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1

Introduction

What is anomalistic psychology?

Psychology is defined by Eysenck (1998, p. 3) as ‘the science which uses introspective and behavioural evidence to understand the internal processes which lead people to think and to behave as they do’. In practice, psychologists consider their subject matter from a variety of related perspectives and bring to bear evidence from a wide range of different sources in order to address these issues. They may, for example, consider the ways in which individual differences between people – such as age, gender, cultural background, and personality – affect thought and behaviour. Developmental psychologists focus upon understanding the psychological changes that occur across the lifespan, from birth to old age. Social psychologists concentrate upon the way in which an individual’s mental processes and actions are influenced by others with whom they interact. Cognitive psychologists devise experiments to probe the ways in which we process information when performing such complex operations as perceiving the world around us, remembering previous events, and making judgements. The psychobiological approach attempts to describe the underlying biological processes at the level of activity in the brain and central nervous system that allow us to achieve such everyday miracles. Clinical psychologists have a particular interest in understanding those patterns of thought and behaviour which result in distress on the part of the person experiencing them. Evolutionary psychologists consider the human mind in terms of the adaptations that have shaped it over the millennia in order for us to survive as a species. Needless to say, although each of the sub-disciplines has its own particular focus, each draws upon insights from the others in attempting to understand precisely what makes us tick.

What then is the newly emerging sub-discipline of **anomalistic psychology**? French (2001a, p. 356) states that anomalistic psychology

attempts to explain paranormal and related beliefs and ostensibly paranormal experiences in terms of known (or knowable) psychological and

physical factors. It is directed at understanding bizarre experiences that many people have, without assuming that there is anything paranormal involved. While psychology, neurology and other scientific disciplines are rich with explanatory models for human experiences of many kinds, these models are rarely extrapolated to attempt to explain strange and unusual experiences.

As we shall see, anomalistic psychologists attempt to understand their subject matter by considering the phenomena to be explained from the varying perspectives of all of the traditional sub-disciplines of psychology. Before discussing the nature of anomalistic psychology in more detail, the following section describes a number of typical scenarios that illustrate the types of bizarre experiences that come within the remit of anomalistic psychology.

Just imagine ...

Imagine yourself as the central character in each of the following scenarios.

* * *

You have been trying for a long time to get to sleep after a long evening of revising for an exam the next day but so far without success. The sounds of street life outside your window keep grabbing your attention every time you start to drift off. You can't help thinking that you will be getting up again in a few hours and you still need to do some last-minute preparation before the exam starts at 10 am. You are worried that you have not really had time to prepare properly. Things have just been so hectic recently. You are now beginning to regret those cups of coffee you consumed earlier in order to keep yourself awake so that you could cram in a few more hours of revision.

Eventually, after hours of tossing and turning, you feel the warm and welcome onset of sleep gradually beginning to creep over you – but suddenly you are aware that something is not right. You can feel the fear building up in the pit of your stomach as you realize that you are not alone. At first, you simply get a very strong impression that someone is standing in the shadows at the foot of your bed. A chill runs up your spine as you lie there, paralysed with fear, and concentrate on the sounds you can hear. Although you can still clearly hear the night-time traffic on the road outside, you can also hear the unmistakable sound of breathing. You feel as if your pounding heart is going to burst out of your chest as you force yourself to open your eyes.

There is no doubt in your mind that someone – or *something* – is lurking in the shadows. Whatever it is, you instinctively know that it is evil. As you watch, to your horror the dark shadows take shape into the form of a grotesque old hag, with a wizened face and stooped body. Most terrifyingly of all, she is staring intently at you with red eyes that seem to glow in the dull light.

She shuffles slowly towards where you lie. You want to flee but you cannot move. You want to scream for help but no sound emerges from your mouth. The monstrous figure leans over the bed and stares into your face as you lie immobile on your back, so close that you can smell her warm, stinking breath. She continues to stare into your eyes as she climbs onto the bed and sits astride your chest. You can feel her filthy clothes against your skin and her greasy hair on your face as she puts her cold strong hands around your neck and begins to squeeze. You feel her weight pressing you down into the bed and your panic reaches new heights as you try in vain to gasp for breath.

You know that if you cannot escape from her vice-like grip, you will die. Despite your terror, you summon all your strength into one final attempt to move your arms. After what seems like an eternity, you manage to move your left arm a fraction of an inch – and, suddenly, the spell is broken. The hag is gone. You can move again. Shaking and drenched with sweat, you turn on your bedside light and leave it on until the morning. You are too frightened to go back to sleep.

You do not perform at your best in your exam the next day.

* * *

You watch a TV documentary on the topic of **alien abduction**. The programme features interviews with many people who claim that, against their will, they have been taken on board spaceships by extraterrestrials and subjected to medical examination. The claimants appear to be sane and intelligent people and the commentary clearly implies that their claims should be taken seriously and, in all likelihood, are probably true. A couple of sceptical scientists are briefly featured expressing their doubts about the evidence put forward in support of such claims but there appear to be a lot more scientists who seem to be convinced, including professors and doctors at respectable universities.

According to the programme, there is lots of evidence to support the idea that our planet is frequently visited by aliens. Apparently, the governments of the world are well aware of this. In fact, they have even recovered crashed flying saucers and stored them away in top-secret military bases (such as Area 51 in the USA). The advanced technology from these ships has been used to develop our own military technology. It is claimed that the reason people are being abducted is so that they can be used as guinea pigs in alien experiments to produce human–alien hybrids. It is happening on a much grander scale than anyone would imagine. This is because the aliens are able to wipe the memories of their unfortunate victims following the abduction so that they usually do not remember the event. Luckily for us though, there are often telltale signs that expert **UFOlogists** claim indicate that an abduction has taken place. These include things like strange marks and scars appearing on people's bodies with no obvious explanation or episodes of so-called **missing time**, when individuals realize that they have no memories whatsoever for a period of time despite being, as far as they know, fully conscious throughout.

To be absolutely sure that an abduction really has taken place, potential victims often have to undergo hypnotic regression. Following a hypnotic induction procedure, the subject is taken back mentally to the time and place of the possible abduction in the belief that hypnosis will provide the key to recover any repressed or blocked memories. It was clear from the documentary that when people were regressed in this way, they appeared to be reliving the whole bizarre episode. Not only were they able to describe the aliens that had abducted them and the operations they had performed, they showed an appropriate emotional response to their treatment, often crying and shaking. Unless these people were trained actors, they certainly did not appear to be faking it.

