to believe in anything at all, I am an atheist. All my experience indicates the truth of my belief that I am sitting on a chair; likewise all of my experience indicates the truth of my belief that there are no gods, ghosts, goblins, ghousls, griffons, gretchins, gremlins, gnomes or anything else that might be regarded as supernatural outside of fiction, imagination and superstition. I am able to imagine events that might modify my belief structure to include supernatural objects, but in the universe that I have observed and studied, the apparent probability of any such events actually occurring, is zero.

A Clean Slate
Atheism offers a clean slate where religion and its influence are concerned, as atheism cannot be used to directly justify any of the behaviours that religion is responsible for by itself. In this way, atheism removes the potential of religion to justify and motivate dangerous, destructive or dubious behaviours such as trusting prayer over medicine to save a child’s life, suicide bombing or voting at the pope’s whim.

All is not tea and scones however. If there are no magical sky beings to tell us what to do, we suddenly become responsible for all of our own thoughts and actions. In some respects the atheistic worldview may also appear to be rather bleak when left to its own devices. Religions at least appear to have served some important positive purposes, which are likely to be noticed in their absence; morality and meaning in life certainly stand out amongst the crowd. Religion appears to be capable of giving at least an illusion of both, while atheism alone can give neither.

“Atheist, n. A person to be pitied in that he is unable to believe things for which there is no evidence, and who has thus deprived himself of a convenient means of feeling superior to others.” Chaz Bufe, *The American Heretic’s Dictionary*. 
4. The Void

"When a man is freed of religion, he has a better chance to live a normal and wholesome life." Sigmund Freud.
Running on Emptiness

If I have failed to convince you of the validity of the atheistic or at least the agnostic position, I hope that you can now at least better entertain the notion that your beliefs may be incorrect, as there are many at least equally unverifiable, yet distinct alternative belief structures that relate to religion. Given the fact that any given religion could be wrong and the further fact that supernatural forces in general have no observable relationship with reality, it seems unreasonable to subject others to religious ideals. As religions are not based upon verifiable evidence, we cannot expect that they should be used to form moral codes or social structures that might be universally accepted. Where morality is concerned, we need to find some form of common ground if we are to cooperate, rather than conflict with each other. Accordingly, the final part of this book, as it relates to the discussion of secular motivation and particularly secular morality, will remain highly relevant to religious and non-religious readers alike.

What’s Missing?

Atheism alone is certainly not able to answer all the questions that we might ask or to deal with all the problems that we might face in our lives. Religious belief generally forms a larger part of an individual’s worldview than atheism can, as religions grapple with many of life’s apparent problems. Obviously this must not be taken to mean that we should ignore the problems that are actually caused by religions, some of which have been discussed previously. Even given their various shortcomings, for many people religions at least appear to serve some useful purposes, which I think need to be accounted for under any non-religious worldview.

Removing religion whilst ignoring its various productive roles by no means provides us with any assurance of societal improvement in all situations. By

‘If you need a magic carrot in the sky to make you behave decently towards other people, this speaks poorly of you as a person.’
themselves, atheism and agnosticism are amoral and thus religious people often seem to fear the world that these views might lead to, apparently devoid of any moral compass. Religion could be seen as a poor moral government, with its removal leaving a power vacuum. Poorly governed morals might easily be less of a problem than completely ungoverned morals however. On a number of occasions I’ve seen or heard a religious person relate words to the effect that their faith provided the only reason for them not to act immorally in some way. It is always unfortunate to hear such poorly considered claims; I at least hope that they are not true. It seems quite likely however that many religious individuals have failed to consider the alternative secular reasons for moral behaviour, simply because they rely so absolutely upon their faith for this end. Due to its historical dominance in many cultures, religion has often been relied upon exclusively by societies or nations for moral guidance and for a sense of direction in life. This is so much the case that alternative philosophies are often essentially unknown where religious belief has been the norm.

At an even more fundamental level than that of our social interactions, religion may provide many individuals with a sense of direction, hope or other pleasures. For many people, it may be difficult to imagine how they could experience these feelings or even live without faith. Removing the asbestos sheeting from your roof may seem like a bad idea if you know of no other way of protecting yourself from the freezing weather outside. Given this consideration, to write a book designed to end religious belief, without acknowledging the role that it plays in many peoples’ lives and discussing some of the alternative sources of meaning and morality would at least be somewhat irresponsible.

If religion is removed, a void is created, but it is a void that can be filled.

“That there is no sensation itself is happiness.” Sariputra.
Hopes and Dreams

If religions are false, this life is not just a means to an ultimate end; life in fact contains all the immediately personal ends that we shall ever have. The ends of our lives are the ends of our existences. For someone leaving a religion that has led them to pursue eternal life, the dawning notion of the finality of death might be a cause of considerable discomfort or even dismay. The end of religion could be seen as a snatching away of their dreams of immortality, to be replaced by an inexorable death march towards an abyss that draws ever closer, perhaps not even visible until it’s too late.

The realisation of mortality is reasonably feared and may be quite a traumatic experience for a person. This fear seems to be hard wired into our psychological makeup; particularly once we understand death, it naturally becomes something that we try very hard to avoid. At the risk of stating the mind bendingly obvious, there are excellent evolutionary reasons for this fear; most notably, if we are dead there is likely to be a significant reduction in the chance that we will be able to survive and reproduce.

For some religious people, the greatest reason for their faith is the comfort that it brings, in masking life’s pains. Not wishing to offend, I am minded by such folk of nothing so much as myself as a small child, hiding under my blankets from the anxiety of the unknown, in my darkened bedroom. It didn’t make sense that the blanket could protect me from the horrors of my imagination, whether a would be tiger or some other unknown entity but I hid all the same, as my blankets provided an intuitive illusion of safety. Out of sight is often out of mind for small children. It is with a similarly irrational bent that many an adult hides beneath a blanket of faith. While religion provides an impression of immortality, this is only an illusion. The finality of death has always been the reality.

Buddhism can give the impression of satiety via the suppression of emotion. Yet while emotions may be unpleasant, there is no reason that we should necessarily accept satiety or tranquility as being universally ideal, any more than we should the pursuit of personal pleasure.
Believing Disorders

To develop our understanding of how the illusions of religion might be seen as relatively worthless in reality, we shall trace or retrace the connections between religious emotion and a couple of the more unfortunate malfunctions of our drives and their resultant patterns of behaviour. It is always saddening to observe obesity resulting from depression. Humans, particularly children, have a need for love but sometimes we don’t receive it. It might be that someone doesn’t get enough love, they may feel unloved by the people that are most important to them, perhaps they are depressed as a result of negative social experiences amongst their peers or are confronted by some other difficulty. Due to the subconscious experience that food brings pleasure, depressed people may begin to habitually placate their desire for love with the satiation of their appetite, causing an unhealthy increase in their body fat.

These depressive cycles of over-eating and obesity are similar to religion when it is rationalised as a comfort provider. In each case, a combination of biology and environment create a situation that the organism perceives as being detrimental; fear of death or perhaps need for love in the case of religion and similarly a hunger for love in the case of some eating disorders. An apparent solution is found in either food or some form of magic and comes to be associated with the defeat of the undesirable situation. In each case, other detrimental side effects may be associated with the chosen solution, but these are ignored, being subconsciously or consciously overridden on the grounds that the apparent path to the organism’s well-being is more important.

Always I find there are toes to be stepped upon if I thread my words carelessly. Of course if you really enjoy your food, perhaps if you are a chef for example, you may view having a high body mass along with its associated health

To me, life is more beautiful because it is fragile.
risks as a necessary evil or a worthwhile and pleasant lifestyle choice; the place for this discussion is elsewhere however. Taken as disorders, both obesity and religion appear to improve and yet may actually worsen the lives of those that they affect. An individual may perceive a net gain; there may in fact be a net gain from certain perspectives; but in both cases the response to the situation is inappropriate. There are superior options available.

The Opium of the People

I cannot very well continue comparing religions to drug addictions without giving credit to Karl Marx for one of his more popular ideas. When Marx wrote that religion ‘is the opium of the people,’ he was probably referring more to the way in which opium has been used to exploit the poor, than to its physiological significance, so I may be removing his excellent metaphor from its original context slightly, in order to use it here. However some metaphors cut too close to the bone to be ignored.

The patterns observed in opiate addiction are highly comparable to religious belief, not just superficially but also at the deeper level of how they can interact with our drives and emotions. Many religious people describe their belief as meeting a basic human ‘need’, set of needs or desires in the same way as a heroin addict might feel that they need their drug of dependence. Opiate use adds something completely artificial to the nervous system, creating an illusion of pleasure through the suppression of pain. The use of such drugs can create a perceived physiological ‘need’ for their continued use if the body develops a dependence upon them; so drug use can come to feel like a ‘normal’ or desirable part of bodily function.

In the same way, religion can significantly increase an individual’s perception that they need the comforts that their religion appears to provide, particularly when a religion is practiced over an extended period of time. The situations leading to and encouraging these behaviours will of course often be fairly complex; for example

If you realise that opium’s pleasure is just an illusion and use it in a controlled manner, it may not be particularly dangerous. If you realise that religion’s pleasure is just an illusion and practice it in a controlled manner, it may not be particularly dangerous. In both cases however, control may not always be possible.
people might use drugs socially, just as people tend to practice religion socially. Whatever the circumstances, the core pattern to be aware of here is that the organism may become attuned to the use of certain substances or accustomed to religious ideas, in such a way that their presence comes to be perceived as normal or desirable, while reality may contrast starkly with this perception.

People have been known to inflict all manner of suffering upon themselves or others in order to meet the apparent needs of their addictions. Just as some people will occasionally steal or perhaps even kill to support a drug habit, some individuals will occasionally kill, be killed or perhaps just vote differently in order to meet their perceived religious needs. In each case, an artificial stimulus is causing a person to act in a way that they wouldn’t otherwise, although again in both cases they may utterly fail to comprehend this pattern.

Misappropriation of Drives

Emotions serve a variety of purposes in our brains, motivating behaviours that have proven or that might prove to be evolutionarily or experientially beneficial. We must be aware however that our experiences can be misleading, just as our natural inclinations can actually be detrimental to our well-being. There is a common misconception that just because something feels pleasant or natural that it is necessarily a good idea, however there are plenty of exceptions to this fallacy. We have already dealt generally with how our emotions can mislead us through chemical addictions; so let us now look more directly at the religious misdirection of emotion.

For some folk, religion provides an invulnerable sense of hope, yet in reality this hope is unjustified and can easily mislead our actions. If you find yourself in a gas chamber, choking to death, it is in many respects appropriate that you should be dismayed. You may take fleeting solace in the fact that you are not the monster without, obliterating beauty; you might find a moment’s respite in attempting to

Taking drugs without understanding them can be a bit like driving a car without knowing how.
To take another example, upon their deathbeds, many religious people appear to have cause for hope in their personal future, while an atheist in the same position does not. However a hope based upon a false belief is utterly unjustified. To put this in another way, if your doctor expected you to die overnight, would you rather that she lied to you that you should recover or tell you the truth, so that you might forever farewell your friends and loved ones? To me at least, the illusion of the doctor’s lie seems an undesirable (and unethical) option; I would much rather know what was likely to happen, so that I might act accordingly.

A peculiarity of Jehovah’s Witnesses that I find distressing and morally unacceptable is that some followers of this faith see it as being more appropriate to pray for their child’s or a loved one’s health, than to allow that they should be given proper medical attention. The idea that people should ‘put their trust in Jehovah’, is potentially quite dangerous in a medical situation. This behaviour would be incredibly irresponsible if these religious people understood what they were doing, yet they appear to think that they are doing the right thing by themselves or those in their care. To make matters worse, religious members of society give at least tacit agreement with the religious motivations of the Witnesses through their acceptance of unfounded faith.

