Introduction
The paranormal and why it matters

LET US BEGIN with a few stories. All are rather startling, and all make a point crucial for this book. In the UK a few years ago four jurors were involved in the trial of a man for murder. One weekend they became drunk, and decided to use an Ouija board. They would contact the spirits of the murder victim and ask who had committed the crime. In the light of the spirits' replies, the jurors had no hesitation in finding the defendant guilty. The Court of Appeal was not impressed with this method of deliberation, and threw out the verdict (*Sydney Morning Herald* 2001).

Next, we will look at the deaths of two young boys in New Zealand. According to prominent medical authorities, both could probably have been saved. Caleb Moorhead was six months old when he died. His parents, Deborah Ann Moorhead and Roby Jan Moorhead were Seventh Day Adventists and also vegans (which meant that they did not eat meat, fish or dairy products). Caleb was suffering from a vitamin B12 deficiency. The parents received many warnings about what would happen, but stuck to their principles – Caleb's mother said that conventional medicine was 'Satan's way' (*Guardian* 2002) and the parents did not change their son's diet. Caleb died in March 2001 of bronchopneumonia, caused by the lack of an easily injected vitamin (Stickley 2002). According to doctors, if Caleb had received a vitamin injection as little as half an hour before his death, he would have survived.

The case of Liam Williams-Holloway generated far more publicity. At the age of three, Liam was diagnosed with neuroblastoma of the jaw – a dangerous and potentially lethal cancer. He was admitted to hospital on New Zealand's South Island. He had two courses of chemotherapy before his parents, Trina Williams and Brendan Holloway, withdrew him

from treatment and took him to Gerard and Dawn Uys who practice an alternative therapy called a 'Quantum Blaster' (Hills 2000). The doctors were horrified, arguing that he had a good chance of survival if given medical treatment, and sought a court order to have the child made a ward of the state (*New Zealand Herald* 2000). The family went into hiding. Later, the court order was lifted. Liam was taken to Mexico where an alternative clinic gave him more Quantum Blaster treatment. Liam subsequently died in Mexico. His body was cremated before a full autopsy could be carried out (Hyde 2001).

There are some significant similarities and differences between these two cases. In both cases the parents appeared to believe sincerely that their conduct was right. However, in both cases, what they were doing was strongly condemned by the medical profession. According to oncologists, if Liam had received a full course of chemotherapy, he would have had at least a 50 per cent chance of recovery, and perhaps more (Hyde 2001) And as we have seen, Caleb could have been saved far more easily. In both cases the treatments that the parents chose were unacceptable to modern medicine and science. For example there has never been any evidence of the value of the Quantum Blaster device. It was invented by Royal Raymond Rife, a Californian pathologist and amateur inventor who believed that all diseases – including cancer and dandruff – were caused by organisms that vibrated with disease-specific frequencies (Hills 2000, p. 25). An Australian magazine, *Electronics Australia,* examined the device, and found that all of the components in it were valued at about fifteen dollars. Further, they found that it generated a tiny current which could not even penetrate the skin, let alone destroy micro-organisms allegedly causing cancer (Hills 2000, p. 25).

There were some striking differences in the way the parents were treated after their sons died. The Moorheads were put on trial in 2002 for causing their son's death by failing to provide the necessities of life. They were convicted and sentenced to five years in prison. By contrast, as they went underground, Williams and Holloway received widespread support for their stance, with vigils in support being held throughout New Zealand. No charges were laid, even after the death of their son in Mexico. Indeed, alternative practitioners to this day continue to argue in favour of the correctness of what the parents were doing (e.g. Holden 2006).

Another case, not connected to health, was detailed in a recent issue of the *Skeptical Inquirer*. A woman in Texas, going to a fortune teller for a reading, was told that a curse had been placed on a young man she was attracted to, and that unless the young woman took prompt

action, the young man would die of cancer. The fortune teller offered to help lift the curse in exchange for payment. The woman, who had been expecting to pay about $US35 for the advice, eventually parted with over $US25 000. The fortune teller was eventually arrested for this and other fraudulent activities (Davis 2005).