* * *

You are staying with your old Uncle Bob and his wife for a few days. You never really used to like spending time with him very much. He always seemed to you to be rather unfriendly and abrupt, always too busy with his business, and a little bit too obsessed with money and possessions for your liking. All that changed a couple of years ago when, shortly after his retirement, he had a heart attack and almost died. Since then, he has been like a different person. He has become much more caring about friends and family, and even people that he does not know personally. He does voluntary work for a number of charities and has even given away a substantial proportion of his personal wealth, built up through hard work over many decades. His wife, Vera, while generally approving of the transformation that has occurred to her husband of over 40 years, has found it hard to accept his high level of generosity in this regard. He is also now actively involved in the green movement, despite having for years dismissed green campaigners as interfering ‘do-gooders’. All in all, you now find him to be one of the nicest people you know and always enjoy his company.

One evening, sitting by the fire talking to Uncle Bob after your evening meal, the conversation turns to matters **paranormal**. You tell your uncle about the occasional weird experiences that have happened to you personally, some of the things that you have heard from friends, and things that you have read about in books and magazines and seen on TV. Uncle Bob is very interested and appears to want to tell you about an experience of his own but he is hesitant to do so. ‘The only other person I’ve told about this is Vera – and I think it worried her a lot. I think she thought I was losing my marbles!’ he eventually confides. ‘She told me not to mention it to anyone else ... but you’ve told me about your own weird experiences, so I’m going to take a chance and tell you about mine.’

Uncle Bob tells you the most remarkable story. Apparently, the day he almost died from his heart attack, he ‘saw heaven’ with his own eyes – and now that he knows that there really is life after death, he no longer has any fear of dying. When he had collapsed in the supermarket that day, he had suddenly realized that, to his great surprise, he was watching events unfold from a vantage point about 5 metres above the ground (‘I could see the tops of the supermarket

shelves as I looked down!’). He saw a concerned middle-aged man kneeling on the floor next to him asking him if he was alright and the man’s wife hurrying to the checkout counter to raise the alarm. He saw the ambulance men arrive. He was vaguely amused at all the fuss. ‘I wanted to tell them not to worry, that I was OK, but no one could hear me. In fact, I was better than OK – I’d never felt so calm and peaceful as I did then.’

The next thing Uncle Bob remembered was that he was floating gently down a long dark tunnel and he could see a light at the end. He was aware of two other beings guiding him down the tunnel. They communicated with him telepathically, reassuring him that everything was going to be alright. As he approached the light, it became brighter and brighter (‘But it didn’t hurt my eyes’). He entered into the light and felt an all-consuming love and acceptance. ‘It was God,’ says Uncle Bob simply.

Uncle Bob was then presented with scenes from his life (‘Like watching a film’), from his childhood right up through to his old age. Although it seemed like his whole life was replayed before his eyes, the whole experience was over very quickly. It was as though each scene was presented for him to learn from it, but he was not being judged in any way. For both acts of kindness and acts of selfishness, he was simply made aware of how his actions had had repercussions for himself and for those around him.

He then found himself walking through an idyllic landscape, still accompanied by his two spirit guides. They came to a bridge over a river. On the other side, he could see many people standing in a beautiful garden, all waving and smiling at him. At the front of the group were his parents, both of whom had died many years earlier. They both looked happy and healthy, and he noticed that his mother was no longer confined to the wheelchair that she had used during the final years of her life. He desperately wanted to join them but as he approached the bridge, one of the spirit guides gently told him, ‘Your time will come, but it is not now. You must go back.’ With that, he felt himself suddenly jerked back into his own body and he opened his eyes to find himself lying in a hospital bed. ‘But I’ll never forget it,’ he says. ‘It was the most beautiful experience I have ever had – and it wasn’t just a dream!’

* * *

Although the previous scenarios have been invented for illustrative purposes only, they typify the kind of evidence that convinces many people that paranormal forces really do exist. A surprisingly high proportion of the population report frightening sleep-related experiences similar to that described in our first scenario. The media frequently present claims of alien abduction supported by university-based scientists with PhDs. Many thousands of people around the world have had so-called **near-death experiences (NDEs)**, similar to that described by old Uncle Bob. Are such experiences only explicable in terms of the operation of paranormal forces – forces not currently recognized by conventional science? Or might there be other explanations?

Paranormal belief and experience

Results from public opinion polls and other sources consistently reveal high levels of belief in the paranormal among the general public in modern Western societies. For example, Moore (2005) reported, on the basis of a telephone survey of 1002 American adults, that around three-quarters of the adult American population endorses at least one paranormal belief, a figure in line with previous surveys of that population. Breaking those figures down, the levels of endorsement for different types of paranormal claim were as follows: **extra-sensory perception (ESP)**, 41%; haunted houses, 37%; **ghosts**, 32%; telepathy (defined as ‘communication between minds without using traditional senses’), 31%; **clairvoyance** (defined as ‘the power of the mind to know the past and predict the future’), 26%; **astrology**, 25%; communication with the dead, 21%; **witches**, 21%; **reincarnation**, 20%; and **channelling** (defined as ‘allowing a ‘spirit-being’ to temporarily assume control of body’), 9%. Note that the figures presented here refer to the percentages of the sample that positively endorsed each belief item. In all cases, there was also a substantial percentage of the sample (between 12% and 27%) that reported that they were ‘not sure about’ each paranormal phenomenon. Similar levels of endorsement have been found among the British adult population.

Clearly, if you have personally had what you regard to be a paranormal experience, you will believe in the paranormal. Previous research shows that personal experience of ostensibly paranormal phenomena is the most common reason that people give for paranormal belief (Blackmore, 1984; Clarke, 1995; Palmer, 1979). However, many people believe in the paranormal not on the basis of direct personal experience, but instead because of the testimony of trusted others and/or on the basis of information presented by the media (Clarke, 1995).

In modern Western societies, the media regularly deal with paranormal topics. Publishers of books, newspapers, and magazines are well aware that the public appetite for such material is virtually insatiable. Television and radio programmes regularly deal with the paranormal in both science and religion documentaries, as well as highly successful fictional series, such as the *X-Files* and so-called reality TV series such as *Most Haunted*. In the digital age, there are TV channels devoted entirely to the paranormal. Paranormal topics are also a staple subject of talk shows and of successful films such as the *The Exorcist*, *The Sixth Sense*, and *White Noise*.

Many people make a good living upon the basis of New Age practices such as astrology, **tarot cards**, and **aura** readings. For those who cannot find the time for a face-to-face reading, readings can be provided over the telephone by companies specializing in this lucrative practice. The digital age has fully embraced the paranormal industry with the Internet providing both paranormal services and information with little by way of quality control.