Our emotions are a natural part of being human, they often lead to excellence in human behaviour but they can also be misleading, dangerous and even deadly. The fact that something feels good, right or natural does not necessarily make it

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A Positive Perspective: To be free of religion is take one’s first breath of reality, to realise what it is to live.
desirable or true. Even seemingly positive emotions like hope, love and trust are not always appropriate and can lead us or those around us, into harm’s way. Religions often encourage emotional behaviours, ranging from fantastic to terrifying, but these can be broken down and their individual worth or worthlessness can be assessed. As with other thoughts, emotions seem to bring us the greatest benefit when they are understood and examined critically in their broader contexts, taking all relevant information into account.

To Lose an Error is to Learn

While religions may appear to provide for a range of needs, many of these apparent needs are in fact nothing more than the products of the religious belief structures themselves. In reality, to lose religion is to lose nothing at all but to be liberated from an illusion, thus there is no reason that a feeling of loss should be associated with this newfound freedom. A conscious understanding of the falsehood of religion is useful in overcoming the subconscious feelings associated with its loss. In light of this understanding, some people may even be happy to be free of the fear of being condemned to enduring eternal hellfire, which a few religions seem to imply is the probable destiny of the dead. Others might simply be content to be reconciled with reality. While religions might appear to deal with many emotional issues in the lives of their adherents, superstition cannot provide any real answers to our problems.

Of course in religion’s absence, our lives still need direction of some kind and we still have to deal with the complex web of our emotions. Understanding of thought and emotion can be critical to our sense of well-being and thus also to our relationships and social interactions. By happy happenstance we have already addressed these topics to a limited extent, although not with a view to their management. Through understanding and awareness of emotion, we will be less likely to be controlled by it. One could liken the control of emotion to riding atop a

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Biological extremists:
Which species is most despicable and capable of horror?
Which species is most intelligent and capable of beauty?
river in a kayak rather than being swept along helplessly in the current. Another crucial aspect to dealing with emotion effectively is that of taking responsibility for it, not only our own but by also of trying to understand why someone else might be feeling what they are feeling, through empathy, sympathy and communication. There’s a lot to think about.

Unfortunately however, a complete guide to dealing with emotion is far beyond the scope of this book. Useful sources of further reading can be found in great number, throughout psychological and philosophical literature. I would even personally recommend perusing Buddhist philosophy where emotion is concerned, although the ideas of Buddhism should be treated individually as the ideas of normal, fallible humans, just as one might deal cautiously with the ideas in this or any book. There shall be a little more on the secular value of religious philosophy later; for now we have bigger fish to [observe peacefully without] fry[ing].

The Meaning of Life

Drifting back to bed again, one night in a cabin upon a windswept sub-alpine field, this time as a slightly larger child than the one that hid his head under the blankets, I have clear recollections of crying myself to sleep amidst a developing awareness of my mortality. My father came to my aid, although I don’t recall him having had much to say, except that I was too young to be thinking about such things. A void, a philosophical gap, appears to be present in cultures where religions have given life meaning in the past. Even though religion seems to provide and perpetuate only useless illusions of comfort, we still seek direction in our lives, yet we often fail to contemplate or discuss this topic explicitly.

“One is one’s own refuge, who else could be the refuge?” Siddhārtha Gotama.
In minds where religion has been extinguished, undermined by science and buried under mountains of contrary evidence, it might seem that we are left drifting pointlessly through space on this pretty blue rock. As I grew up, I was able to gradually develop my thoughts on this subject, a luxury that someone being dragged directly from a religious daydream into a stark secular reality may not have. Even for me however, this problem remained unsolved throughout adolescence and into early adulthood; life seemed to be essentially meaningless; not an uncommon dilemma at such ages or so I’ve heard. Early on, all I had to motivate myself was the pursuit of pleasure and the avoidance of pain, to follow the natural drives of my organism in its context, but this never seemed to give life a ‘true’ meaning as such. It still doesn’t.

If we launch our enquiry into what ‘the meaning of life’ is; it seems that we may have already made two rather unwarranted assumptions. We may have presupposed both that there is a single meaning rather than multiple meanings and we may also have neglected the possibility that there is no meaning at all in any absolute sense. To criticise science or advocate religion on the basis of the claim that they either fail or succeed in giving life apparent purpose, is a bit like saying that science fails because it doesn’t tell us that the moon has a purpose or that religion succeeds as it tells us that the purpose of the moon is to help us keep track of time and perhaps to make the nighttime just that little bit shinier. I’m just going to throw this out there, as yet another piece of scientifically driven conjecture, but there seems to be no reason to imagine that the moon is anything more than an exceptionally large rock, with a number of interesting characteristics such as that it influences the tides and orbits our planet in a predictable fashion. If we want to put life in a subjectively favourable light, we might see ourselves as being the ‘best chemical reaction ever’, or most interesting set of reactions at any rate; neither meaning nor absolute purpose enter into it however.

“Will like any other thought is conditioned by our biology and environment.” Walpola Rahula.
‘The meaning of life’, as it is frequently regarded, is a paradox. As we are the products of an uncaring universe, there is no absolute meaning to life, no greater purpose or anything of the sort. We have every reason to believe that everything we do may eventually come to nothing and that our species along with all life shall eventually become extinct. This outlook may seem bleak, however it is simply an aspect of reality; one that we can get used to and learn to work with. It’s merely a matter of perspective.

For someone who spends all of their time in abject terror of their impending mortal doom, life may well be rather miserable. As we are confronted by no less than two empty eternities however, one in which we weren’t alive and another in which we shall be dead, it makes rather a lot of sense to focus our thoughts upon our extremely finite lives while we are able to do so. I would suggest that while death is one important consideration, that it is only a small part of life. There are far more pleasant ways for us to direct our attentions.

Understanding Life

If we wish to know what life means, as far as it can be said to mean anything, we need to understand it. Fortunately, understanding is an end that we are able to pursue with a considerable degree of success, primarily thanks to the sciences and other fields of study. Modern humanity is the product of a number of patterns, the most important of which have been mentioned in previous chapters. Amongst these patterns, the three that stand out are the history of the universe, the evolution of life on earth and the development of human culture. While a desire for understanding alone gives many individuals a profound sense of direction, there is no need for us to be limited to such academic pursuits, although in my experience, new knowledge and experiences are almost always life enriching.

―“Your work is to discover your work and then with all your heart give yourself to it.” Siddhārtha Gautama.
At a certain critical level we cannot overlook the explanations provided by evolutionary processes as to why we are here. Along with the other fields of study that help to provide their context, evolutionary processes explain our existence more or less completely. Perhaps a more interesting and troubling question is why should we ever do anything at all once we come to understand that we have simply evolved through a series of connected events. If we look only at biological evolution, some might reach the conclusion that our purpose is simply to survive and reproduce. This is not a purpose per se; rather it is simply a product of evolutionary circumstance. To claim that our evolutionary drives provide us with an absolute purpose is akin to claiming that it is the purpose of rounded rocks to roll down hills and the purpose of flat rocks to sit still or maybe slide a little on occasion. As they have both merely evolved through natural processes, neither man nor rock has any purpose as such, only circumstantial tendencies for certain behaviours. These tendencies do not even dictate our best interests, let alone meaning. If the rock continues on its path rolling down the hill, it may shatter and end up in a river. In this case, its purpose does not suddenly change to becoming the best dam gravel it can be, it never had any purpose, it is just rock as we are just humans.

We derive apparent meanings of words or other thoughts from their contexts and relationships, thus in a sense, as we come to better understand our surroundings, our lives will become more meaningful. As the temperaments and experiences of individuals vary tremendously, it should not surprise us that the ways in which people interpret life are accordingly diverse. We can learn from each other and benefit from understanding alternate perspectives in different cultures and from different individuals. Just as with learning through the sciences, it is my impression that such learning or sharing of ideas with others is almost always worthwhile as it increases our understanding of our fellow beings and opens new options to us.

Eventually, we each have to make our own meaning however, to find a sense of self definition and direction. I can tell you some of the ways in which I define
myself and discuss how one might go about it but in the end there is no absolutely right or wrong way to live. Of course, how each of us interprets life’s meaning will have significant implications for our experiences and actions, including those actions that affect others. These topics are well worth contemplating regularly, as they stand to form the foundation of all of an individual’s thought and philosophy.

Our world is rather special, as matter here follows patterns that it has not followed anywhere else in the universe as far as we are currently aware. In a way, our minds are more powerful than the brightest stars, as stars cannot think. As Carl Sagan put it, “we are a way for the cosmos to know itself.” We clearly develop reciprocal relationships with our environments as we attempt to make meaning out of our lives. Our brains construct meaning through every experience that we have and every interaction that we choose. Perhaps I can provide a little inspiration to those who might want it as to what some of these interactions might be. As I would not presume to know completely or be able to tell anyone totally how to best live his or her life, I can only suggest here how we might manage our motivations.

Thirty Thousand Days Under the Sky

As I hail from a reasonably well developed country and background, I can expect to travel around the sun roughly eighty times before I die, twirling upon the earth’s axis about three hundred and sixty five times for each orbit. If I’m a little generous, this will give me approximately thirty thousand days to live; well at least that’s what I might have started with. While I can behave in ways that might extend my lifespan, there’s no way of telling for certain how long it will actually be. This numerical perspective may seem unhelpful until we begin to look at what it is that we actually wish to do with our finite existences.

We might wonder whether to pursue length of life or intensity of experience more fervently. Fractal patterns similar to those seen in spiraling snail shells and fern

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“Hatred is never appeased by hatred in this world; it is appeased by love.” Siddhārtha Gotama, *The Dhammapada.*

“Don’t waste your time or time will waste you.” Muse.
fronds may provide an apt analogy to stimulate our thoughts here, as these nested patterns can theoretically be equally beautiful at any scale; this source of abstract inspiration might lead us to focus first and foremost upon living well. Yet as a longer life will clearly give us more opportunities to have a variety of positive experiences, both quality and quantity in life seem to be of value, each being necessary for the other to be seen as worthwhile.

If we were all immortal, as some might wish to be, we’d still want for motivations within eternity. Presuming that eternal life of some kind is desirable, whatever it is that we would have wished to do with eternity can still be pursued within our own finite existences. In a way, our mortality causes each day to become infinitely more valuable; if our lifetimes are all that we have to work with then every moment must be cherished and spent wisely. This positive outlook on our finite lives is drawn from a simple shift in perspective on available time, which appears to be a major difference between many religious and secular perspectives; however there are many considerations in life as to how we should spend our precious time.

I Am an Animal

The wee birdies in the trees appear to want for neither motivation nor merriment. They possess all the simple motivations of animals; motivations that we too have to pursue and can find fulfilling. Birds build nests, while humans build houses. Birds lay eggs, while humans lay babies. *Nicht andere*. In both organismic groups, instincts appear to be similarly powerful. For me, the development of an understanding of the processes involved in our drives is in itself fascinating and makes participating in them more enjoyable, rather than less. Furthermore, our powerful brains enable us to resolve problems in a far more emotionally agreeable manner than birds might. While two different species of bird might breed as fast as they could, warring for food and territory, humans are at least technically able to reach an alternative solution, such as
sharing the land and limiting our birth rates so as to manage our population without conflict.

There is nothing necessarily wrong with following our natural drives any more than there is necessarily anything right about them. There’s nothing necessarily wrong with being animals, particularly if we are able to understand our drives and desires, so as to manage them to the advantage of all.