In London, researchers Richard Wiseman and Emma Greening trained actors to visit psychics and tell them their troubles (all of which were invented). Not only did the psychics completely fail to detect that the stories were bogus, they all proceeded to offer to assist with the problems – at prices ranging from £450 to £900 (about $AUD1125 to $AUD2250) (Wiseman & Greening 1998). One wonders how many distressed people have paid such sums.

Finally, the Australian *Skeptic* magazine recently reported the case of a woman who became addicted to psychic hotlines. She ran up a debt of $AUD80 000 accessing these services. To make matters worse, she then took to crime to pay off her debts (Australian Skeptics 2007, p. 6).

What can we say about these examples? Two things are common to all of them. First, they all involved human suffering or injustice. Children died, women were terrorised by threats of curses or ran up huge debts, and a man was convicted of a crime on the doubtful evidence of an Ouija board. The second feature that they all have in common is that they involved belief in paranormal influences and powers. We will discuss the meaning of 'paranormal' later. For now, we should simply note that all the examples involved an element of the strange and the supernatural. Indeed, without belief in the supernatural, none of these events could have occurred.

We might infer from this that the people involved should not have believed in the paranormal, but this may be too harsh. Maybe the Ouija board really could communicate with the spirits of murdered people. Maybe the unfortunate young woman really was the victim of a terrible curse. We are not entitled to sweep aside the possibility without some investigation.

What we can infer, and what seems completely reasonable, is that these events might not have turned out so badly if the people concerned had been able to weigh up the pros and cons of their paranormal beliefs. For example, if the jurors had some information about the reliability of Ouija boards as a source of information, or the Australian woman had had some idea about how useful psychic hotlines really are, perhaps they would not have made the mistakes they did. Given proper information, it is likely that people will reach wiser decisions than they would make in ignorance.

This is the main goal of this book: powerful techniques exist, and these can be learned easily to enable anyone to weigh up the evidence for believing in paranormal claims. We will discover what these techniques are, and how they work.

You may have an objection at this point. 'Does it matter?', you may ask. 'Is the paranormal sufficiently important to warrant this type of investigation?' To answer this, let us look at some statistics. In 2008, Kylie Sturgess and I arranged for some questions to be posed to a cross-section of Queenslanders in a social survey. A cross-section of people were asked to indicate their belief, or lack of belief, in a range of propositions. Kylie Sturgess and I analysed the survey responses, and obtained the results shown in Table Intro.1.

Table Intro.1 Percentage of Queenslanders believing in a range of paranormal propositions, 2008 (number surveyed = 1243)

Belief	Believe or Strongly Believe (%)
Psychic or spiritual healing or the power of the human mind to heal the body	58.6
Creationism, which is the idea that God created human beings pretty much in their present form at one time within the last 10 000 years	37.7
Ghosts, or that spirits of dead people can come back in some places and situations	35.9
That people can hear from or communicate mentally with someone who has died	29.2
That extraterrestrial beings have visited Earth at some time in the past	29.2
Astrology, or that the position of the stars and planets can affect people's lives	28.4

Note that an actual majority of people believe in psychic or spiritual healing, which is worrying in the light of the cases we looked at above, and that significant minorities believe in each of the other propositions. It looks as if beliefs of this kind are quite widespread, and that their adherents, in Australia alone, can be numbered in the millions.

It might be thought that perhaps Queenslanders are more prone to strange beliefs than others. However, as Table Intro.2 shows, this is not so. Comparing the two tables, it looks as if Queenslanders' views resemble

those of Australians generally, and the beliefs of both are quite similar to those of the Americans.