Similarly, the providers of **complementary and alternative medicine (CAM)** are also an important and profitable part of the general trend in the West

towards New Age practices. These alternative therapies typically have little or no scientific evidence to support them (Singh & Ernst, 2008) and yet millions of people around the world prefer to spend their money on such unproven remedies than opt for conventional medicine.

It goes without saying, however, that paranormal beliefs are not only to be found in modern Western societies. In fact, there is no known society, either historically or geographically, where paranormal experiences are not reported and paranormal beliefs cannot be found. This near-universality of paranormal belief and experience would initially appear to support the idea that paranormal forces actually do exist. If this is the case, the wider scientific community should accept the reality of paranormal forces and subject them to the same type of scientific scrutiny that would be applied to any other phenomenon of nature.

But it is at least possible that the study of paranormal beliefs and ostensibly paranormal experiences will reveal answers which suggest that in fact paranormal forces do not exist. If this is the case, the study of paranormal belief and experience promises to reveal a great deal about what it means to be human. It will inform us about the ways in which our beliefs and wishes can influence the way we perceive and remember events, how we make decisions and come to conclusions about how the universe operates. So, whether paranormal forces actually exist or not, it is certainly worth taking such claims seriously.

Problems with defining the paranormal

It is appropriate at this point to take a step back and ask the question, what exactly do we mean by the word *paranormal*? It is important in science to be clear about exactly what is meant by the use of particular words and phrases but it is clear from the discussion so far that the word *paranormal* is applied to a very wide range of phenomena indeed. Is it acceptable to simply use the term to refer to anything that we deem ‘weird and wonderful’? The simple answer to this question is: it depends who you ask.

A good place to start is the website of the Parapsychological Association (PA), who describe themselves on their home page (<http://www.parapsych.org/>) as ‘the international professional organization of scientists and scholars engaged in the study of “psi” (or “psychic”) experiences, such as **telepathy**, **clairvoyance**, **psychokinesis**, **psychic healing**, and **precognition**’. The PA has been an affiliated organization of the American Association for the Advancement of Science (AAAS) since 1969 and the *Journal of Parapsychology* is an affiliated publication of the PA. Issues of the *Journal* sometimes include a glossary of terms used in parapsychological research ‘borrowed or adapted from’ a glossary produced by Thalbourne (2003).

One such authoritative glossary appears in Volume 71, pp. 201–5. Here we find the word *paranormal* defined as follows: ‘Term for any phenomenon that in one or more respects exceeds the limits of what is deemed physically possible according to current scientific assumptions.’ **Parapsychology** itself is defined as

‘The scientific study of certain paranormal or ostensibly paranormal phenomena, in particular, ESP and PK’ (psychokinesis; if you are unsure what any of the terms used in this and other chapters actually mean, refer to the Glossary at the end of this book). Even if we include in this definition the area of evidence relating to the possibility of life after death, widely regarded as being within the remit of parapsychological investigation, we can immediately see that some of the phenomena we have mentioned so far might well be considered to be beyond that remit on the basis of the strict definition provided.

For example, if it were to be shown that aliens really were abducting people as claimed, this would not directly require the overturning of any currently accepted scientific assumptions. We may wonder at the means used by the aliens to transport themselves to Earth given our current understanding of what is and is not physically possible, but plausible scenarios based upon superior technology (e.g. suspended animation) could be developed. The mere presence of extraterrestrials on Earth would not, in and of itself, be deemed paranormal using the strict definition employed by parapsychologists. Similarly, the existence of a variety of other postulated extraordinary life forms – such as the Loch Ness monster, **Bigfoot**, and so on – would not directly violate any accepted scientific assumptions and would therefore not be deemed to be paranormal phenomena if we accept the strict definition offered. However, it is clear that people in general, and the media in particular, often do deal with such scientifically controversial claims under the umbrella heading of ‘the paranormal’.

The area of traditional religious belief is also problematic. This time, the problem is not that something which is typically thought of as being paranormal (such as alien abduction) does not fit our strict definition but that some claims which are usually *not* thought of as being paranormal (i.e. religious claims) actually do fit the definition in many instances. By defining the paranormal as phenomena which are outside the currently accepted paradigm of scientific explanation, we can see that there are aspects of many religions that would fall under the ‘paranormal umbrella’. For instance, most of the world’s religions maintain that we survive bodily death, and reported miracles from a variety of traditional religions routinely involve the violation of currently accepted scientific assumptions, including examples of apparent psychokinesis (e.g. from Christianity, Jesus turning water into wine and miracle healing, and Moses parting the Red Sea) and precognition (e.g. dreams foretelling of future events). The psychology of religion is a recognized sub-discipline in its own right (Fontana, 2003; Loewenthal, 2000; Wulff, 1997) but it clearly overlaps with both anomalistic psychology and parapsychology.

Belief in systems of **divination** such as astrology and tarot cards, or the reading of palms and tea leaves, would also present problems, as would traditional superstitious beliefs, such as it being unlucky to walk under ladders or lucky to find a four-leaf clover. These beliefs certainly fit the definition of *paranormal* offered by the PA in that they involve practices which, if valid, could not be explained in terms of currently accepted scientific assumptions, but they do not

involve ESP, PK, or life after death, and therefore fail to meet the strict definition of *parapsychological*.

There are many other phenomena which would also be problematic insofar as they are often considered to be ‘paranormal’ by the media and the general public but do not involve in any obvious way either ESP, PK, or life after death. A partial list (taken from Carroll, 2003) could arguably include **angels**, the **Bermuda Triangle**, the **Bible Code**, **crop circles**, **crystal power**, **dermo-optical perception**, **dowsing**, **fairies**, **Feng Shui**, **glossolalia**, the ‘**hundredth monkey**’ **phenomenon**, **hypnosis**, ***I Ching***, **Kirlian photography**, **ley lines**, **lycanthropy**, **Men in Black (MIBs)**, **prana**, **reflexology**, **runes**, the **Shroud of Turin**, **spontaneous human combustion**, **vampires**, and **zombies!** Again, if you are unsure what some of these terms mean, refer to the Glossary at the back of this book for brief descriptions and to Robert Todd Carroll’s (2003) *The Skeptic’s Dictionary* for further detail. The latter can be found online at www.skeptdic.com.

In practice, parapsychologists do in fact sometimes publish papers on topics other than ESP, PK, and life after death, but the vast majority of their investigations do indeed deal with these three central concepts. Anomalistic psychologists, however, tend to adopt the looser definition of paranormal as preferred by the media: that is, anything weird and wonderful (even occasionally topic areas that no one would consider to be paranormal). The reasons for this approach are discussed later in this chapter, but for now we should simply note that these different conceptions of the paranormal will influence the topics researchers choose to investigate. The previous discussion on how we define the paranormal has illustrated that it is simplistic to think of paranormal belief as if it were unidimensional, when in fact it is complex and multidimensional. This in itself should serve as a warning that explaining the psychology of paranormal beliefs and experiences is unlikely to be a simple affair; it seems much more probable that different types of paranormal belief and experience will each be influenced by different factors, sometimes interacting with each other in complex ways.