We must take care when allowing our emotions to motivate us, as we are well aware of their potential pitfalls. Ill considered generalisations can be our worst enemies in dealing with emotion. One might claim that everything should be viewed positively and that negative emotions have no productive purpose. Yet this seductive attitude would be vulnerable to glossing over problems and turning a blind eye to atrocities. While our emotions can mislead our actions into harming others or ourselves, they have evolved due to their value in nature.

If they are well managed, emotions can be useful tools for directing our thoughts and actions. Upon consideration, I find no harm in the fact that I ‘hate’ it when I lose my train of thought while trying to mentally juggle ideas. In this case, the emotional unpleasantness of losing an idea motivates me to write my thoughts down whenever possible. On the other hand, in almost any imaginable social situation, it seems best that I should view hatred as something to be avoided and overridden entirely, as a dangerous relic of my evolutionary ancestry. We must remember that even love can be dangerously divisive if it is directed towards some but not others. Once again, the better our understanding of each complex situation, the better we may be able to cope with it.

To some unfortunate folk, negative emotion can become so overpowering that they might even contemplate ending their lives. This seems an undesirable choice, as death will always be an option, whereas life is limited. Of course, suicide is each person’s potential choice, but not one that we can live to regret or repair. In

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If the illusions of drug use can be inappropriately short sighted, religious illusions can be inappropriately far sighted.
cases where someone has a responsibility towards children or other dependents, I would argue that suicide is morally inappropriate. Negative emotions themselves can also be managed in various ways; through the conscious focusing of thought, shifts in perspective, meditation or in some cases prescription drugs may provide a suitable remedy. If you are ever uninspired, perhaps consider trying something new or finding out what others enjoy. Life is too short that we should ever allow it to become devoid of direction. Without the beholder, there is no beauty. Each of us is perched perpetually upon the brink of nothingness, amidst which life is but a spotlight of exquisite consciousness, wherein we may dance briefly with infinity before we fade and are gone forever.

**Meaningful Relationships**

It is essential that we be aware that our happiness is dictated by our interactions, both internal and external. We live in a symbiotic relationship of sorts with our environment. Due to our collective social and environmental interdependence and interconnectedness, we would do well to be keenly aware of the impacts that our actions will have upon other organisms and other features of our environment just as we might encourage others to be aware of how their actions will affect us. As our context is continuous in time, we could extend this to include consideration of all organisms, both in the present and the future. As far as life can be seen to have any meaning, we may define ourselves via our contextual functionality, including our interactions with our societies and environments. As far as our interactions with others are concerned, we will often find that our world is what we make of it.

In the ‘grand scheme’ of things, there is little or nothing that might objectively make our personal drives more important than those of a laboratory rat. From a subjective perspective however, the difference is obviously far greater. We might live longer than rats and tend to possess a more detailed understanding of our worlds,

Often, humans seem to love that which is hateful and hate that which might be lovable.
but in the end we can only favour ourselves over rats for selfish reasons, just as rats
would doubtless favour themselves if they had the option to do so. Selfishness
comes naturally to us; we often seem to favour self over other, friend over foe,
human over non-human and so on. In the past, survival of the fittest has often meant
survival of the most cunning, aggressive or bloodthirsty. It seems unavoidable that
there will be circumstances under which some humans will find it advantageous to
harm other humans and animals. I shall discuss the moral implications of this issue
shortly, although for now, self interest makes an interesting additions to the
discussion of our social interactions in the broader contexts of our lives.

Our personal perspectives and values impact significantly upon our social
interactions and thus our life experiences. Trying to understand these situations in
their global entireties is incredibly difficult, so we may often try to make
generalisations about how it is best to behave. Such generalisations frequently add
to the appeal of religions where they may be treated as moral absolutes, giving
emotionally appealing answers to what may seem to be insurmountably complex
questions. One secular generalisation of this kind is that ‘all we need is love’, or
another ideal that I find somewhat appealing is that of ‘peace, love and
understanding/unity’. Julian Short claims that “The most powerful role for a human
being is to be the giver of love”

Such altruistic attitudes can take us a very long way towards what might be
regarded as an ideal situation, perhaps overcoming our natural inclinations, yet we
need to be aware that these simplistic ideals are also prone to failure. Take the
alarming recent example of Nazi Germany, not that it is the most recent by any
means. A peaceful acceptance of Nazi rule seems almost unthinkable given what
they would have done to the Jews, gypsies and homosexuals at very least.

Generalisations can provide us with interesting ideas or useful guidelines, but must
always be viewed critically in light of their broader contexts. Nonetheless, in a world where such simple ideals as peace, love and understanding had been practiced by and extended to all people, the Second World War would not have been able to occur, so it seems to be worth keeping them in mind.

The application of universal love may prove difficult in reality, however the ideal itself retains its potential usefulness. Love may even be of value in war, in ensuring that both sides treat each other as well as possible under the circumstances. In some situations, where aggressors or tyrants prove to be sufficiently hostile and incorrigible, other nations or groups may choose to go to war against them out of compassion for those being caused to suffer. Altruistic ideals continue to be useful throughout such conflicts, for example the fact that one is at war doesn’t mean that captured soldiers should be treated any less humanely than allies or that foreign civilians should be cared for less than civilians from one’s own neighbourhood.

When a person acts in a manner that we find offensive or dangerous, we may be emotionally compelled to retaliate in a similar way, perhaps to protect ourselves or to discourage a repeat offense. However, it will usually be worth trying to understand the offender, respecting the fact that they have an agenda of their own and that at some point we might find ourselves in their situation. In any case, we must try to develop an awareness of the practical implications of our actions. Perhaps our desires lead each of us towards what we see as an ideal situation. If this is the case, we would do well to consider the most ideal means by which we might work towards our most ideal ends, given that reality is a process in which many different beings interact rather than an ideal state such as we might imagine. Again we shall return to addressing these issues of the meaning of our social interactions in the context of morality, although it is worth being aware of their inextricable relevance to both contexts. For most of us, morality is one of the most important facets of life.

*“People think love is an emotion, love is good sense.” Ken Kesey.
Benevolent euphoria is a positive experience.*
One final, rather ancient idea relating to our social interactions is that fame never dies and thus that it is able to offer a kind of immortality. Of course it seems impossible that any kind of fame should be truly immortal, particularly given the sorts of predictions that cosmologists tend to make as to the eventual fate of our sun, galaxy and the universe in general. However fame does seem to last at least a little longer than the average monkey, so someone might find the pursuit of fame fulfilling as the perpetuation of their ego’s imprint upon reality. While I may not see posthumous fame as being intrinsically valuable, I would acknowledge that such fame is often indicative of the passing of a fulfilling life. Nonetheless, I would side more with the Buddhist idea that as everything is impermanent, even through fame the pursuit of such social immortalisation is somewhat frivolous and romantic. Whatever social choices we make, our lives and actions take on a meaning of sorts within society for those people we influence.

Cannibalising Culture

Having so savagely assaulted religious belief, I would like to turn briefly to some examples of how religion can be used for secular inspiration in life, in the same ways as other fiction or literature. Whatever their content, religious stories can still be used to provoke thought, though our perspective in analysing them should as always be objective and critical. Whether fable, gospel, Veda or dreaming story, any myth we might choose can be examined in these ways. Religious myths are often interesting stories, due their emotional extremity and moral or immoral content. As religions are still very much alive and well in many places around the world, we can also learn about them in order to better understand the perspectives of the other inhabitants of our planet.

If religious myths inspire you, this is by no means necessarily problematic, so long as they are treated appropriately, as myths. The character Jesus in the Christian

Perhaps the greatest problem with religions is that people treat them religiously.
Bible might have been racist enough to compare a woman to a dog because she wasn’t Jewish, however some of the stories attached to him may at least be worth examining as they provide interesting moral viewpoints. Though Siddhattha Gautama apparently abandoned his young child and wife, albeit probably in financial security given that the guy was a prince, to become an ascetic, he actually had some pretty fantastic ideas. There are worse places to begin the exploration of morality and social interaction than through learning from religious stories, however it would be completely inappropriate to treat these religiously, as be all and end all fonts of wisdom on any topic area.

I’ll continue to use Buddhism as an example as it’s a personal favourite of mine. Mr Gautama had many reasonable ideas on how to live that we might examine; on what an adult should think in supporting his parents he is quoted as having said that, “Once supported by them, I will now be their support”. Such behaviours can work to everyone’s eventual advantage, as we shall all be weak at some stage in our lives. No matter how disadvantaged our backgrounds, we must have experienced some degree of nurture as children in order to have survived to adulthood; ours is a species where this is necessarily the case, our young cannot care for themselves. Likewise as we grow older, there is every chance that eventually we will need care of some kind to survive. As we experience this care, we could also see it as being desirable that we should return it, thus contributing to a system by which we might also hope to experience similar behaviours when we are ourselves in need. Again we can already see how our personal philosophies influence our moral outlooks. This simple mechanism of reciprocity will be taken further as we examine moral thought, in the next chapter.

At the times in which they lived, many religious figures were quite revolutionary in their thinking, often going against the main stream. In modern contexts however, given the progress that most societies have made, many of their

*“Long you live and high you fly and smiles you’ll give and tears you’ll cry and all you touch and all you see is all your life will ever be.”* Pink Floyd.
ideas have now become more dated than those that they were originally intended to replace. Particularly if we choose to present religious stories to younger people, we must take care to provide some kind of context in which the stories might be understood. Many older religious ideals are dangerously immoral; so much so that we might even use these as good examples of some of the horrors that are natural to human behaviour, to help explain to children that just because something feels right, it isn’t necessarily a good idea. To choose a religiously neutral example, we might discuss with a child how Goldilocks acted wrongly towards the three bears, by breaking and entering then stealing their precious oats. The interpretation of this story might thus go against a possible natural tendency to side with the girl as a human amongst monsters, depending upon how it was told. Any similar set of issues could of course be discussed with and contemplated by children or an adult reader in the case of religious myths.

A Window of Opportunity

While life has no absolute meaning or purpose, we can come to understand it extensively. We can define ourselves through our thoughts, experiences and actions, our impacts upon our world. What we make of life will depend heavily upon our perspective. Death can be viewed as the end of life or it can be viewed as the completion of life. As both are true, if happiness is valued it makes sense to ensure that one can continually be satisfied with the life which one has led, as well as working to avoid death as long as proves practical. We might wonder if our thirty thousand days are being spent wisely. As illness takes hold or death approaches, we might ask ourselves if we are happy with that which we have managed to achieve and experience. For certain, illness is to be avoided, but we must always entertain the possibility that illness or death might catch up with us, as they certainly shall eventually.
It may be useful to imagine ourselves as tiny points of consciousness flickering with variable intensities as the days and nights pass, before finally vanishing once more into the void. Each consciousness could be viewed metaphorically as an axis of infinity, connecting a brief bubble of infinite imaginative and perceptive potential with the spatiotemporally infinite but uncaring universe it forms a part of. When we communicate, these points of consciousness feed into each other. If I can sneak an element of my personal brand of morality into this analogy, when humans kill other beings, we are extinguishing points of consciousness, just like ourselves, intricate and fragile.

Everything is relative. Perspective is pivotal. If we focus fatalistically upon our finite existences, cosmic trivialities such as the personal pursuit of knowledge may appear to become utterly pointless in the grand scheme of things. If however we focus upon the potential of our life’s experiences and interactions as ends in themselves, or upon our contributions to still greater patterns of knowledge, culture and the lives of other beings, then these patterns can become things of great beauty and innate satisfaction.

