Part I: **Chapters 1-3**

Oh, you should never ever doubt what nobody is sure about.

Willy Wonka

The main aim of Part I is to set the scene for a discussion of psi hypotheses in Part II in relation to explanatory issues in philosophy of science. The conceit that runs through the thesis is to take the reader on a journey from the *Terra Incognita* in Chapter 1—the unknown explanatory territory that is revealed after a critique of the mainstream assessment of psi—to the more grounded *Terra Firma* in Chapter 6. The chapters in between explore the explanatory issues that are relevant to psi as new explanatory territory is mapped out.

Chapter 1 commences with a critique of the philosophical arguments for psi which I show are problematic on a number of counts: failure to consider the evidence; inappropriate invocation of explanatory conservatism; and failure to acknowledge relevant background beliefs. I also show that there has been a failure to recognise the structure and logic of the arguments as Inferences to the Best Explanation. I use the latter point to argue that if an assessment of psi is to be a legitimate Inference to the Best Explanation, then the outline of the evidence, the compilation of hypotheses and process by which the 'loveliest' is selected require re-analysis.

The first two of these tasks are undertaken in Chapter 2 in which I outline the three types of evidence for psi. Theories that have been proposed to account for the phenomena are also summarised. I then re-analyse the psi debate in terms of a similar discussion in philosophy: the hard problem of consciousness. Four psi hypotheses are identified: the skeptic hypothesis, the supernatural hypotheses; and two realist accounts. The psi debate is thus recouched as a 'psi hypotheses discussion', which allows for more productive philosophical discussion of psi and related explanatory issues.

In Chapter 3, I examine some of the background beliefs that have informed the mainstream assessment of psi. In particular I show how changing explanatory schemes have historically accounted for psi phenomena as supernatural. I make a case against the supernatural hypothesis on the basis that most of the phenomena exhibited are mundane.

By the end of Part I there are therefore three competing hypotheses: the skeptic hypothesis; and two psi realist hypotheses. The competing stances form the focus for the discussion in Part II of the thesis where further explanatory issues are dealt with in more detail.

Chapter 1: **Terra incognita**

Faced, accordingly, with a paucity of solid fact-let alone laws- in parapsychology, one who tries to discuss its philosophical implications cannot help feeling that he is standing on spongy ground. Perhaps it is most appropriate to regard those implications neither as philosophical truths or probabilities nor as philosophical proposals, but as philosophical questions.

James M.O. Wheatley

This chapter examines the dominant arguments in philosophy which deal with psi phenomena. These are the Explanation by Fraud Argument (EFA) and the Humean-based Modern Miracle Argument (MMA). The former focuses on the Australian philosopher Keith Campbell's version and the latter on the case made by George Price in 1955. The arguments represent the most comprehensive examples of philosophical assessment of psi in relatively contemporary mainstream philosophy. Their impact on the mainstream philosophical assessment of psi has been profound and yet there is little discussion about the arguments themselves in that forum.

Firstly, I critique the arguments separately: I detail issues about explanatory conservatism that inform the Explanation by Fraud Argument; and I show the Modern Miracle Argument is problematic and requires an update. Secondly, the two forms of argument are considered together in a generic form, and an argument is made that the argument for psi as best explained by fraud falls to an overarching criticism: it is an illegitimate, Pre-emptive Inference to the Best Explanation (PIBE). The term PIBE is subsequently defined and described.

Two conclusions are drawn from the analysis of the mainstream psi arguments: firstly it is concluded that a more complex approach to understanding psi is warranted; and secondly the analysis is used to flag the issues of explanation and background belief, that are important to the development of a more sophisticated analysis of psi phenomena. Chapter 1 thus sets the scene for the analysis of psi and related explanation issues, which is then undertaken during the course of the thesis.

The exploration of explanatory issues that ensues in following chapters helps to resolve the tension between the apparent body of evidence for psi and the current lack of a tenable explanation for the phenomena, which is at the core of the psi debate and therefore of central concern to this thesis.

1.1 Psi arguments in mainstream philosophy

Arguments about psi phenomena are rarely made explicit in contemporary philosophy. Instead, it is assumed that although potentially relevant to philosophical issues, there is no evidence for psi and accordingly, further discussion of psi should not be undertaken[4]. As a result psi is often invisible in mainstream philosophical discourse. I show in Chapter 2 that there is a significant body of evidence for psi that does require an assessment. It is curious how the gap between the mainstream assessment of psi and body of evidence has occurred, hence it is important to analyse the mainstream arguments in philosophy that have given rise to the notion that there is no evidence for the phenomena. I suggest that behind the assertion lie two main arguments which show how this conclusion was reached. They are important because they are the dominant arguments in philosophy and have had an ongoing effect on the mainstream assessment of psi phenomena. I show both the Explanation by Fraud (EFA) and Modern Miracle Argument (MMA) suffer from similar problems due to assumptions about the explanation of psi. I critique the structure, set up and conclusions of both the arguments separately starting with the Explanation by Fraud Argument (EFA) in the subsection below.