Measuring paranormal beliefs

How then have social scientists, and psychologists in particular, gone about measuring levels of paranormal belief? We have already referred to public opinion poll data which over recent decades have routinely shown high levels of belief in a wide range of paranormal phenomena in various countries around the world. Such data are of great interest in their own right but they are often rather crude indices, typically just asking respondents if they believe or disbelieve in a number of different phenomena and usually including a ‘don’t know’ option.

Psychologists typically measure beliefs, attitudes, and personality characteristics using carefully constructed scales which ideally go through a meticulous process of standardization (Anastasi & Urbina, 1997). Among other things,

it is important that scales are reliable (e.g. the results are similar if the scale is used on different occasions if one is measuring a stable trait) and valid (i.e. the scale really is measuring what one wants to measure).

A number of different measures of paranormal belief are in common use but, as one might expect, the content of these scales reflects the conception of the paranormal held by those constructing the scale. Similarly, the choice of scale on the part of users will reflect the particular experimental aims of individual researchers (Goulding & Parker, 2001). One of the most commonly used scales is the so-called Australian Sheep–Goat Scale (ASGS) developed by Australian parapsychologist Michael Thalbourne (Thalbourne & Delin, 1993; Thalbourne, 1995; Thalbourne, 2001, 2010a). Within parapsychology, believers in the paranormal are referred to as ‘sheep’ and sceptics are referred to as ‘goats’, hence the rather unusual name for this scale (this terminology is based upon a Biblical reference). The original version of the scale asked respondents to indicate their level of belief in various psi phenomena by marking a line. However, a simpler version of the test with three response options per item was subsequently developed. This version is reproduced in Box 1.1. You should complete the questionnaire before continuing.

As you can see, this scale focuses very much on beliefs and experiences relating to the three core concepts of the paranormal: ESP, PK, and life after death. The scale is very easy to administer and score. To calculate your total score on the scale, simply add together all of your responses (i.e. no points for every ‘false’ response, one point for every ‘uncertain’ response, and two points for every ‘true’ response). The most extreme sceptic would have a score of zero, having responded ‘false’ to all items, whereas the most extreme believer would have a score of 36, having responded ‘true’ to all items. What score did you get? For comparison purposes, you might like to note that Thalbourne (1995) administered the scale to 247 psychology students at the University of Adelaide. Their mean score was 14.90 (with a standard deviation of 7.61). How does your score compare? Are you a sheep or a goat? Or are you somewhere in between? You might like to complete this scale again once you have finished reading this book to see if your views have changed.

Whereas the ASGS focuses very much on the core concepts of parapsychology, other scales in common use are based upon a much broader conception of the paranormal. The most commonly used of these is the Revised Paranormal Belief Scale (RPBS) developed by Jerome J. Tobacyk (2004). A great deal of research was carried out using the original Paranormal Belief Scale (PBS) published by Tobacyk and Milford (1983), but Tobacyk revised the scale in 1988. It was widely used in its unpublished form for many years prior to its eventual publication in 2004. This scale is reproduced in Box 1.2. Once again, you may find it instructive to complete the scale before continuing.

In addition to obtaining a full-scale score by summing the responses for all items (after reverse scoring Item 23), the RPBS also allows the calculation of seven subscale scores. Scoring instructions for the subscales are presented beneath the scale items in Box 1.2. For comparison purposes, the means (and

Box 1.1 Australian Sheep-Goat Scale (Thalbourne, 1995)

For each item indicate your attitude using the following scale:

- 0 = False
 1 = Uncertain
 2 = True

1. I believe in the existence of ESP.
2. I believe I have had personal experience of ESP.
3. I believe I am psychic.
4. I believe that it is possible to gain information about the future before it happens, in ways that do not depend on rational prediction or normal sensory channels.
5. I have had at least one hunch that turned out to be correct and which (I believe) was not just a coincidence.
6. I have had at least one **premonition** about the future that came true and which (I believe) was not just a coincidence.
7. I have had at least one dream that came true and which (I believe) was not just a coincidence.
8. I have had at least one vision that was not a hallucination and from which I received information that I could not have otherwise gained at that time and place.
9. I believe in life after death.
10. I believe that some people can contact spirits of the dead.
11. I believe that it is possible to gain information about the thoughts, feelings or circumstances of another person, in a way that does not depend on rational prediction or normal sensory channels.
12. I believe that it is possible to send a 'mental message' to another person, or in some way influence them at a distance, by means other than the normal channels of communication.
13. I believe I have had at least one experience of telepathy between myself and another person.
14. I believe in the existence of psychokinesis (or 'PK'), that is, the direct influence of mind on a physical system, without the mediation of any known physical energy.
15. I believe I have personally exerted PK on at least one occasion.
16. I believe I have marked psychokinetic ability.
17. I believe that, on at least one occasion, an inexplicable (but non-recurrent) physical event of an apparently psychokinetic origin has occurred in my presence.
18. I believe that persistent inexplicable physical disturbances, of an apparently psychokinetic origin, have occurred in my presence at some time in the past (as, for example, a poltergeist).

standard deviations) of the RPBS full scale and subscale scores for 217 university students in the southern United States, as presented by Tobacyk (2004), are as follows – Full Scale: 89.1 (21.9); Traditional Religious Belief: 6.3 (1.2); Psi: 3.1 (1.5); Witchcraft: 3.4 (1.7); Superstition: 1.6 (1.2); **Spiritualism**: 2.8 (1.4); Extraordinary Life Forms: 3.3 (1.3); Precognition: 3.0 (1.3). (Note that

Box 1.2 Revised Paranormal Belief Scale (Tobacyk, 2004)

Please put a number next to each item to indicate how much you agree or disagree with that item. Use the numbers as indicated next. There are no right or wrong answers. This is just a sample of your own beliefs and attitudes. Thank you.