Secular Moral Philosophy

The history of moral philosophy is a tale of romance and bloodshed told upon by the full force of human diversity, one that already fills many books. It is a tale that each of us contributes to throughout our lives, often unwittingly, through our thoughts and actions. Almost unavoidably when we interact with other sentients and sometimes even when we don’t, morality stirs. Over time, morality has become ingrained in human culture, to be taken for granted. Like many other kinds of thought, it could be said to have taken on a life of its own.

“Atheism leaves a man to sense, to philosophy, to natural piety, to laws, to reputation; all which may be guides to an outward moral virtue, though religion were not; but superstition dismounts all these, and erecteth an absolute monarchy, in the minds of men.” Francis Bacon.
Many intelligent animals have developed and communicated behaviours and conventions of interaction amongst themselves over generations, from bird songs, to mating dances and even tool use or hunting tactics in some species, but no species seem to exhibit behaviours comparably complex to those of humans. Before forces such as law and higher culture came into play, our ancestors would have lived in a ‘natural condition’ similar to that of other animals, a state of savage equality envisaged by Thomas Hobbes. As an aspect of culture, morality is not a necessary condition for being human, although it seems to be a conditioned necessity for living in any modern society. Let’s see if I can make it easy.

As a Stone Age hunter, let us imagine that I have captured an animal, for the sake of the argument a doe, which I intend to keep alive then eat during winter when food is scarce. A hunter from a neighbouring clan called Ray unwittingly spears the doe and this understandably upsets me as it interferes with my plans. My natural emotional reaction might be to angrily chase Ray as far into his territory as I am game to, perhaps even attack him or simply suffer the loss if he is larger than me. Yet presumably facilitated by language, imagination and reason, the possibility arises that Ray should compensate me for the damage he has caused to my property; so he might be obliged to give me another live deer or a suitable amount of fresh food a few months later on, so that I can eat it during the winter. These solutions would placate my anger by restoring my original designs relating to the doe and be far more desirable for all concerned than the alternatives of outright loss and conflict.

Due to their mutually advantageous nature, such methods of conflict resolution might rapidly have become conventional within a given tribal group. Over time, future generations may then have come to accept compensation as emotionally and experientially appropriate or ‘right’ for all intents and purposes. Had my tribe established a convention of killing people in retribution for theft due to the emotional
satisfaction of revenge, this might just as easily have seemed right to a Stone Age me.

Emotion and convention appear in the lead roles of the drama that we call morality, perhaps having given birth over time to ideas like absolute right and wrong, with the aid of cultural forces such as religion and law. Of course the reasoning that we know to be responsible for many of our modern moral values is a little more complex than Stone Age pay back, yet even in modern cases, moral values do not appear to exist outside of human, or perhaps animal thought. This has significant implications for moral discourse; if there are no moral absolutes or eternal truths to be discovered, every moral sentiment should be continually questioned and each assertion accounted for. To me, it seems an entirely desirable approach to morality that no action should be taken without a justification appropriate to its context.

Why Secular?

A massive body of literature has developed on moral philosophy over the last few centuries, although the discipline is thousands of years old, being well established at least as far back as the ancient Greek philosophers in the west for example. Religious arguments for morality have never been universally accepted, as they rely upon claims that vary from one religion to the next and of course cannot be proven. Thus at least in today’s pluralistic societies, those who have wished to discuss this topic in academic and to a lesser extent, public arenas have become increasingly restricted to using more widely acceptable secular justifications for their ideas. This secular approach has the potential for global appeal, as it requires that ideas should be justified in ways that everyone else can accept or at least evaluate. I would argue that this common basis for moral philosophy is also highly desirable, if not simply necessary to avoid conflict.

“There is nothing divine about morality, it is a purely human affair,” Albert Einstein.
On the other hand some religious people may see their beliefs as being necessary for morality. Given the frequency of religious conflict, I think it is safe to say that in many circumstances, religion can in fact significantly impede moral behaviour or result in extremely immoral behaviour, all the while claiming to be definitively moral. At least for those who see morality as contributing to the value of religion, this morality must also have its own intrinsic value. Of course, a secular approach to morality in no way prevents us from drawing upon the moral philosophy of any number of religions where they prove to be of universal use.

A secular perspective on morality makes us responsible for all our own thoughts and actions, rather than being able to absolve ourselves on the basis that we were just following the only truly divine doctrine. For those of us who maintain a secular worldview, secular reasoning will also allow us to develop views of morality that are based upon our actual contexts rather than some ancient perception of reality or morality. The development of a shared perception of reality, based in the knowledge of our fallibility, allows us to develop a shared understanding of morality under which we can cooperate. Secular reasoning is not a guarantee of moral behaviour, although it does provide a common ground for discussion that, taken collectively, religions can not.

**Idealism**

Existing in many forms, both religious and secular, idealism has been historically responsible for a great deal of suffering that might have been avoided. Absolutes and maxims may be emotionally appealing to humans in a similar way to religions, when they claim to provide the ‘right’ answers to moral questions. As we all have desires that we are subconsciously led to fulfil, our minds are constantly presented with a vague sense of direction. Ideals are polarised ideas while our thoughts seem naturally susceptible to polarisation through emotion. When ideals coincide with

Variety is the spice of life. If you are putting so much spice on your food that it kills people, this variety might be considered undesirable.
desires, people can become attracted to them like moths to a light bulb. Ideals may be reinforced by their successful application or simply as they appear to provide a solution for an existing moral problem. Due to their high emotional salience, the realisation of moral ideals may be profoundly satisfying, without actually being correct\textsuperscript{cclxiii} in any technical sense.

To be as perverse as possible, I would argue that while they are not necessarily correct, many ideals are extremely useful, some perhaps never actually proving harmful at all. Yet my experiences to date have led me to the conclusion that morality is too important to rely heavily upon ideals, as they can fail us if taken too far or if followed to the point where we lose sight of other considerations. To avoid the problems of idealism, every idea needs to be critically analysed for its practical implications; where morality is concerned the stakes are too high to do otherwise. Many examples are available to illustrate the fallibility of ideals.

There are several religious and philosophical ‘golden rules’ that may be useful in encouraging empathy in many situations, but cannot safely be applied in every situation. We find the Hindu notion that one should “Do not to others what ye do not wish done to yourself,” falling into this group along with Kant’s Categorical Imperative that one should “Act according to the maxim that you would wish all other rational people to follow, as if it were a universal law”\textsuperscript{cclxiv}, which provides us with a secular alternative. It might seem at first like a good idea that these ideals should be universally accepted. I might decide that ‘I don’t like being stabbed, therefore I shouldn’t stab people.’ If I extend these ideals to a different situation however, we immediately run into problems; ‘Tibu and I enjoy being hugged by random strangers, therefore it’s ok for us to hug anyone we should please.’ Even if we craftily reconstruct the maxim, as ‘Do unto others as they would have you do unto them,’ flaws remain readily apparent. Aside from not necessarily knowing what other people want, twelve seconds of deep contemplation leads me to imagine some unhappy

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Pragmatism: Moral actions should be directed by outcomes rather than ideals. While useful for focus, this still requires us to carefully and continually investigate what the most ideal outcomes are.
fellow sitting in the botanic gardens and asking me to shoot him, as he is unable to pull the trigger himself. Assisting him does not strike me as being the most morally desirable course of action available and would see me incarcerated for a lengthy period of time in my own country at very least.

Modern multiculturalism is a more commonplace example of an ideal that while generally highly desirable, can become morally problematic if taken to extremes. The appreciation of cultural diversity can bring great satisfaction, new knowledge and happiness to all parties concerned. However, the acceptance of cultural practices in the name of diversity need not be automatic, as there are other considerations that we might take into account. Human sacrifice is a prime example of a cultural practice that the vast majority of the world’s population may currently find horrific, yet one that has been common to dozens of cultures in centuries past. Likewise slavery, racism, the subjugation of women, religious practices such as female genital mutilation and religious indoctrination are all cultural practices that could be seen as normal from some perspectives, but either morally questionable or intolerable from others.

I’ve already mentioned how individual emotions might be perceived as good or bad, yet cannot be relied upon to be so in every situation. Love and courage have many uses, but they’re just emotions and can easily lead to senseless suffering. The terminology associated with morality is also often highly idealised, to the point where it may influence us to not actually think about the implications of our actions but only their superficial emotional appeal. People fight for their motherland or homeland, for freedom, equality, justice, right, good, against wrong, terror or evil, against enemies, rather than other people and frequently without understanding why they’re doing so. Language can be highly misleading and is continually used to manipulate people. Wars have been fought along such idealistic lines, with millions being killed; the Cold
War is a good general example including the wars in Korea and the American war in Vietnam, along with communist revolutions such as those in Russia and China.

The same thing goes for the language of rights. A ‘right to bear arms’, might have seemed like a great idea for self defence in a lawless land or for overthrowing the British oppressors, yet its value might at least be argued against if a society was ever to become developed. Language such as that used in the Universal Declaration of Human Rights is still useful, although we should recognise that such rights represent agreement amongst a given group that a particular statute should be legally maintained. I might agree with the first part of article twenty-six of the Declaration, that children have a right to free, compulsory education, although I take this to mean that I support the ideal that all children should be educated, not that there is some eternal truth to the matter. To justify my caution, I would point out that I happen to disagree with section three of the same article, which claims that “parents have a prior right to choose the kind of education that shall be given to their children”. Many might argue for the restriction of this ‘right’, if the parents wanted to have their children ‘educated’ by a modern version of the Hitler Youth.

Idealism seems prone to failure, due to its inability to cope with the dynamic complexity of morality. Perhaps we can compare morality to a plant, with complex needs; too much water, sunlight, shade, fertilizer, pruning or what have you may kill the plant or stunt its growth. To take this analogy a little further, we must remember that different species of plant have different needs and that if one plant grows too far then its neighbours may suffer or die.

Rights and ideals are constructed, not discovered and are only worthwhile as far as they prove to be of practical value to us. Reality is a process, not a state, thus we need to consider not only the most ideal ends but also to recognise that the means themselves are ends. As morality is connected with various aspects of human culture, thought and knowledge, we must continually review our moral notions in the

Let me be clear. If there are two males and two females, one male tries to live in peace but the other beats his skull in, the one that kills will survive and reproduce, carrying on the characteristic tendency for violence. This pattern of behaviour occurs in both history and nature. Ungoverned emotion does not reliably lead to morality.
light of their continually changing context. We can only act upon that which we know and we never know everything. Once again, the awareness of our ignorance is in many ways the most valuable piece of knowledge available to us. Where morality is concerned, an awareness of our fallibility is perhaps even more important than it might be to some scientists, simply because moral matters are so crucial to our lives.

Motivating Morality

We should not be surprised to discover fallibility’s accomplice ‘emotion’, intertwined with morality in a most inappropriate fashion. As with the fallibility of our ideas, emotion seems to simply be a reality of morality, rather than something that we might realistically hope to avoid. Felicitously, we also find that well managed emotions conspire with moral success with far greater frequency than with moral failures. Emotion, desire and especially self interest may seem like foolhardy motivations with which to direct our moral compasses, yet at least these are reliable aspects of human thought and behaviour, a common ground upon which moral structures may be built.

If we wish to understand and encourage morality, we must thus understand the nature of moral agents and double agents for that matter; that is to say that to understand morality, we must understand ourselves and in particular what makes us tick.