1.1.1 Explanation by fraud (EFA) argument

The EFA asserts that psi phenomena are most rationally explained as the product of deliberate fraud or self-delusion. The argument has been most clearly put forward by the Australian philosopher Keith Campbell, who is concerned with the evidence for psi as part of a discussion of the mind/body problem published in his book *Body and Mind*. He writes:

> the Mind-Body problem requires for its solution a judgement on parapsychology, and that in turn raises general questions in philosophy, and in particular epistemology (Campbell 1984, p95)

[4] For instance, the following quote is taken from a general text book on philosophy of mind:
…If there were such [psi] phenomena, then existing physical theory would certainly appear to be inadequate. But there is no evidence of such phenomena (or so most current philosophers of mind assume). Moreover, even if there were, it is unclear how it would bear upon the explanation of vast amounts of perfectly normal human and animal behaviour when such evidence seems even less likely to arise. (Rey, 1997, p72)

He then goes on to say that:

> We must confront the problem of how evidence can have weight, and this raises the question of fraud. The problem of fraud is that we know men can, and do, cheat and dissemble, but we do not know that they have paranormal capacities. On the contrary, the great weight of our fully attested knowledge of man's origin and constitution makes paranormal capacities extremely unlikely. So for any result in psychical research which can be explained either by appeal to paranormal powers or by the hypothesis of fraud, the explanation by fraud is the more rational one.
> (Campbell 1984, pp94-95)

And finally that:

> Only repeatability can eliminate the hypothesis of fraud. If the subject can repeat, or nearly repeat, his paranormal feat for anybody, at any suitable time, in any suitable place, under conditions which any independent experimenter is free to vary at will, with assistants whom the experimenter can choose, then fraud can be excluded as an explanation of the events. (Campbell 1984, p96)

In point form, the argument runs as follows:

PROBLEM:	When presented with the evidence for psi
SET UP	'we must confront the problem of how evidence can have weight.'
PREMISE 1	'we know that people can and do cheat and dissemble.'
PREMISE 2	'we do not know that they have paranormal capacities' (in fact paranormal capacities are extremely unlikely).
CONCLUSION	the 'explanation by fraud is the more rational one.'
CAVEAT	unless the repeatability problem is addressed.

I have called Campbell's argument the Explanation by Fraud Argument (EFA) because of its concluding statement: 'the explanation by fraud is the more rational one'. At first glance, it is reminiscent of Hume's miracle argument. That is, one must choose between something that is thought to contravene the laws of nature (highly improbable or unlikely) and something that one knows for sure (that people tell lies) and therefore one should question the source of the improbable events rather than believe the former occurred. At this stage of the analysis I treat Campbell's version as a standalone argument because he does not make any reference to Hume's work[5]. In

[5] As the other argument I focus on in this chapter, George Price's Modern Miracle Argument, specifically references the Humean argument I will deal with issues of concern regarding the modern rendition of Hume's argument in the next section.

the following analysis of the EFA I show that there are important issues about explanatory conservatism that guide the set up and structure of the EFA argument which warrant further investigation of psi phenomena in relation to explanatory issues.

The EFA premises

It is hard to quibble with either of the premises. We definitely know that people do lie and cheat and can be deluded unwittingly from our own personal experience. It is also easy to confirm that psi is considered unlikely by mainstream science. Mainstream dictionaries and encyclopaedias define psi as anomalous in the strictest sense, and hence paranormal (Mautner 1996, p310, Blackburn 1994, p277)[6]. Therefore neither of the premises of the EFA argument are controversial statements. Instead it is the set up and structure of the argument which I will focus on in this critique.

The EFA set up

It is the set up to the premises that gives the first clue as to the hidden explanatory concerns that might be informing the argument. Campbell says 'We must confront the problem of how evidence can have weight' (Campbell 1984, pp94) which indicates that he believes that the evidence is significant enough to warrant examination. But directly after this statement he introduces the premise which states that we know people cheat and dissemble. Such a manoeuvre is problematic because it suggests that between the set up and the first premise lie certain assumptions about the evidence itself. The statement in the first premise is not an assessment of the actual weight of the evidence as promised in the set up of the argument. I suggest that there are other questions that could be asked and should be answered prior to the introduction of the fraud premises. For instance Campbell could ask:

[6] In fact one such definition from the *Penguin Dictionary of Psychology* starts off with a rather acerbic comment on parapsychology which they defined as a 'more or less (with the emphasis on the *less*) accepted branch of psychology concerned with paranormal phenomena…' (Reber 1985, p517). The definition finishes up by advising want-to-be psi researchers to fund their research by using psychics to help them win at casinos and the race track—an absurd proposition.