Table Intro.2 Belief in selected aspects of the paranormal in Australia and the US

Belief in Australia/USA	Australia 1997 %	USA 2001 %
Ghosts/ghosts or spirits of dead people can come back in some places and situations	40	38
Astrology/Astrology or that the position of the stars and planets can affect people's lives	28	28
Past lives/future lives/reincarnation, that is the rebirth of the soul in a new body after death	30/34	25
Alien visitors (ancient)/Extraterrestrial beings have visited Earth at some time in the past	32	33
Mind reading/Telepathy or communication between minds without using the traditional five senses	36	36
Psychic healing/psychic or spiritual healing or the power of the human mind to heal the body	68	54

(Bridgstock 2003, p. 7)

British polls of paranormal belief (Fox 2004, p. 356) show similar patterns, as do surveys from other parts of the world. We should note that the percentages vary somewhat from poll to poll. This is inevitable. As social scientists know well, asking slightly different questions can often lead to great disparities in the answers. However, the main point seems to be clear. Belief in the paranormal is common and widespread, and there is also disturbing evidence that in some circumstances this belief can be harmful. In short, it looks as if being able to evaluate paranormal claims can save us from assorted forms of unpleasantness should the claims turn out to be false. Widespread ability to evaluate claims in this way might save a great deal of suffering.

This viewpoint acquires more force when we learn that the paranormal is not some fringe activity, involving few people and little money. In fact, it is an enormous industry. Years ago, George O Abell (1981) estimated that billions of dollars a year are spent on astrology alone in the US. In today's money, that would be far more. A recent Australian survey estimated that

in 2004 Australians spent about $AUD1.8 billion on alternative and complementary health care (MacLennan et al 2006). Add to that the (probably) large amounts spent on clairvoyants, UFO research and communicating with the dead, and it is clear that immense sums of money are involved. And, of course, where such sums are involved, it is important to have some way of working out whether we are getting value for money.

AND WHAT IF THE PARANORMAL IS TRUE . . . ?

So far, the reader might have been irritated by the implication that the claims made by paranormalists are false, and that they are harmful. However, the arguments for carefully evaluating paranormal claims apply just as strongly if the claims are true or if the benefits are real.

As we shall see, paranormal claims are so diverse – and in some cases so inconsistent – that they cannot all be true. However what if some of them are true? What if ESP or clairvoyance or creation science can be shown to be justified? The short answer is that our world would never be the same again. Science provides a useful parallel for thinking about this. A few centuries ago, science was the pastime of a handful of people, and in general had little impact upon the lives of most people. Now, it matters terribly.

Why does science matter? There are two answers to this question (Bridgstock et al 1998b). One answer is that science can affect our way of looking at the universe. Think of Galileo, showing that Earth and humanity are not at the centre of the universe, but a small part in constant motion (Morphet 1977). Think of Darwin, showing that humans were not specially created, but part of an ever-changing pageant of life on this planet (Toulmin and Goodfield 1966, pp. 224–31). Less well-known, think of Charles Lyell (a good friend of Darwin's, incidentally), showing that the geology of the earth could be explained by endless amounts of time, and the processes we can see shaping the world today (Toulmin and Goodfield 1966, pp. 167–70). The way we look at ourselves and the world has never been the same since.

Another way in which science is important is through technology. Again and again, scientific breakthroughs have been followed – sometimes quickly, sometimes with long delays – by technological changes which have affected our lives. The most obvious example is the modern computer. It has shaped, and is shaping, our lives most dramatically, yet it owes its origins to a scientific breakthrough by Bardeen and Shockley in the Bell Telephone laboratories in 1948 (Weber 1996). Another example concerns

the life-saving antibiotic drug, penicillin, discovered in 1928 by chance by Alexander Fleming, a researcher in London (Ryan 1992). In short, where we acquire knowledge of the universe, we often also acquire the ability to change the universe, and to improve our own place in it. Modern computers, antibiotic drugs, antisepsis, anaesthetics and much more all came about because of science. Thus, science is important because it is changing our lives through technological advance.