Self interest drives both moral and immoral behaviours. We also find that our already naturally diverse perceptions of self interest can be conditioned, manipulated, educated, reasoned with and otherwise modified towards a variety of ends. A number of important implications stem from these facts, although I shall not delve deeply into them here. At first we should be wary as to what factors may have biased our moral perceptions to date and particularly whether or more likely how, we have been manipulated towards the ends of others. Governments and religions, perhaps pursuing power or some illusory ideal, typically have a significant impact upon the

*Man’s position, according to Buddhism is supreme. Man is his own master, and there is no higher being or power that sits in judgment over his destiny.* Walpola Rahula.
moralties and other perceptions of their citizens and followers. It seems only logical to me that we should endeavour to educate ourselves as to what all of the alternative moral perspectives and indeed worldviews are, in order that we might accordingly pursue the ends most satisfactory to our temperaments and situations. I shall be returning to the issue of conditioning and its role in moral education a little later. For now however, I shall focus upon ways in which emotions might be allowed to influence morality.

Unguided, unguarded natural emotion cannot be relied upon to produce moral behaviour. Rape is incredibly common and we have little reason to imagine that it has ever been otherwise. The rapist acts upon natural lust, disregarding the impacts that their actions have upon their victim. This provides stand alone evidence that our natural emotions are most definitely not a reliable guide for morality. We can experience suffering, yet we do not directly experience the suffering of others. Therefore it may seem superficially logical that we should further our own ends as far as we are able, even at the expense of others, provided that this can be done without negative feedback. This final caveat is the catch however, as even if we can avoid direct consequences such as punishment or reproach, negative actions do have negative feedback upon the society of which we are a part. Actions in complex systems often have complex consequences.

Let us imagine that a dozen or so people have been shipwrecked upon an island. Life is tough, but the castaways manage to scrounge their subsistence from the surrounding shores and shoals. Now let us add to the mix that one of the castaways, called Bambi, decides to steal some cabbage that another islander has grown. This theft will have a number of impacts upon the social situation on the island. Most obviously Bambi, the thief, will gain cabbage, whilst the original cabbage owner shall lose it, perhaps mathematically producing a net effect of zero to the islanders as a group. However groups neither think nor feel; only the individuals

"Inaction is a weapon of mass destruction." Faithless.
within them do, so from another angle, one islander has lost, while another has
gained. It seems likely that the theft might also cause the islanders in general to
guard their respective holdings more closely, building fences and reducing leisure
time in favour of guard duty for example, so the theft would produce a significant loss
to the island society in terms of the resources that would need to be invested in
property protection. Bambi the thief may find this cost along with the general loss of
trust in the community insignificant in comparison with her gain at this stage; we may
assume that it is a remarkably fine cabbage that she has stolen.

Perhaps with the state of trust broken or simply for the sake of our discussion,
we may consider what might happen if more islanders started stealing. One steals
Bambi’s pet fish, another someone’s shiny seashells and yet another a basket of
delectable candied yams. An economy of theft seems to develop. All islanders rapidly
become likely to lose their possessions to theft and it seems that the more theft there
is, the less incentive there is to avoid stealing from others. After all, if eleven others
steal, the twelfth appears only to suffer if she refrains from doing so. We could
perhaps consider this continuum of theft as a contrasting of ideals, with no theft at
one end and no respect for property at the other. Essential to the consideration of
this continuum is our awareness of the implications for the society of the island as a
whole and what sort of a place it becomes as theft increases or decreases.

I cannot speak for Bambi, but from my perspective, of all these situations the
most desirable by far is that in which there is no theft at all, so this is the situation that
I would pursue. This approach bears a high degree of similarity with the previously
mentioned ideals of Kant and numerous religious doctrines, of acting in a manner
that one considers to be ideal. By not stealing the cabbage, we might act in our own
interests by contributing to the realisation of the ideal that we should not wish to have
our cabbages stolen and moreover of living in a society in which the theft of cabbage
or even of other goods is unheard of.

“What difference does it make to the dead, the orphans, and the homeless, whether the mad destruction is wrought
under the name of totalitarianism or the holy name of liberty and democracy?” Mohandas Gandhi.
If we eventually decide that a cabbage theft free society is something that we desire, there may be far more to the pursuit of this ideal than simply refraining from cabbage theft. We might wish to discuss and communicate our ideal of secure cabbage ownership with our fellow islanders, considering the strong desire that others may have for cabbage, so that they are able to overcome their cabbage-lust in cooperative pursuit of the ideal. It may well be in our interests to help other islanders out if the need arises, ensuring that all are at least able to grow or otherwise obtain cabbages in a mutually agreeable fashion, as this might eliminate the root cause of cabbage theft. We must consider how important our ideal of cabbage security is to us relative to other ideals that we hold, for example an ideal that as far as possible all islanders should have sufficient food to survive may take precedence in many circumstances. Some islanders might conclude that it is ok for us to give away our own cabbages to the poor, but not to require that others should do so, whilst others might wish to ensure that the burden of cabbage sharing is distributed equally.

It seems unavoidable that there might be a further contrasting of ideals in this case, one that would need to be resolved somehow in order to reduce the possibility of conflict as far as possible. The key to this seems to be the weighing up and comparing of various potential situations where two or more ends or ideals are desirable, in an effort to produce the most agreeable result, although what ‘most agreeable’ entails is itself a matter for debate. It may also be of great importance to the successful functioning of such processes that ideals are at least tacitly conceded as being nothing more than the linguistic extensions of desires, rather than unquestionable absolutes. Further, any system of rule making would need to be sufficiently complex to deal with a full range of circumstances that might arise, yet also be able to change as is appropriate to our changing social, intellectual and environmental systems. While their actual manifestations are flawed in many

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 Violence often forms lasting relationships.
respects, the various forms of democracy are the only systems of government that seem to allow for an equal contrasting of ideals, without resorting to violence.

Before we continue with these cabbage patch politics, we must address the problem presented to our idealism by those who do not care for the ideals of others. It seems likely that even within a largely benevolent society we shall still find selfish individuals who steal in spite of provisions being made to encourage their social participation and well-being. If everyone else is honest, being the one person or one of the few that steal may seem worthwhile to many people. Someone else might act immorally on the basis of the assumption that they would never need the help of society, preferring to control other citizens while taking advantage of their typically moral behaviour.

There are a few points for anyone in the latter position to take into consideration. It seems to almost always be the case that no matter how wealthy or powerful we become, our lives are still fragile and can be destroyed. Kings, warlords, mafia bosses and presidents who happen to command the most powerful military forces in the world are not immune to assassination or uprising. If you upset people sufficiently, then they may eventually subject you to violence and not uncommonly a very brutal death. Having said this, those of us who are complacent about the selfishness of humans may become vulnerable to all manner of harm. Immorality in human nature may simply be a reality that we have to live and deal with.

To discourage those who would ignore moral considerations in favour of selfishness, it may be necessary to present the threat of a bigger fish, that fish generally being society in this case. In the example of the common cabbage thief, it may be enough to have in place regulations and social structures that will cause the thief to be penalised via incarceration or other loss of liberty, with the intent of preventing criminal behaviours through fear of punishment. An essential part of this mechanism is ensuring that would-be criminals actually have something to lose,

"I am convinced that everyone can develop a good heart and a sense of universal responsibility with or without religion." Tenzin Gyatso.
which need not be limited to freedom or finance. If all members of society are sufficiently content with their situation, their incentive to commit crimes will be reduced. In a society where morality is valued, a loss of reputation may be sufficient to deter much immoral behaviour.

If such punishments are to successfully discourage immorality, they must essentially entail the likelihood of a greater loss than perceived gain on the part of the would-be criminal. Where we concern ourselves with ensuring moral behaviour in high ranking individuals, such as say, politicians, the necessity for accountability again returns the ball to society’s court. In the case of democratically elected leaders, an awareness of the proceedings of government on the part of the citizenry will be necessary to encourage moral behaviour in political leaders.

**Altruism**

The moral motivations that we have discussed so far seem to encourage individuals to act morally only so long as it proves at least potentially beneficial for them to do so. Each of us oft decides whether we should be a petty tyrant, a lover of life or a little of both. In the wild, animals might favour their family group or potential mates with generous behaviours, however it seems that any being or organism outside of one’s immediate sphere of influence is naturally less likely to be treated morally due to the loss of evolutionary benefit from such efforts. Individuals might be inclined to favour their families, companies, cities, nations and other organisations or groups that they belong to or identify with. An apt humanist illustration of this can be seen in the fact that many household pets in the developed world are better fed than poverty stricken humans in parts of Africa and Asia. Such hollow ‘moral’ favouritism seems to follow the tribal boundaries that we have discussed previously.

I would argue that all humans could potentially benefit from treating each other as a single tribal group. Picture a toddler who has somehow escaped his

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Humanism is shallow, like a lake.
guardian's care and is straying onto a busy road or perhaps is drowning in a swimming pool. In many societies, a complete stranger might, I hope, be held to some extent accountable for failing to prevent the child from being killed if they were in a position to do so. However we do not appear to hold each other or ourselves accountable for the continuation of poverty in Africa and parts of Asia. This apparent societal indifference occurs in spite of the fact that many currently developed countries may have benefited historically from the exploitation of the less economically developed nations and continue to do so in many cases. Perhaps the magnitude of the problem seems to put it beyond our grasp. Yet this seems a poor defense given the enormous wealth of the developed world; the only consistent defense then, is to admit that we are too selfish to produce a sufficiently organised response to this continued horror. The response that we are selfish animals, whilst it may taste rather unpleasant, seems to be both accurate and logically consistent.

Hanging in the balance are pleasure and pain, both our own and that of other beings. Justice could be a useful word here, although it lacks certain important shades of reality; justice is subjectively constructed, whilst pleasure and pain are universally accepted experiences. By a stroke of good luck, there are a handful of arguments that extend to all beings capable of experiencing suffering, such that we might be motivated to assist each other. Let us examine first a selfish extremity of behaviour known as feudalism.

*Old King Cole was a merry old soul*

*And a merry old soul was he.*

*He called for his pipe and he called for his bowl*

*And he called for his fiddlers three… (Ye oldie rhyme).*

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It has been said that the westerner lives like a medieval king. Shouldst not everyman live like a king?
We may suppose that Old King Cole was, in a manner of speaking, a rather merry fellow. However it seems far less probable that his ‘manservant or fiddlers were quite so merry, as Mr Cole quite possibly held their various allegiances at the point of one sword or another and most certainly would have done so without affording them the same legal status or privileges as he allowed himself. In modern times, feudalism is generally held in disdain as being an unjust and tyrannical system of government, as it often put power in the hands of the few as the product of nothing more than violence or hereditary circumstance.

I would liken the feudal societies of old to modern walled and guarded neighborhoods in poorer countries, wherein do dwell upper-middle class folk that have so often attained their fortunes through violence or hereditary circumstance. Finally, I would compare myself along with every other happy lass or fellow in the developed world to the king, lord or secure neighbourhoodlum, who hoards good fortune whilst largely ignoring the plight of others. Instead of securing castles or neighbourhoods, our armies secure nations; the distinction is in many ways a trivial one. Such comparisons are by no means universal as wealth can also be attained by wit, tenacity or pizzazz, although the contrasts are most certainly interesting for the perspective they provide.

Our situation is simple. We would not wish to be in a position of poverty, thus we should not allow such positions to exist, lest we be forced to experience their ill effects through trade, travel, international violence or unforeseen misfortune, such as natural disasters. True, we can focus upon avoiding these unfortunate circumstances, but by cooperating on a global scale we can also focus upon eliminating them entirely, at least so long as we are situated on fortune’s good side.