1 = Strongly disagree; 2 = Moderately disagree; 3 = Slightly disagree; 4 = Uncertain; 5 = Slightly agree; 6 = Moderately agree; 7 = Strongly agree

1. The soul continues to exist though the body may die.
2. Some individuals are able to levitate (lift) objects through mental forces.
3. Black magic really exists.
4. Black cats can bring bad luck.
5. Your mind or soul can leave your body and travel (astral projection).
6. The abominable snowman of Tibet exists.
7. Astrology is a way to accurately predict the future.
8. There is a devil.
9. Psychokinesis, the movement of objects through psychic powers, does exist.
10. Witches do exist.
11. If you break a mirror, you will have bad luck.
12. During altered states, such as sleep or trances, the spirit can leave the body.
13. The Loch Ness monster of Scotland exists.
14. The horoscope accurately tells a person's future.
15. I believe in God.
16. A person's thoughts can influence the movement of a physical object.
17. Through the use of formulas and incantations, it is possible to cast spells on persons.
18. The number '13' is unlucky.
19. Reincarnation does occur.
20. There is life on other planets.
21. Some psychics can accurately predict the future.
22. There is a heaven and hell.
23. Mind-reading is not possible.
24. There are actual cases of witchcraft.
25. It is possible to communicate with the dead.
26. Some people have an unexplained ability to predict the future.

Note: Item 23 is reverse scored. Traditional Religious Belief = Mean of Items (1, 8, 15, 22); Psi = Mean of Items (2, 9, 16, 23); Witchcraft = Mean of Items (3, 10, 17, 24); Superstition = Mean of Items (4, 11, 18); Spiritualism = Mean of Items (5, 12, 19, 25); Extraordinary Life Forms = Means of Items (6, 13, 20); Precognition = Mean of Items (7, 14, 21, 26)

the subscale scores are means which must therefore be between one and seven, whereas the Full Scale score is simply the total score across all items. Therefore, the Full Scale score will not equal the sum of the subscale means.)

As you can see, this scale provides a profile of a person's paranormal beliefs and not just an overall score. Thus, although you may have a similar full-scale

score to someone else, your actual profile may be quite different. This highlights the fact that it is a mistake to think of ‘paranormal belief’ as if it were a unidimensional entity. One person may express high levels of belief in, say, ESP, PK, and extraordinary life forms but low levels of belief in those aspects of the paranormal tapped by the RPBS subscales dealing with, say, traditional religious belief and superstitions. Another person may show the opposite profile but end up with a similar full-scale score.

Exactly how many different dimensions of paranormal belief there are is a controversial and unresolved issue, dependent to some extent upon whether one starts with the strict definition of the paranormal preferred by experimental parapsychologists (ESP, PK, and life after death) or the much broader conception as employed by the media, the general public, and anomalistic psychologists (i.e. pretty much anything weird and wonderful). Identification of the factorial structure of paranormal belief depends upon complex statistical analysis of data from large samples of respondents to the various scales in use. As one might expect, analyses of data from different scales based upon different conceptions of the paranormal produce different factor structures, but that is not the sole determining factor. There is even disagreement over the number of factors involved when data from the same scale are analysed. For example, Tobacyk and Milford (1983) felt that seven main factors could be identified in response data for the Paranormal Belief Scale and also for the revised version of this scale (Tobacyk & Thomas, 1997), corresponding to the seven subscales listed previously. Although some researchers have replicated this factor structure (Haraldsson & Houtkooper, 1996), many have failed to do so (Davies, 1988; Johnson, de Groot, & Spanos, 1995; Lange, Irwin, & Houran, 2000; Persinger & Richards, 1991; Thalbourne, 1995; Thalbourne, Dunbar, & Delin, 1995), with the number of factors produced ranging from one to six.

The actual details of the statistical procedures used to analyse the data are important in determining the factor structure produced and this undoubtedly explains to some extent the wide range of solutions proposed. A number of commentators have criticized the approach taken by Tobacyk and colleagues in this respect (Hartman, 1999; Lawrence, 1995; Lawrence & de Cicco, 1997; Lawrence, Roe, & Williams, 1997; Thalbourne, 1995; see also, Tobacyk, 1995; Tobacyk & Thomas, 1997). Both Lawrence (1995) and Hartman (1999) have pointed out that the number of items in this scale is insufficient from a statistical perspective to adequately sample seven independent dimensions of paranormal belief. The details of this controversy are beyond the scope of this book but it may be concluded that the available data generally do support the common-sense notion that paranormal belief is a multidimensional entity even if the precise details of that dimensionality remain to be determined. Furthermore, despite the criticisms levelled against the RPBS in terms of its apparent failure to definitively reveal the dimensionality of paranormal belief, it has proven to be an extremely useful and popular research tool.

Most researchers with an interest in paranormal beliefs do employ standardized scales of the type described earlier in their research. One of the main

advantages of such scales is that the scales are known to be valid and reliable thanks to the standardization procedures employed in their construction. Also, the use of standard scales allows results from different studies using the same scales to be compared. However, even those scales which allow for the calculation of subscale scores may sometimes be deemed to be too general in terms of what is being measured. For this reason, researchers will sometimes use one (or a very small number) of specifically worded Likert-type items instead of (or in addition to) the standardized scales. In this way, belief in (and possibly experience of) specific paranormal phenomena can be targeted more precisely.

The previous discussion should be borne in mind when considering studies which investigate psychological differences between ‘believers’ and ‘disbelievers’. Although it is often a convenient shorthand to refer to experimental participants in this way and, indeed, they will often be referred to in this way throughout this book, one always needs to be aware of the fact that the terms may be referring to a global measure of overall paranormal belief or to a very specific paranormal belief, depending upon how the beliefs were assessed. Furthermore, one would not expect necessarily to find the same psychological mechanisms underlying different types of paranormal belief and ostensibly paranormal experience.

The relationship between anomalistic psychology and parapsychology

Whereas parapsychologists typically restrict their subject matter to the core topics of ESP, PK, and life after death, anomalistic psychologists are interested in a much wider range of phenomena, many of which would often be labelled as ‘paranormal’ (if one adopts a broad definition of this term). One reason for this is that the same psychological processes may well underlie different phenomena, some of which clearly fit the strict definition of ‘paranormal’ preferred by parapsychologists, while others clearly fall outside that definition. For example, a reading by a **medium** clearly falls within the strict definition, being as it is an alleged communication with the spirits of physically dead people. Astrological readings, on the other hand, are not within that strict definition. However, readings given in both contexts appear to be very similar in some ways. In both situations, the reading involves the apparent presentation of information from some external source relating to the sitter’s life and personality. As discussed in Chapter 7, the underlying psychological processes involved in readings in both contexts may well be identical. It makes sense, therefore, for anomalistic psychologists to study both.

Similarly, whereas claims of alien abduction do not fit into the strict definition of the paranormal, claims of past-life memories most certainly do. In both cases, however, a strong case can be made (see Chapters 6 and 7) that both involve **false memories**, as do claims relating to allegedly ‘recovered’ memories of ritualized satanic abuse. Thus, the psychology of false memories is relevant

to all of these phenomena and it would be arbitrary and pointless to artificially restrict attention to only those phenomena which related to the central areas of interest to parapsychologists.