If paranormal beliefs turned out to be true, they would also change our lives in the same way. Consider, for example, clairvoyance. Imagine that the ability to see things beyond our normal senses was established. First, of course, it would change our view of ourselves and the world. We would no longer simply be creatures of flesh with limited understanding of the world beyond us. Instead, we would be spiritual beings, able to range beyond our bodies and to unlock the universe's secrets. Thus, clairvoyance, if true, transforms our view of ourselves and the universe. What is more, it is highly likely that clairvoyance could also yield enormous changes. If it could be used reliably, it would make it impossible to get away with murder or any serious crime. It would make it impossible for rogue states to stockpile nuclear weapons, and it might also make it impossible for people to deceive each other. Clearly, clairvoyance could transform the world if it were true, and it is important for us to know whether it is or not. Exactly the same argument applies to all paranormal claims: they are all potentially important to humanity.

In summary, I believe that the paranormal is important, and I argue that all people should regard it as so. A high proportion of the population has some belief in the paranormal and, as we have seen, this leads to the spending of billions of dollars on paranormal-related services. It can lead to the loss by some people of money they cannot afford; in some cases, it has caused the death of young children. In short, if any paranormal claims are believed and false, the consequences can be bad.

Equally, if any paranormal claims are true, then the potentialities are enormous. Our entire view of ourselves and the universe would be radically transformed, and there is always the possibility of turning some of the new knowledge to good use, such as eliminating some diseases or averting terrible wars. In the same way, if paranormal beliefs, regardless of their truth, are beneficial then we should be able to demonstrate this through the use of evidence.

This is the theme of the book. It is not aimed at debunking or destroying paranormal beliefs or claims; it is aimed at showing how rational evaluations can be made of paranormal claims, so that better decisions can be made

about them. It sounds like a modest goal, but the effect can be profound. People often find their entire viewpoint changes as they acquire these new intellectual tools.

TWO IMPORTANT POINTS

Two possible misunderstandings should be clarified at the outset. First, it would be easy to assume that this book is a trip into the wonderful world of the supernatural, where wizards, telepathy and communication with the dead are all around. Let us be clear: the book is not any kind of a guided tour of the paranormal. We will not be moving through amazing claims and exclaiming at the mystery of each one. This can be done in the supernatural section of many bookshops, and no additions are needed. We will be looking at assorted paranormal claims as part of the journey to understanding the skeptical viewpoint. At the same time, this book is not a skeptical polemic. You will not be bombarded with the wonders of skepticism and the horrors of the paranormal. The tools of skepticism are introduced, their uses demonstrated and commended, and the rest is up to the reader.

This sounds very liberal, in that the reader decides, at the end, what should be done. But, there is a big catch in this approach, and that is the second point. For several years I have been teaching a course 'Skepticism, Science and the Paranormal' (Bridgstock 2004). The intellectual approaches have always been presented as tools, to be used or not as the students wish. However, the tools are not like chisels or spades. They are powerful intellectual perspectives. Once learned and understood, they become an integral part of a person's outlook. Even if there is a desire to return to the previous state of willing belief, it may be impossible because an awareness has been planted that other, more critical approaches do exist. Thus, in a very literal sense, the approach taken here can be life-transforming and, for some people, profoundly disturbing.

Like any set of tools, skeptical tools work better the more they are used. And there is always the option, at least in principle, of simply leaving them in the box. Still, by the end of this book the reader will know what skepticism is, how to think skeptically, and why this is a good idea.

HOW THE BOOK WORKS

Chapter one might strike the readers as irrelevant. In fact it is pivotal to everything else. We will talk about the nature of science. Why do we have to

do this? The answer is that both modern skepticism and the paranormal are partly defined in terms of science. Therefore, if we are to understand what the paranormal is, or what modern skepticism is, we have to understand the nature of science.