For a more concrete angle on the case of altruism against selfishness, I find that I currently fear to travel in many of the nations in Africa, the Middle East and other suffering stricken locations. This fear persists in spite of my experience that

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Beware the Tyranny of Emotion: When dealing with morality, it is worth being aware of the distinction between the course of action which is the most emotional appealing and that which will produce the most appealing outcomes.
wherever I go, the vast majority of people tend to be highly amiable, particularly once one has developed a positive relationship with them. It could be that this ideal of positive relationships is just the ticket. If we want safe travel and trade, a positive rapport needs to exist amongst all beings that we might encounter. Such a rapport can be fostered through the provision of basic needs and inclusion within a stable society, as most frequently already occurs in the most developed countries of the world. If all humans can at very least be brought up to such standards as we might be interested in maintaining for our immediate spheres of influence and furthermore to the extent that we can encourage all humans to develop an attitude conducive to this ideal, we should have next to no need to fear each other. We might hope to travel in relative safety, trade without interruption by conflict and come to expect benevolent behaviour from all beings like ourselves in times of need. For such a state to function this would need to be thoroughly organised rather than simply idealised. While productive in offsetting suffering, the piecemeal provision of aid seems as often as not to be a placebo to divert guilt, rather than an effective solution to the problems of poverty and conflict. Of course the whole is no more than the sum of its parts, so everyman would need to make a contribution.

We are social animals. When we behave altruistically, we form a positive relationship with those we help, thus we enlarge our sphere of interaction to include other beings, an experience that can enrich our lives. The same can be said at least to some extent with respect to animals other than humans, with household pets providing a clear and obvious example. I would argue that other animals capable of suffering could be included within the universal tribe of beings that are capable of suffering, perhaps as honourary members. I must admit that the arguments on this count may be less convincing than those concerning humans, due to the apparent lack of potential negative reciprocal feedback from non human animals.

Secularity and Responsibility: Religion is neither a prerequisite nor a substitute for moral behaviour and as such, there’s no excuse for people to hide behind it. Improvements to our understanding of reality can help us to take pride in our achievements and to hold ourselves appropriately accountable for our failures.
Let me put this last undermining caveat as a plain English example. I could buy a bow and some broad headed arrows, along with a train ticket to ride to the grasslands west of Sydney. There I might wander into the bush to hunt kangaroos for simple sport, sating my presumed animal desires to hunt and kill. As a consequence, I would experience pleasure while the kangaroos suffered then died. Yet I can never find myself in the kangaroo’s position and the kangaroo can never attain a position in which it might hunt me. On the fringes of relevance, we might entertain that it would be pleasant if kangaroos were not afraid of our species, so that we might be able to observe their beauty more easily; over time, animals tend to become afraid of their predators for obvious reasons.

It could be debated whether the case of non-human suffering should be classified as moral in the first place, although the debate is essentially meaningless in any case, as the reality of the situation is merely a matter of contrasting various sets of emotions and experiences with their causes and effects. To be fair, the very fact that I include animals in my discussion of morality is a sign of my bias in their favour. In the end it is largely a trade off between whether we care more for the well-being of animal beings or for our own gustatory glee. This means that there is no need not to be mean to our animal cousins; only emotion and compassion appear to be able to produce altruism towards them. Vegetarianism might thus be advocated on the grounds that we would rather see a pig live a long and happy life than to eat its short, tasty legs. It should be noted that there are other arguments for at least leaning towards vegetarianism, both moral and amoral, which might also be taken into account, such as environmental impact and health.

We need not ignore the portion of society that seems to get a genuine kick out of altruistic behaviour, either to humans or animals in general. As we know that our perceptions and motivations can be modified and manipulated by conditioning

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Vegetarian Propaganda: Try to imagine what it is like to be a chicken; now imagine what it is like to have your head grabbed by a giant hand and twisted, so that your neck breaks. Try to imagine what it is like to be a fish; now imagine being dragged through the street in a giant net to be drowned in the harbour along with a hundred other pedestrians. Try to imagine what it is like to be a pig; now imagine someone slitting your throat...
and the like, the possible pleasantries of benevolence may be worth exploring. An ironic twist to the pleasure of altruism is that if we exhibit lovingkindness and the like because it makes us feel good to do so, we are in fact pursuing our own self interest directly, as well as indirectly through benefiting the society which we are a part of. Whatever our moral motivations, a more pressing matter yet thunders towards us; as we are still to discuss just how we might actually act morally.

**Utilitarianism**

On the assumption that somewhere we have by now found some justification, either selfish, altruistic or a combination of the two, for behaving morally, we shall proceed to examine a few of the classic ideas on how we might go about it. The first of these shall be the principle of utility, that moral behaviour is that which benefits best the greatest number of beings. Under utilitarianism, the most morally preferable choices and situations are those with which the greatest number of people will be satisfied to the greatest extent.

For anyone trying to apply utilitarian principles, the difficulty of exactly what should be deigned beneficial may surface rapidly in many situations. Further, we may wonder how to weigh the quality of the benefit for an individual against the quantity of happiness for a greater number of people. John Stuart Mill contrasts the importance of excitement with tranquility in a comparable fashion, whilst an economist might contrast the values of wants and needs. We could simply define benefit as pleasure, however this designation remains somewhat impractical in many situations, as it is difficult to measure objectively. Rough but ready solutions to both the definition and distribution of utility can be found in democratic processes, allowing all individuals to indicate their preferences by casting votes.

Individuals or political leaders might put utilitarianism directly into practice in many situations. Peter Singer suggests that it might be logical to spend more on

“The test of real and vigorous thinking, the thinking which ascertains truths instead of dreaming dreams, is successful application to practice.” John Stuart Mill.
people in poorer countries when giving to charity, as our aid money will go further due to differences in exchange rates. The fabled soldier who throws himself on a grenade to save his comrades could be employing a kind of utilitarian logic. Similarly a person who donates one of their kidneys to save another’s life might easily justify their decision in utilitarian terms.

Systems of progressive taxation are generally justified upon the principle of marginal utility. In theory this means that the wealthier people are taxed more heavily, as they shall benefit less from possessing a wide selection of silk underpants and sports cars than the poor might benefit from being able to afford a sufficiency of cabbages upon which to feast, merrily, in order to avoid starvation. In essence these systems take from the rich in order to give to the poor, though enough of us seem to be happy with the moral reasoning behind them to call them something like ‘distributive justice’ rather than the tyranny of the poor, destitute despotism or theft.

The principle of marginal utility could potentially be taken to justify a completely equal distribution of wealth, on the basis that as long as one person has more wealth than another, the poorer person will gain greater utility from a more even distribution than the wealthier person will lose. In theory, this approach would raise the minimum level of happiness to the highest level possible, although any approach proving to be superior in the attainment of maximal utility would be favoured by utilitarianism. Just how far wealth should be distributed is a question that has been debated for many years, contrasting the ideals of freedom and equality as societies have developed and as we have come to better understand our own natures.

Without adopting the relativistic view which sees the good as so radically diverse that whatever people happen to want is good, we can and should recognise a multiplicity of basic human goods and a multiplicity of ways that

It is all too easy to become bigoted when dealing with something that we consider to be ideal. We must maintain an awareness of our fallibility, as well as our social and moral situations in order to counteract this particular potential problem with our minds.
different people (and communities) can pursue and organise instantiations of those goods in living valuable and morally upright lives. Robert George.

Freedom

People need and want different things, according to their individual biology, experiences and circumstances. The examples of conflicting religious doctrines, the wide variety of cultures and divergences of opinion amongst philosophers clearly show us that what may seem right to some may seem wrong or undesirable to others. In light of the diversity of our desires, the ideal of liberty has been championed, so that each individual might be able to pursue his or her own ends.

In many cases, differences in desire and accordingly in definitions of morality may primarily be the products of ignorance or circumstance. For example in ancient societies where self-perpetuating systems of sexism were considered to be normal, even women may simply not have thought to criticise them. The historical example of how sexism used to be seen as normal illustrates perfectly the fact that just because an opinion, such as that ‘women should have equal legal and social status with men’, is held by the minority, it is not necessarily wrong or undesirable. Due to such conflicting conceptions of morality and perhaps to avoid complete anarchy, the ideal of freedom needs to be modified.

If one person’s otherwise legitimate pursuits interfere with the pursuits of another, the second person’s freedom will also be interfered with. In situations where we choose to treat liberty as the most valuable end, the restriction of one person’s freedom can thus be justified to the extent that it is necessary to ensure the protection of the freedoms of others. John Stuart Mill called this the ‘Harm Principle’\textsuperscript{cclix}, which has been extended to the ‘Offense Principle’, by thinkers such as Joel Feinberg.\textsuperscript{cclxx} Under the harm principle, we should be free only so long as our actions do not interfere with the freedoms of others. The harm principle thus might be

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Representative democracy often amplifies the powers of the largest and most cohesive minorities.
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used to justify preventing people from driving while under the influence of alcohol, as this sort of action might easily cause the death or injury of another person. The offence principle is an extension of the harm principle that stops me from running around naked in public parks if there are no policefolk about or that might cause us to reprimand someone for singing loudly in a public library.

For people to be able to pursue their own ends, they also arguably need to be guaranteed a certain number of basic freedoms, as well as an awareness of the importance of these freedoms. A list of such freedoms might include freedoms of speech, the press, peaceful assembly, association with and participation in political or similar organisations, a guarantee of basic education, personal freedom and the right to possess property. Of course, Marx and his followers have many times pointed out that proletariat, poverty stricken and ill educated are not genuinely free to pursue their version of the good as they lack the various forms of capital necessary to do so. “Even if autonomy has great value, it hardly follows (and is almost certainly false) that autonomy is the only thing with value”\textsuperscript{cclxxi}. Almost anyone who is starving to death will have more pressing concerns than freedom, namely the speedy collection of cabbages, although of course this basic desire need not be allowed to interfere with their freedom.

Equality

Equality can be seen as a necessity of freedom or as a worthwhile ideal in itself. Some would also point out that all moral philosophy must start with some form of equality if it is to have universal appeal. The term ‘equality’ can refer to either equal legal rights and freedoms or the equal division of resources amongst people. While more extreme forms of financial equality may have lost some of their former favour following the collapse of the Soviet Union, a great many of us would still argue for the provision of some threshold of financial equality for all people or more popularly at

\textquote{There are some people whom it is one’s duty to offend.} John Reith.
least for the people of the nation to which one happens to belong. Likewise, many of the basic freedoms listed above are viewed as universal freedoms that should be equally protected for all people.

The ideal of equality, along with utilitarianism and freedom, may be used to justify the distribution of basic human needs such as food, clothing and housing to disadvantaged individuals. Whole societies tend to be taxed in order to facilitate the provision of services and infrastructure that are seen as being universally beneficial, such as sewage, water, roads, education, health care, parking inspectors, police and military forces. A more detailed example of a form of social equality might be to provide social support mechanisms and subsidies for female employees, to allow them to have children and still be able to compete professionally, rather than seeing half of our species disadvantaged by their physiology. In some cases, such provisions have proven to be highly controversial.

The rationales supporting equality and social justice are similar to those we have already discussed. Social support mechanisms could be viewed as a component of the sort of society that one would like to live in; in short, if we were, are or may in the future be in a state of misfortune, we may come to rely upon the help of others. As a society it is in our interests to make sure that members of our community do not have to go without basic needs, as we too are members of our community.

Poverty can be managed via self interest in at least two ways. One can distance one’s self from it by erecting walls, laws, police forces, armies and so on. Alternately, one can try and remove poverty via constructive means, such as education and the provision of needs and services. The former option is often seen as being closer in justification to the principle of liberty, the liberty of the wealthy, whilst the latter solution is one more closely aligned with equality. The most selfish take on these approaches is to look at welfare and social services purely as an economic rationalisation of the police and military forces. From this perspective,

Many would agree that extreme forms of Marxism are not only dangerously idealistic, but also functionally flawed. This does not mean that Marx’s ideas are completely worthless however, as they still raise important issues. The same can be said for a great deal of religious philosophy, provided that it is sufficiently saturated with secular salt.
welfare could also be seen as an extension of the harm principle, as it discourages the poor from interfering with the freedoms of the wealthy.