Thus insight into understanding paranormal claims can often be gained by considering similar claims that arise in a non-paranormal context. This can be further illustrated by considering David Oates's (1991) pseudoscientific claims relating to reversed speech. Oates alleges that normal human speech actually contains two simultaneous messages. The first is that which the listener consciously perceives, this message being produced by the left cerebral hemisphere of the speaker. However, Oates claims that there is a hidden message in speech that can only be heard consciously if the message is played backwards. He claims that the right cerebral hemisphere of the speaker produces this message and that the message is readily understood by the listener's unconscious mind even though consciously they remain unaware of it. It is further claimed that this message reveals the speaker's true intentions and feelings even if the consciously perceived message does not. To illustrate this, Oates claims that part of President Clinton's testimony during the Lewinsky scandal sounds like 'Kiss the lying ass' when played backwards. Oates claims that his technique would be an invaluable aid to police investigators, therapists, interviewers, and negotiators, and offers training seminars at high prices.

Such claims have no validity whatsoever for reasons discussed by Byrne and Normand (2000) and Langston and Anderson (2000). Essentially, the 'messages' that are heard in reversed speech are the result of what psychologists refer to as 'top-down processing' (French, 2001b). It is generally accepted by cognitive psychologists that when we interact with the outside world, we do so by referring to a 'mental model' of that world and our current position within it. We do this on the basis of two sources of information. The first is 'bottom-up' information in the form of raw sensory data coming in through our eyes, ears, and other sensory systems. In order to make sense of this input, we also make use of top-down processing. This refers to our knowledge, belief, and expectations about the world. As you might expect, top-down influences have their strongest effect when the sensory input is ambiguous or degraded in some way.

When Oates and his followers listen to **reverse speech**, they are expecting to hear a message in the speech-like sounds they hear. Their own expectations are sufficient to ensure that they often do so. The subjective nature of the supposed message is powerfully illustrated by the fact that one typically cannot hear the alleged message until one knows what it is that one is supposed to hear (and even then, it's not always easy!). You can experience this for yourself by visiting David Oates's website at <http://www.reversespeech.com/>. Try listening to the sounds without knowing what it is that you are supposed to hear. You will almost certainly not be able to discern the message that Oates claims is present. Once you do know what the message is supposed to be, the expectation produced is such that you will probably hear the message.

Once again, the psychology of a non-paranormal, albeit pseudoscientific, claim is directly relevant to understanding the psychology behind a paranormal

claim. In this case, the paranormal example is the so-called **electronic voice phenomenon (EVP)**. The idea that spirit voices could be recorded by leaving a tape recorder in record mode in empty rooms or by recording the noise produced when a radio tuner is set between stations was popularized by Konstantin Raudive (1971). It is probable that some of the recordings actually have inadvertently recorded genuine (living) human voices and at other times have recorded transient radio signals. But this body of work has received most criticism because of the entirely subjective nature of the interpretations of the unclear sounds recorded (Banks, 2001, 2012; Barušs, 2001; Ellis, 1975; Smith, 1972). There are many websites where you can access examples of EVP samples for yourself (just type ‘EVP’ into a search engine). You will find that in the majority of cases you will not be able to hear the alleged message until you know what it is you are supposed to hear.

The power of top-down processing is also demonstrated by the phenomenon of so-called backward masking (also known as ‘backmasking’). This is the idea that rock music contains hidden backwards messages, a claim widely accepted among American Christian fundamentalists who believe that these messages are satanic in nature. By similar reasoning to that employed by David Oates, they believe that although the messages cannot be consciously perceived when the music is played forwards, they can still have a powerful unconscious influence on the listener. There is no evidence whatsoever to support such beliefs other than the subjective impression on the part of those pushing this idea that these messages are real. In one famous case, the rock band Judas Priest was taken to court over such claims (McIver, 1988). Two American teenage boys had shot themselves, one of them fatally, and the parents of the boys claimed that they had done so because the backwards message ‘Do it’ was hidden in one of the tracks by the band. Fortunately, the judge found in favour of the defendants.

There are many websites that will allow you to listen to examples of these alleged messages. Once again, try listening to them initially without knowing the message you are supposed to hear and then again when you do know the message. The most stunning example we have personally come across is a clip from Led Zeppelin’s classic track *Stairway to Heaven* (just type ‘Stairway to Heaven backwards’ into a search engine). The first time you play the backwards clip, you may pick up a word or two. But when you play it again having read what you are supposed to hear, you will hear a message running to some 35 words of coherent English. You will hear the message as clear as a bell and wonder how you missed it the first time. But the truth is that the message is not really there at all.

As these examples vividly illustrate, it is often fruitful to consider psychological explanations of non-paranormal phenomena when attempting to explain ostensibly paranormal phenomena. Topics of potential interest to anomalistic psychologists cover a wide range, from those topics which would fall within the strict definition of the paranormal preferred by parapsychologists to many topics which would not be classed by anyone as paranormal, such as urban myths, hypnosis, and placebo effects. Along the way, anomalistic psychology

would also encompass all of those topics which the media would describe as ‘paranormal’ even if parapsychologists would not.

But why should psychologists devote valuable research time to attempting to explain ostensibly paranormal experiences at all? There are a number of very good reasons. As we have already seen, the majority of adults in Western societies do believe in the paranormal and a sizeable minority claim to have had direct personal experience of it. In fact, as stated, there is no known society, either historically or geographically, where such beliefs and experiences are not common. Until fairly recently, with a few notable exceptions, psychologists have had little to offer by way of explanation for such beliefs and experiences which clearly constitutes an important aspect of what it means to be human.

Furthermore, people make important decisions on the basis of such beliefs. Many people consult astrologers, tarot card readers or psychics for guidance relating to important life decisions concerning relationships, finances, and health. Millions of pounds are spent annually in the UK alone on complementary and alternative therapies, many of which are based upon paranormal notions. Making the wrong decisions regarding one’s health can have serious repercussions both financially and medically.

As stated, the models put forward by anomalistic psychologists are often derived from and informed by theories developed in other sub-disciplines within psychology. Indeed the organization and structure of this book is based upon this fact as explained in the next section. However, it is important to emphasize that the relationship between anomalistic psychology and psychology as a whole is reciprocal. Many of the findings from anomalistic psychology have implications that go well beyond explaining unusual experiences. To take but one example, much recent work has been directed towards investigating memory for anomalous experiences (French, 2003; French & Wilson, 2006). While such research clearly helps us to understand how memory for unusual experiences can be influenced by one’s level of paranormal belief, many of the conclusions drawn are likely to generalize in the sense that memory biases are likely to be influenced by beliefs held in other contexts as well (e.g. political and religious beliefs). Thus, this body of research can be seen as one particular example of the study of the effects of belief upon memory.