Philosophers and others have been trying to explain science for centuries, mostly without success. We will avoid the problem. Instead of trying to define science, we will do something less ambitious. We will outline a few general processes common to all sciences, and construct a simple model of how science works. This avoids complexities, but tells us something deeply important about science, and also about both skepticism and the paranormal. Incidentally, the approach adopted here might seem new: instead of starting with abstract philosophical principles, it begins with what scientists actually do, which is far more comprehensible.

We will do more than look at the intellectual structure of science. Although science is a very successful enterprise, it has some very real problems. We will look at some of the challenges that science is facing. Although the problems do not threaten the existence of science, they do imply that its spectacular development may slow in the future. They also suggest weaknesses in the structure of science, and it is in some of these gaps that the strange blooms of the paranormal can flourish.

Chapter two moves toward the heart of what the book is about: it looks at the paranormal. We will find that definitions of the paranormal have a strange consequence. They imply that not only is the paranormal currently not understood, but that it cannot possibly be understood at any time in the future. The paranormal must remain forever unknown.

This is an unusual finding, as it means that the paranormal will forever remain on the fringes of intellectual life. It will never be completely accepted, but it can never be rejected either. Almost as an incidental issue, we will also see that the paranormal is extremely diverse. The different types of claim that make up the paranormal are quite different from each other, and in some cases are contradictory.

Chapter three begins to look at skepticism, the key concept in this book. It is clear that modern skepticism is one of the intellectual descendants of a tradition that can be traced back at least 2500 years, to the ancient Greeks. Then we move on to more modern thinkers.

René Descartes is often regarded as the first modern philosopher. As far as modern skepticism is concerned, he is an intriguing mixture of the old and the new. His willingness to doubt everything, to pursue his thought wherever it might lead, is disconcertingly modern and also very brave. His

rapid return to the arms of orthodox religious belief marks him as still being part of the age of faith.

Once we come to David Hume, a century later, we are in the modern world. Hume relished doubt and skepticism, and pursued his thoughts as far as he could. His essay on miracles is still a masterpiece and has within it the seeds of the modern skeptical movement.

Chapter four looks at modern skepticism. Although Harry Houdini and Bertrand Russell did important skeptical work in the early twentieth century, it is not until the 1970s that the modern movement was born. Writers such as Martin Gardner and activists Paul Kurtz and James Randi launched the modern skeptical movement, with its focus on the investigation, and, where necessary, debunking of the paranormal in all its forms. The worldwide growth of the skeptical movement has been spectacular, and so has its prominence in the public eye. Here we also look at some key characteristics of modern skeptical thought.

Chapter five is important. The broad sweep of skeptical thought is easy to grasp, but it does not always apply to particular cases. Therefore, we need intermediate ideas which link main skeptical concepts and paranormal claims. Here we do that. We look at important skeptical ideas and see see how skeptics use them. We explain key ideas such as the placebo effect, the double-blind controlled trial and the amazing effects of statistical coincidence.

At this point, the reader will have a good grasp of skeptical thought and how it can be applied. However, more is needed. Why should one use skeptical thought at all? Chapter six addresses this question, raising the disconcerting issue of whether it is unethical to hold certain types of belief, and why this might be so. This field – the ethics of belief – has been dormant for a long time, and is re-emerging into prominence. There is a good case for saying that skepticism is in fact an ethical movement, and here we explain why.

Chapter seven goes beyond the type of skepticism covered in the book so far. It asks whether skepticism has any value in areas beyond the paranormal. Clearly, if the definitions outlined in Chapter four are used strictly, then the answer is no. On the other hand, if we look for areas of knowledge where a skeptical type of approach might be useful, then the answer is an emphatic yes. An obvious area where a skeptical type of approach can be used is in some areas of history. We will look at holocaust denial and see how the skeptical tools resemble those to be found in the paranormal area and how far they differ. We will also cover other areas where skeptical approaches appear to be used, such as conspiracy