John Rawls’s suggests that in order to construct a fair society, we should imagine ourselves as being placed behind a ‘veil of ignorance’, so that we don’t know what position we will be in relative to the impacts of the decisions we make. If we are contemplating foreign policy on the provision of aid or military action for example, the veil might encourage us to consider the situation proportionally from the perspectives of persecuted minorities, starving refugees, tax payers, would-be civilian casualties, soldier’s families and any other parties that might be influenced, before making a decision. This position is once again similar to Kant’s categorical imperative that we should be happy to see our moral decisions universalised but at the same time gives us an interesting perspective, as it encourages us to try to make decisions that everyone can be happiest with. In this regard, the veil of ignorance is also a highly utilitarian device. It might seem that when all of our various moral ideals produce agreement we can be most secure in supporting them, however such circumstances should not close our minds to alternate solutions nor the realities of a given situation.

One way of contrasting freedom and equality would be to distribute wealth on the basis of our perception of human needs or pleasures, thus combining these ideals with utilitarianism. On this basis, our primary goal would be to work out or vote upon how much everyone needs to be happy or at least to be able to be happy, go about distributing wealth accordingly through taxation and government, and from then on to generally allow individuals to act as they pleased, so long as no others were harmed in the process. While it provides a rather glib view of reality, this approach is at least in theory very roughly comparable to a fair number of democratic countries, which while tribally introverted, often seem to produce higher general living standards than the alternative systems of government.

National democracies often exercise their powers over a great number of people who are unable to vote in their elections, foreigners for example.
Government

The relationship between government and morality is worth mentioning briefly. Lawful society has a value of its own, yet doesn’t dictate morality by any means. Particularly in democratic societies and to some extent in any society where peaceful change is possible, it might be reasonable to follow the law in spite of considerable inconvenience or perceived injustice, simply in order to preserve peace and civility. Laws are also typically created for a reason, so it is worth trying to be aware of what the reasoning behind a disagreeable law is before possibly opposing it, perhaps formally through lobbying or via acts of civil disobedience. Unsurprisingly, laws in democracies often reflect the prevailing view of the public, influenced by fashion, emotion, the media, religion and so on.

Majority opinion does not make something ‘right’ or even morally tolerable for that matter. Geographically representative electoral systems can theoretically give power to as little as 26% of a population and so may easily fail to represent a majority in the first place. Even where there is majority support for a law, this does not make it desirable for all involved and certainly not right in an absolute sense, even if you are of the opinion that there are such things as absolute rights. The exception to this would of course be religious laws, if you are a religious fundamentalist whom I have convinced neither through my arguments on atheism nor more generally on doubt; then it will seem perfectly reasonable to you to continue to base your choices on religious doctrine, with potential disregard for the various motives of society. Our views will thus be very different on many, though by no means all moral matters.

How we act in relation to the laws made by a given government is generally a matter of personal choice, as each of us may hold different values or else we may hold similar values with different intensities. In any case we should consider the consequences of our actions. I would be extremely reluctant to protest against a

As democracy is supposed to entail people ruling themselves, ideally producing peaceful, fluid systemic functionality. This can appeal to the selfish and the altruistic alike; as all may suffer and die in conflict, its avoidance is a reasonable priority for all. Of course, some seek to profit from conflict, oftentimes by attempting to ensure that it occurs far enough away that it shall not harm them... Beware the ‘righteous’.
government that was known to use lethal violence against protesters, particularly if I
was responsible for the care of children for example. My opinion is that some policies
and accepted behaviours such as nationalism and indoctrination are morally
undesirable and even potentially dangerous, however my respect for democratic
processes is sufficient that I would only seek to oppose these practices formally
through legally accepted means and informally through non-compliance or peaceful
protest. Indeed, it will be obvious to many readers that we can all benefit from being
entirely civil, even with people whose opinions differ sharply from our own, in spite of
the poor example set in the underhanded tactics typically employed by politicians.

As bizarrely unjust as old policies of racism and sexism have been, in many
cases an even greater injustice could have been committed through their violent
opposition. Particularly as these methods don’t necessarily have a higher chance of
success than their peaceful alternatives, such violence might be impractical in any
case. Passive resistance has often been employed to demonstrate moral superiority
over oppressive regimes. It might be argued that ideally, lethal force should only be
employed in defense of life, when all other measures have been exhausted. The
counter example that immediately springs to mind here is that of people who take it
upon themselves to shoot abortion doctors, on the basis that these doctors are
destroying human lives. This takes us back however to the difficulty presented to us
by apparently irreconcilable differences between religious and non-religious
perceptions of reality.

Due to the past and present injustices that seem to be perpetually perpetrated
by governments, whether or not these are supposed to be democratic, it seems that
if morality is important to us, then each of us must remain politically aware and
active. To fail to participate in politics in an informed manner is to fail to investigate a
scream in the night or at least to carry the call for help. If a government acts in a way

Feardom and Demockrisy?
that we deem to be immoral and we have not hefted our political muscle against it, then we may be permitting immorality on a massive scale.

**Awareness and Responsibility**

The greater our awareness of reality, the greater our ability will be to act morally within it. The realm of morality is incredibly complex and often we will have little opportunity to consider the moral implications of our actions in any depth as they occur. This dilemma leads me to the conclusion that it is very much in our interests to develop a keen awareness of and familiarity with morality; along similar lines, we should try to foster such an awareness in all people.

In general it may be extremely difficult to break with the traditions and norms to which we are accustomed. For example, most of the values I associate with democracy, racial and gender equality are essentially mainstream views in my country, although not all countries. However upon reflection I continue to support them as the most desirable options available. I do try to think critically about the values that I have been brought up with however and have come to disagree with the prevailing views on such issues as nationalism, indoctrination, propriety and the morality of drug use. We need to be aware of the fact that our perceptions of morality appear to develop over time, as we learn more about our world, we may gradually come to reject the practices of our ancestors. In a way it is ourselves that we must be most cautious of, as it is those things which seem normal to us that we may be least likely to question.

Perhaps in the future, popular moral notions of animal welfare, environmental preservation, the treatment of children and the moral acceptability of much offensive military action may change considerably, as public opinion on these issues seems to have shifted previously to some extent. It is difficult to say at this stage what patterns of moral behaviour may develop over time, but if people fail to be critical of accepted

*"If you're not turned on to politics, politics will turn on you."* Ralph Nader.
social norms, moral progress may be hindered. The point here is not to share with you my particular set of values, although I am happy to do so, but to demonstrate how careful consideration may cause us to question our own values continually, while maintaining an openness to the views and corresponding justifications used by other people. Normality or moral fashion if you like is not necessarily ideal, although it may often seem to be so.

It is in our interests to be aware and I would go so far as to say wary of those who might endeavour to manipulate our emotions and perceptions. We might question why our governments tend to encourage nationalistic indoctrination, what it is supposed to achieve, what harm it doth make and where the origins of the practice lie. With sufficient effort we can develop an awareness of various illusions and patterns that might confound our perceptions. For example we might discover that commodification can encourage objectification of products and services; that is to say that assigning cash values to objects may also distance us from their moral implications. Two of the more controversial examples of such commodification are pornography and prostitution, due to their potential social impacts upon women and children. A similar pattern can be observed in relation to how food is packaged. If we consider animals to be part of the moral sphere, it is worth noting how complacent we might be about a packet of meat on a supermarket shelf, relative to how we might feel actually asking that an animal be killed for our consumption. Of course, this works both ways; a system that required that we should observe the slaughter of an animal could reasonably be seen as biasing us against the consumption of meat; however the point is still a valid one.

In politics, we might aim to be aware of what the major political parties stand for, how they came to power and what the alternatives are. I would suggest that many people vote only for the largest and oldest political parties as they see these groups as being the only viable options; this is clearly a self-perpetuating attitude.

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Education: In the end, you are your own teacher; no one can take your place.
Concurrently we should be critical of the rhetoric of governments, as it is in their interests to exercise their considerable ability to manipulate public opinion and political systems in ways that will first and foremost conserve their power in future years, even if this occurs only half of the time.

All of these cautions could be fostered under the umbrella of critical thinking. Perhaps as a final example, we should aim to be aware of the motivations of politically progressive authors that we happen to encounter. It could be that I am trying to convince you of the inherently conservative nature of western democracies in order to subtly further my own radical political agenda. This may start to sound almost paranoid, but it seems a relatively common sense approach. Each individual action has its motivations, so we would do well to question actions and motivations both.

Moral Education

I would argue that it is not enough to merely ‘inform’ or indoctrinate an individual child or other person with unjustified moral doctrine. It is not enough to say, “Good morning darling, peace and love, now go play,” as parents so often tend to. An understanding of the reasoning behind moral ideas is necessary for people to be able to apply them appropriately. We might decide that the principle of non-violence is desirable in many circumstances, however this principle simply doesn’t help a chap whose land is being invaded by folk that intend to cut his head and enslave his family, regardless of how he acts. If we value freedom, we must empower people so that they are able to make their own moral choices. On this basis we might easily argue that indoctrination is frequently immoral, as it interferes with freedom of thought. If it is worth telling something to someone, I would argue that it is also worth giving them your justifications and then letting them make their own decision.

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In Utopia, do school children learn moral philosophy?
In a situation where all parties understand all of the motives of the other parties, they become more able to respect alternate viewpoints and discuss compromises. This need for communication and understanding gives us reason to value education of anyone we might want to interact with, a target group that might reasonably be extended to all humans. Societies generally seem to favour insular, nationalistic education systems, rather than being concerned with the development of international educational standards, however this seems to be a relic of our conflict riddled tribal histories rather than an ideal situation.

Knowledge and education free us from the talons of animalistic simplicity without causing us to lose hold of its pleasures. Education seems to provide a potential solution to a great deal of suffering and perhaps conflict in the world, although there is no guarantee of education reducing conflict, even if we were to disregard the current, nationally and religiously segregated models. Along with life expectancy and effective income, educational enrollments are one of the three factors considered by the United Nations in calculating the Human Development Index, indicating how education might be valued as a measure of general well-being in modern societies.

While education may reflect the particular values of a state, this reflection seems an appropriate extension of the rule of law to a substantial degree. As moral values are not absolute however, students should also be made aware of the alternatives. Similarly parents are generally accepted as having some responsibility to educate their children, although as parents are certainly no more reliable than the governments in presenting an unbiased view of morality, publicly regulated education can play an equalising role here too. Education seems to be the only way that we can allow children to genuinely make their own choices, as there is little way of ensuring that parents will be inclined or able to provide a wide range of viewpoints. It might be

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Reality is a process, which can be optimised as desired.
seen as desirable for example that children should be able to deliberate rationally, critically and freely upon morality and other matters.

We can only reasonably expect others to be moral to the extent that we educate them as to what morality is. If we wish to continue imposing laws upon other beings then it seems fair to educate them as to what those laws are and what the philosophy behind them is, in order that once educated, people should thus be able to function successfully within society. Once again, the factor of our fallibility demands that we must not indoctrinate children in only a single set of values but instead educate them discursively, considering all popular or consistent arguments, such as those favoured in other societies, so that various moral rationales might be compared.