What evidence is there for psi?

or,

Does the evidence for psi conform to current scientific standards?

There are also more complex questions that could reasonably be posed regarding the weighing up of probabilities in regard to fraud:

When does the evidence for an anomalous phenomenon such as psi outweigh the improbability of it?

How do we make an empirical judgement on what is considered anomalous phenomena?

How much cheating and dissembling can we reasonably postulate in order to explain the evidence in such a manner?

Campbell does not give any reason why he introduces the cheating and dissembling premise upfront without addressing any of the issues regarding fraud and psi explicitly. The introduction of the first premise without discussion is therefore presumably based on assumptions regarding the nature of the evidence for psi as anomalous. The EFA is then a circular argument based on the formally defined nature of the phenomena rather than an assessment of it per se.

It is important to realise the gravity of what is being proposed when it is suggested that fraud can account as a blanket explanation for the entire body of evidence for psi. The issue of fraud as an explanation for psi is well covered in psi literature. Some 14 years prior to the first publication of Campbell's book in 1970 it was noted that for fraud to be a reasonable hypothesis to account for the evidence one must 'believe that all parapsychologists are liars and montebanks but such a charge…' even if applied 'to the dozens of university and other scientists involved, is not likely to be taken seriously.' (Rhine 1956, p11) There is a body of evidence for psi[7] which, although controversial, can be analysed in terms of scientific validity as any other evidence is in science. A genuine weighting of the evidence for psi indicates that the situation is more complex than that which is assumed by proponents of the Explanation by Fraud Argument.

[7] Once again I remind that if the reader is unfamiliar with what constitutes the body of evidence for psi it is set out in some detail at the beginning of Chapter 2.

Psi has been studied using appropriate scientific methods that are acceptable to mainstream scientific processes[8]. The results are controversial because overall the experiments indicate that psi effects occur in the lives of regular people and they are confirmed to a certain extent in small scale replications in laboratories. I suggest that it is unreasonable to ascribe fraud as an explanation for the phenomena without taking into account how much fraud must be required in order to provide a satisfactory explanation for the phenomena. The fraud hypothesis becomes absurd (not to mention potentially libellous) once it is considered just how much fraud or lying or cheating or dissembling must take place in order for it to be a reasonable assessment of the case in hand. It is because arguments such as the EFA assume fraud without explicit assessment of the evidence that I think there is a deeper undercurrent informing the argument.

To underscore this point further, I will now review a similar contemporary example where there is debate and discussion regarding evidence. Global warming has been the topic of much debate amongst the scientific community and philosophers in recent years. It is similar to the psi debate because there are two sides to the debate: those that believe some scientific data indicates human activity is causing global warming and those who disagree with this statement and yet draw on the same body of evidence regarding the climate. The latter are often referred to as 'global warming skeptics' which is also indicative of a similarity to the psi debate.

The discussion regarding climate change has been the subject of philosophical investigation. For instance, in a paper called 'Scientific basis for the greenhouse effect' William R. Cline outlines the scientific evidence and analyses the data taking into account the views of scientists who propose various interpretations of the ultimate cause of the current fluctuation of the earth's temperature. In the end he concludes that 'it should be clear from this review that many scientific uncertainties remain about the greenhouse effect. However, uncertainty is not necessarily grounds for policy inaction' (Cline 1991, p916). The paper is indicative that a thorough assessment of the state of the global warming debate has been undertaken: the author performs an evaluation of the evidence available from scientific journals; and the

[8] Assessments of psi in relation to scientific method have been performed on an ongoing basis since the controversy regarding modern day experiments first commenced. I mention some specific details in Chapter 5. For a recent summation of the history of the scientific study of psi and the status of the evidence can be found, for instance, in Adrian Parker's article 'Does psi exist?' in the *Journal of Consciousness Studies'* special issue on psi: *Psi Wars*.

article then goes on to compare the different interpretations of evidence; and finally, provides a summation of the situation. The weighing up of the evidence of the global warming debate is based on an analysis of issues relevant to philosophy of science, such as the problems of weighing up and the problematic nature of interpreting data in relation to theory development.

The examination of the global warming debate is in sharp contrast to the EFA argument, which also requires a weighing up of disputed evidence in a field of scientific inquiry. It is hard to imagine that a philosophical assessment of the climate change debate would, instead, mount a similar argument to the EFA. For instance, it would be considered rather absurd to contend that 'we know that people cheat and dissemble' and 'we are unsure if there is global warming' so therefore 'there is no global warming.' And yet that is exactly what the Explanation by Fraud Argument proposes is a reasonable response regarding the evidential issues that the body of evidence for psi raises. According to the EFA there need be no discussion of the pertinent issues in philosophy pertaining to an evaluation of the evidence for psi.