Anomalistic psychologists typically assume as a working hypothesis that paranormal forces do not exist and attempt to explain ostensibly paranormal experiences in non-paranormal terms. Wherever possible, it is important that anomalistic psychologists produce empirical evidence in support of their proposed explanations as opposed to simply putting forward explanations that may sound plausible but have not actually been subjected to any empirical testing. The appropriate attitude for anomalistic psychologists to adopt is one of scepticism in the true sense of the word (French, 2005a). Scepticism should involve an attitude of open-minded doubt, a willingness to examine the available evidence and to admit that one may be wrong. It should not involve dismissing claims on the basis of pure prejudice without fairly assessing the evidence put forward in support of those claims.

For this reason, anomalistic psychology should not be thought of as being opposed to parapsychology. The assumption on the part of most anomalistic psychologists that paranormal forces do not exist is simply a working hypothesis and should be treated as such. It is open to revision should parapsychologists (or other types of researchers for that matter) ever manage to produce compelling evidence that paranormal forces really do exist (see Chapter 10 for an assessment of the current state of parapsychology). If this point is ever reached, anomalistic psychologists would still have performed a valuable service for parapsychologists by helping them to distinguish between what is genuinely paranormal and what just looks like it is on the surface.

The structure of this book

The structure of this book is based upon the structure of the discipline of psychology as a whole. Psychology is divided into a number of sub-disciplines each with a characteristic perspective and approach to its subject matter. Inevitably, these sub-disciplines overlap each other considerably, and any reasonably comprehensive explanation of a particular psychological phenomenon will usually involve considering that phenomenon from more than one such perspective. In practice, however, most topics in psychology have traditionally been investigated within one particular sub-discipline or another and psychology textbooks and courses are traditionally taught in terms of these sub-disciplines. It therefore makes sense to consider what each of these perspectives might offer in terms of providing insight into the topics of interest to anomalistic psychologists. Having outlined in this introductory chapter the general domain and approach of anomalistic psychology, there now follows a summary of the contents of the remaining chapters of this book. It should be noted that the early chapters of the book tend to be more focused upon paranormal beliefs whereas the latter chapters focus more on ostensibly paranormal experiences. As already stated, these two areas are obviously related by the fact that anyone who has had a potentially paranormal experience is much more likely to believe in the paranormal than someone who has not.

Chapter 2 Individual differences

Chapter 2 will summarize the considerable body of research that has investigated various individual differences associated with paranormal beliefs (Irwin, 1993a, 2009; Irwin & Watt, 2007). Much of the research in this area has been driven by the desire to test particular hypotheses related to the possible functions of paranormal belief. For example, a case has been made that levels of paranormal belief may be higher among those with relatively less power and influence within society. This is referred to by Irwin and Watt (2007) as the **social marginality hypothesis**. Differences in levels of belief associated with gender, age, socio-economic status, race, and marital status will be considered

with respect to this hypothesis. Consideration will also be given to cross-cultural differences in paranormal beliefs. Chapter 2 will also discuss the evidence relating to possible differences between believers and non-believers in the paranormal in terms of personality.

Chapter 3 Clinical perspectives

Uninformed sceptics often assert that anyone who believes in the paranormal or claims to have had a paranormal experience is probably psychologically maladjusted. There is, in fact, reasonably consistent evidence that paranormal beliefs and the tendency to report ostensibly paranormal experiences do correlate significantly with a number of measures of psychological maladjustment, including manic-depressive (**bipolar**) tendencies, magical ideation (**schizotypy**), and **dissociativity**. However, as will be discussed in Chapter 3, these findings are open to a variety of interpretations. A useful framework to apply here is that of the **reality monitoring** approach. Reality monitoring refers to the psychological processes which underlie our ability to distinguish between events taking place in the external world and our internal mental events (resulting from imagination, fantasy, dreams, and so on). Among the consequences of poor reality monitoring one might expect to find greater susceptibility to suggestion, tendency to hallucinate, and susceptibility to false memories. Evidence suggests that believers in the paranormal may indeed demonstrate such proclivities. However, it is certainly not the case that all believers would fit such a psychological profile and that no sceptics would. These factors may play some role in explaining ostensibly paranormal beliefs and experiences but they only account for part of the observed variance.

Chapter 4 Developmental perspectives

Chapter 4 considers developmental aspects of paranormal beliefs and experience. It is often claimed that childhood is characterized by **magical thinking**, a tendency which supposedly disappears as one matures into adulthood. In fact, a reasonable case can be made that examples of magical thinking can be observed in both children and adults. The available evidence is assessed in this chapter. Picking up on the themes of **fantasy-proneness** and reality monitoring developed in Chapters 2 and 3, this chapter will also outline one particular model of the development of paranormal beliefs first proposed by Harvey Irwin (1992) which links the development and maintenance of paranormal belief to **fantasy-proneness** and the tendency to dissociate, both of which may themselves have developed as psychological defence mechanisms to cope with childhood trauma.

Chapter 5 Psychobiological perspectives

It is a central assumption of modern neuroscience that all experiences, including ostensibly paranormal experiences, are mediated by the central nervous

system. It is certainly the case that neuroscience can provide valuable insights into many such experiences and Chapter 5 illustrates this by outlining neuroscientific approaches to understanding two commonly reported altered states of consciousness. The first of these is known as **sleep paralysis** (French & Santomauro, 2007; Santomauro & French, 2009), as illustrated by the fictional scenario with which this chapter opened. Sleep paralysis in its most basic form is commonly reported among the general population. It involves the realization, either as one is drifting off to sleep or as one emerges from sleep, that one is paralysed. The experience is often accompanied by frightening visual and auditory **hallucinations**, a strong **sense of presence**, difficulty breathing, and intense fear. Such experiences are often interpreted in paranormal terms.

The fictional account of Uncle Bob's experience presented earlier illustrates many of the common features of another vivid altered state of consciousness known as a *near-death experience* (Blackmore, 1993; French, 2005b, 2009b). Such experiences are surprisingly common among people who have had a close brush with death. As described, they often involve a profound sense of peace, an **out-of-body experience (OBE)**, travelling down a tunnel towards a light, entering the light, meeting spirits of deceased loved ones and/or religious figures, a life review, reaching a point of decision, and returning back to the physical body. The transformational effects of such experiences can be long lasting. From a scientific point of view, the issue is whether the experience is best conceived of as a glimpse of an afterlife or, to put it simply, the visions of a dying brain. Plausible neuropsychological explanations for the different components of NDE will be presented. The involvement of the temporal lobes of the brain in a variety of ostensibly paranormal experiences will also be discussed.