For any society that expects its citizens to behave morally, it is makes sense that moral philosophy should be taught in schools. It seems highly desirable, for the sake of all concerned, that each person should be at least as well schooled in moral thought as they might be in language, mathematics or the sciences. Informal mechanisms such as socialisation, trial, error and punishment are insufficient to educate people morally; the complexity and importance of morality warrants its being addressed formally, in as much detail as any other topic.

Morality does not come naturally to us; naturally people’s emotions combine with their environmental experiences to produce their thoughts and actions. Religion cannot be relied upon to provide moral education as has happened historically and is becoming increasingly inappropriate in modern, pluralistic societies. It seems to me only logical that if we desire to live in a moral society, secular morality needs to be a formal component of every person’s education. To give one example, Singapore has for years had primary and secondary Civics and Moral Education Syllabuses, which serve this purpose directly. While these documents have a nationalistic spin that might be regarded as somewhat insular and thus distasteful to my personal

‘Knowledge is power’; ‘with power comes responsibility’. If you agree with these claims then you may have a responsibility to continue gaining knowledge in order to better meet your responsibilities.
philosophy, the establishment of the Singaporean syllabuses seems to be a step in the right direction.

Morality's Value

The basic questions of morality could be defined simply as ‘What sort of world do we wish to live in and thus what actions might be best suited to producing such a world?’ There is a great deal of weight upon the word ‘we’, in the question above, in case you’re falling asleep. Obviously the world we live in and patterns of social causality within it are both extremely complex areas of knowledge. To be moral thinkers, we must develop an awareness of how and whether everyone’s desires are being reflected in reality.

So I shall end yet another brief topical introduction. There is a great deal more that could be discussed on the matter of morality. For the purposes of this text, it is sufficient to note that there is a wealth of philosophy, which might serve to guide our moral actions, beginning with the ancient world. I am reluctant to recommend any particular authors, because as soon as I mention a name, I may immediately bias you in their favour and there has been plenty of that already I hope, so I shall restrict myself to the obvious suggestions. Read widely; try to understand what everyone thinks and why they think it. If we value morality highly, then it makes sense that we should try to understand it thoroughly.

To Do: The Future

So what is to become of the realm of religion? If this is the only life we have, we must cram all of our would-be religious desires into it. We can either lead a life in which we continually strive towards the greatest happiness that we can attain within our
circumstances or we can remain forever embittered by the unavoidable difficulties that confront us. Much of what we take from life appears to be governed by how we approach it and the choices we make. Much of our experience can be manipulated simply by changing our attitudes, although this requires thought and effort. Due to the complexity of our cosmos, this effort may be massive, requiring that we come to understand many different aspects of our lives, however the rewards of this pursuit may be well worth our while.

We may choose to contrast quality of life with quantity of life. Is it more desirable to focus on perfecting what we have or upon producing as many people as possible, so that they may experience life before our sun burns out or life ends through some other catastrophe? Past a certain point, overpopulation will result in a reduction of the quality of life for all people on our planet, as it already has many times in many places. Our naturally evolved sex and parental drives often bias us towards explosive population growth, although this end may not be in our best interests or the interests of our descendants. If we continue to prove to be unable to provide infrastructure, education and a high standard of living for all people, it seems sensible that we should aim to further control our population through family planning and the like.

Long-term considerations of this kind have significant moral implications, with impacts well within our own lifetimes. People living in the year 2100 or 10000 CE will doubtless prefer to live in a world where they were able to experience a high standard of living along with preserved natural wonders such as rainforests or whales whether they are born in Norway, China, India, Sierra Leone or elsewhere. However current rates of consumption and population growth seem to be incompatible with such desires as our descendants might have. The more we become aware of our environment, emotions and worlds, the more we may hold ourselves responsible for our circumstances and for the circumstances of those around us. That is to say, if we

When you bring a new life into the world, you also take the resources that it will consume.
have a complaint about the nature of the world, then it seems only consistent that we should aim to develop an understanding of the problem and work to rectify it.

One crucial and often overlooked point is that small actions do matter. A single piece of litter makes little difference by itself but that’s only part of the point. Six thousand million pieces of litter make a mountain. To steal a small item from a large company by itself makes little difference, yet the net effect of such thefts is to raise prices for many people. It is yet another failure of our perceptions that we do not typically realise the collective importance of our incremental impacts upon the world. Gandhi is quoted as having said that “The difference between what we do and what we are capable of doing would suffice to solve most of the world's problems.” Of course, as Gandhi was well aware, coordinated actions by groups often necessary to produce large scale effects, just as systematic actions may be necessary to achieve systemic objectives.

Religious Literature

While religions may fade to the status of relics of ancient culture over time, we need not discard them entirely. Zeus remains quite popular for a myth. As with other forms of information, religious ideas need not necessarily be accepted as right or wrong but should be compared with all available information. There is much within religious art, myth and philosophy that can safely be of value to us, so long as it is not treated religiously. Technically this may take the religiosity out of religion, but the idea that uncontrolled and unbounded emotion is an acceptable mode of thought seems to be an opinion laden with error and destined for all manner of peril. Left to run wild, religion can be extremely dangerous and even lethal. If religions are viewed objectively, as sets of human, cultural, philosophical and historical ideas, thoughts originating in religious contexts can safely be allowed to participate in our dialogues.

Religions contain good ideas. Religious belief is the bathwater; the good ideas are the baby.
As the secular value of religious art should be obvious, I will focus briefly upon religious philosophy here, so far as it retains its value in spite of the myths that have come to be associated with it or the superstitions of its progenitors. One can appreciate the value of a question without necessarily or completely accepting or rejecting the answer.

Religious thought often deals with important issues such as morality and direction. We should be aware that religion often tries to find absolute, romantic or emotionally appealing answers to our questions, so that these might be contrasted with our secular understanding of the world, as it continues to accumulate. As no one can claim omniscience, it seems logical that we should recognise and act upon the fluidity and fallibility of knowledge, rather than opting for easy illusions of certainty. Even so, almost every religion can offer us a huge range of useful and interesting ideas and perspectives.

When finally we cease to be, so does perceived reality, yet many religious people have claimed to want to live in a heaven of some kind when they die. The most practical answer to this ultimate desire is that if you want or wanted to live in heaven then you should help to build it here and now. We'll probably be dead in 30000 days or less so we might as well make the most of what we've got.

We can draw some valuable insight from the Buddhist realisation of the impermanence of self and possessions. Many people seem to be naturally driven to careerism or the continual pursuit of financial wealth and power. Such competitive urges may have been evolutionarily beneficial for our cutthroat, breed-at-all-costs ancestors, however there is little reason to imagine that the devotion of our entire lives to the accumulation of wealth should be the best or fastest path to happiness; it may even be a complete waste of time.

The Muslim ideal of kindness to travelers can benefit more than the tourism industry. As travelers are without a network of friends and family that might support

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There may be counter examples, but I am yet to encounter an atheistic writer who didn't have at least some good things to say about religion. The problem is that these good things are caught up in so much superstition that they are frequently not treated according to their individual merits but as parts of patterns of blind acceptance.
them if they were closer to home, they may depend more heavily upon the kindness of strangers in times of trouble. I can assure you first hand of the social value of such altruistic generosity demonstrated by Muslim people; it might even be argued that such benevolent behaviours are in a sense the essence of morality.

A significant portion of Australian Aboriginal religion is directed at renewal rituals, in which an individual might bear the ritual responsibility for the fertility of a given type of plant or animal. In many tribes, there is a taboo against the trustee of a given species partaking of the produce for which they are responsible. This attitude has highly practical implications, which western society has often failed to comprehend in the past. It is in our interests to maintain and respect our environment even if such maintenance will not benefit us directly, as on a global scale, the failure to do this will result in the destruction of our otherwise renewable resources. The underlying ethic here is the simple realisation of our unavoidably reciprocal relationship with the other members of our species within our finite environment. It is a simple choice between short sighted competition and long term cooperation.

The *Tao The Ching* bids us to avoid gambling with our lives “What shall it profit a man if he gains fame or wealth, and loses his life?” Buddhists and Jains alike favour Ahimsa, the principle of non violence. While complete pacifism is an extreme perspective, we must acknowledge that we can all be wrong, that killing is generally irreversible and can often be avoided; thus these ideals are still useful.

This beautiful Baha’i sentiment loses not an ounce of its genuine value when viewed from a secularly perspective: “It is not for him to pride himself who loveth his own country, but rather for him who loveth the whole world. The earth is but one country and mankind its citizens.” A secular perspective allows us to reflect objectively upon the wisdom of every religion, without dismissing them in advance as heretical or idolatrous, or accepting them unquestioningly.

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“I’ve got a friend in Jesus, he’s got a friend in me. He’s a bit hung up on god, but we’ve agreed to disagree.” MGF.
Where to Now?

If we are to regard religions objectively, it seems inappropriate to define ourself in terms of any given religion, given the complexity of religious belief structures. Unless we subscribe to all the ideals of a given doctrine, religious or secular, we need not count ourselves amongst its followers. Generally speaking, complex sets of ideas should not be subscribed to wholesale unless we understand and agree with every individual idea completely and independently and have thoroughly considered the alternatives. For example if someone calls themselves a secular Muslim, or philosophical Buddhist, it may be more accurate to merely refer to the teachings of Mohammed or Siddhattha as being a source of personal inspiration. It seems to be more responsible to say that we are influenced by a set of ideas than to embrace it fully if doing so indicates a lack of actual consideration of the ideas involved or their consequences. Through such caution, we can also avoid being associated with ideas or beliefs which we do not actually hold.

If we think that destruction of life in general is undesirable, that murder is unacceptable outside of war, that killing members of our own group is wrong but killing members of other groups is not or if we are to hold some other position on the subject, I would argue that in each case, we are the ones who are responsible for our own thoughts and actions. If we choose to act as part of a group and morality is important to us, we must be aware of the impacts of the group as a whole.

We also decide how much thought we put into our thinking, thus we are answerable to questions about whether the taking of life is a trivial thing or a subject worthy of the deepest contemplation. Each sentient can be held accountable for its own thoughts to the extent that it is capable of thinking. So far as we realise our own potentials, we are accordingly responsible for their pursuit. So far as we are more aware of the potentials of others than they are themselves, we might also choose to hold ourselves responsible for encouraging them to better themselves.

The main focus of this book has been religion, yet many of the ideas that we have visited have broader potentials. Religion is merely one classification for some of our cultural ideas, all of which are interconnected in various ways. In many cases the problems we face are best dealt with when fully understood, although our understanding can of course be flawed. From another ideal perspective, problems are often best dealt with before they become problems; this obviously adds even further to the values of learning, knowledge and understanding.

If you’re interested in exploring the issues in this text further, Daniel Dennett’s book *Breaking the Spell: Religion as a Natural Phenomenon*, offers a rather laid back philosophical look at how we might investigate and deal with the phenomena of religious beliefs.\textsuperscript{cclxxvii}

As a final game, the understanding of reality could, only metaphorically I am afraid, be compared to a religion. After all, reality is what the biological systems containing our thoughts and actions, often misdirected towards religion, have evolved in order to interact with. Reality’s doctrine is continually forged and shattered in our little monkey minds as our understanding of the world changes, thus proving fundamentally fallible. There is no absolute success or failure as such, although due to the brevity of our lives and complexity of our perceptions and environments, the range of experiences that we might have within reality is practically limitless.

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Life is an island. If you stand at the edge and look out, you will see nothing but emptiness; but if you turn your view towards the island, a world of possibility awaits... Ooh no wait, wait. Life is an hourglass, each grain of sand an invaluable moment... We ride the storm of emotion that drives our minds...
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Please pardon my penchant for pernicious poeticisms.


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