Chapter 6 Cognitive perspectives

Cognitive psychology is another sub-discipline which has a great deal to offer in terms of insights into ostensibly paranormal experiences. Chapter 6 summarizes research into cognitive biases that may underlie a range of subjective psi experiences, including telepathy, clairvoyance, and precognition (French, 1992a; French & Wilson, 2007). The possible roles of non-conscious processing in ostensibly paranormal experiences will also be discussed. The central importance of the reliability of memory in assessing reports of anomalous experiences is emphasized, drawing upon the vast research literature relating to the inaccuracy of eyewitness testimony and the generation of false memories (French, 2003; French & Wilson, 2006).

Chapter 7 Social perspectives

Chapter 7 considers the valuable contribution that social psychology makes to our understanding of paranormal belief and ostensibly paranormal experiences. Although much of this book deals with psychological explanations of personal experiences that are interpreted as involving paranormal forces, a large

proportion of the population believe in the paranormal despite never having had any such personal experiences themselves. Among the most common reasons given for believing in the paranormal among such people is the personal testimony of trusted friends and relations as well as media coverage of the paranormal, as described in this chapter.

Many people believe in the paranormal because they are impressed by the readings given by psychics, astrologers, and other fortune tellers, either as personally experienced or as seen on TV. Chapter 7 describes the social psychology of **cold reading**, a technique used by deliberate con artists to give the impression that they know everything about complete strangers that they have never even met before (Hyman, 1977). This should not be taken as implying that all individuals who claim to possess such a gift are deliberate frauds, but it is plausible that they may be drawing upon the same sources of information in their readings as the intentional cold reader but without realizing that they are doing so. This chapter will also present recent research into the psychology of psychic–sitter interactions that has employed a social constructionist approach, which considers the ways in which anomalous experiences are mediated through language and social interaction.

The sociocognitive perspective on a range of ostensibly paranormal phenomena is also considered in this chapter (Spanos, 1996). In attempting to understand the phenomena associated with hypnosis, two main opposing schools of thought have emerged. The first school of thought maintains that the hypnotic trance is a unique altered state of consciousness, as different to the normal waking state as, say, dreaming is. In the hypnotic state, the mind is said to operate differently to the way it operates during normal consciousness and the individual may be able to perform tasks that would not normally be possible. This is known as the **state theory of hypnosis**. Non-state theorists, on the other hand, maintain that all of the so-called hypnotic phenomena can be explained in much more mundane terms, involving such factors as compliance, role enactment, and imagination, without the need to invoke any unique altered state of consciousness (Wagstaff, 1999). The **non-state theory of hypnosis** is one example of the sociocognitive perspective but this perspective can also be applied to a wide range of ostensibly paranormal phenomena including mediumship, **possession**, **exorcism**, and reincarnation claims (Spanos, 1996).

Chapter 8 Evolutionary perspectives

Like the rest of the animal and plant kingdoms, human beings are the products of evolutionary history. It is reasonable to assume that psychological and behavioural traits that are found widely within human populations both across time and space have become so prevalent because they confer some kind of advantage in terms of survival. This chapter will consider whether such reasoning can be applied to paranormal beliefs and supernatural beliefs more generally. At first glance, it may seem odd that beliefs which may well be untrue could actually confer any kind of survival advantage, but deeper consideration

reveals that in fact this may well be the case. It is possible that such beliefs are to some extent a by-product of a cognitive system that has evolved to make quick decisions that are usually right as opposed to slower decisions that are right a little more often. In evolutionary terms, the former may be preferable to the latter.

Chapter 9 Integrating the different approaches: Alien contact claims

Chapter 9 attempts to explain alien contact and abduction claims as an example of the way in which any reasonably comprehensive explanation of a particular ostensibly paranormal phenomenon is likely to draw upon a number of different perspectives (French, 2001c; Holden & French, 2002). It will be demonstrated in this chapter that individuals who claim to have been contacted by aliens tend to have a particular personality profile (Chapter 2) and developmental history (Chapter 4) consistent with tendencies towards being susceptible to hallucinations and false memories (Chapter 3). The role of sleep paralysis and the possible role of unusual neural activity in the temporal lobes (Chapter 5) will be outlined. Ultimately, it will be argued that reports of alien abduction experiences are almost certainly generally based upon false memories (Chapters 6 and 7).

Chapter 10 Parapsychological perspectives

As stated earlier, anomalistic psychologists generally adopt the working hypothesis that paranormal forces do not exist but genuine scepticism requires that the possibility that paranormal forces do exist is recognized. For that reason, many anomalistic psychologists devote some of their research effort to directly testing paranormal claims. Chapter 10 presents an overview of parapsychology (Irwin & Watt, 2007), emphasizing that some of the findings presented from researchers carrying out experimental investigations under apparently well-controlled conditions do appear to support the claim that psi exists. It will be argued that although the parapsychological research literature taken as a whole falls well short of providing definitive proof of the existence of paranormal forces, some of the current avenues of research are worthy of being taken seriously by the wider scientific community and merit further investigation.

Chapter 11 Philosophical perspectives

This chapter will consider some of the philosophical aspects of anomalistic psychology and parapsychology. Two main issues will be addressed. First, the scientific status of parapsychology will be discussed. Critics of parapsychology often condemn it as being nothing more than a **pseudoscience**. Such assessments depend upon the means used to differentiate true science from non-science, a topic that has exercised philosophers of science for well over a century. The position taken here is that, regardless of whether or not paranormal forces

actually exist, parapsychology at its best can legitimately be described as a true science. The second issue to be addressed relates to the implications for our understanding of consciousness if certain paranormal claims were proven to be true. If it turned out that consciousness really can be separated from the physical brain, this would prove that some form of **dualism** is required to fully understand consciousness.

Chapter 12 Future prospects for anomalistic psychology and parapsychology

The final chapter of the book will consider the current status and future prospects for the fields of anomalistic psychology and parapsychology, paying particular attention to the implications for parapsychology of current concerns within psychology relating to poor replication rates and publication bias.

Suggested further reading

For general discussion of anomalistic psychology:

- Cardena, E., Lynn, S. J., & Krippner, S. (eds). (2013). *Varieties of anomalous experience: Examining the scientific evidence*. 2nd edn. Washington, DC: American Psychological Association. (NB: Readers will find several references in the current volume to chapters in the first edition of this book. We only learned that an updated second edition was being produced as the current volume went to press.)
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