Despite this problem the Explanation by Fraud Argument has remained dominant and accepted by mainstream philosophy as the most rational response when it is required to make a decision about the body of evidence for psi[9]. But is it? I suggest that it is not. No, there are beliefs that inform the set up of the premises of the argument regarding psi that are specific to the phenomena and which are not reflected in other philosophical investigations of contentious debates in science. I explore these beliefs further in the section below.

Conservative explanatory concerns - E_n and E_Ψ

I argue that that the set up of the premises of the Explanation by Fraud Argument is informed by a predisposition to a conservative approach to explanation in the sciences which is problematic. To illustrate this I suggest that when mainstream philosophers consider psi, they are really making an assessment which chooses one of two possible outcomes:

[9] Cotemporary mainstream philosophers often re-iterate that 'there is no evidence for psi' even if they don't reference the EFA specifically. I make more specific mention of some statements in philosophy of mind that maintain this stance later in the thesis.

either

E_n - psi cannot be explained currently as a natural phenomenon therefore the fraud hypothesis is the most rational

or

E_ψ - psi does not fit into current scientific theory, but, given the apparent evidence, some kind of explanation is required regardless of the ontological outcome

The Explanation by Fraud Argument assumes the former, which is indicative of a conservative explanatory approach to psi phenomena. However, I showed that philosophical discussion of the climate change debate used current theory in philosophy of science to make an assessment of the relevant issues. I contend that psi is just as worthy of considered analysis as any other discussion regarding evidence in the sciences. The evidence should be examined and weighed in relation to current issues of explanation and measurement and broader issues of scientific process and progress as part of the analysis.

It is not possible at this stage to determine whether E_n or E_ψ is the most rational assessment of psi. If, just say, E_ψ is true then the conservative explanatory approach is not appropriate and therefore less reasonable than if E_n were true. I argue therefore that an assessment of the phenomena should be made when the comparison between the fraud hypothesis and other explanatory options are taken into consideration.

EFA conclusion

To sum up, there is a greater puzzle regarding the anomalous nature of a phenomenon for which there is substantial (if controversial) evidence. We do want to be able to differentiate between the truly impossible (that the moon is made of green cheese for example) without writing off the possible existence of ostensibly paranormal phenomena in the face of reasonable epistemic plausibility.

I argue then that rather than invoke the fraud hypothesis up front we should consider: When is it really more rational to believe that fraud can account for the body of evidence for psi rather than accept the possibility that the evidence might be indicative of another, as yet unaccepted, method of interaction between humans and the world? At this point in time the psi debate indicates that there are various alternatives to the E_n outcome. The Explanation by Fraud Argument must therefore be

considered as only one of other equally plausible assessments, which all require further refinement and discussion before it can become clear which is really the most reasonable. I explore and examine this issue further in the following chapters: The theories that have been developed to explain psi are explored in Chapter 2; and the anomalous nature of psi is explored in an historic context in Chapter 3. Finally an analysis of the Explanation by Fraud Argument, renamed the skeptic hypothesis, is compared to other possible hypotheses and is assessed in relation to issues in contemporary explanation theory in Chapter 6.

I have shown that conservative explanatory assumptions have guided the set up of the EFA. Next I will discuss the other form of argument which is dominant in the literature, the Modern Miracle Argument (MMA). Then I will show that both the EFA and the MMA suffer from more explanatory problems regarding Inference to the Best Explanation.

1.1.2 Modern Miracle Arguments (MMA)

As I mentioned earlier, Keith Campbell's Explanation by Fraud Argument is reminiscent of Hume's miracle argument. Therefore it is not surprising that philosophers have made a similar argument, but in direct reference back to the Humean form of the argument. I have called these the Modern Miracle Arguments (MMA).

The first Modern Miracle Argument was presented by George Price and published in *Science* in 1955. Another version was published 25 years after this by Anthony Flew in 'Parapsychology: Science or pseudoscience?'. Price himself acknowledges that the argument form is not new and long predates even Hume's famous miracle version. He references a similar argument to the Greek writer Lucian (Price 1955, p360). Price's version is more comprehensive than Flew's, so it will be used as the basis for the analysis of Humean-style miracle arguments.[10]

[10] I make mention of Price's article later in the thesis when, in Chapter 5, I show that the timing of the publication of Price's MMA argument coincides with the time the covering law model of explanation became dominant in philosophy of science.

George Price's Modern Miracle Argument

In a paper called 'Science and the supernatural'[11] George Price states that after reading Hume's 'miracle argument' he 'converted' from being an avid believer in ESP to a non-believer, or radical skeptic (Price 1955, p360). George Price wrote that it is his:

> opinion concerning the findings of the parapsychologists that many of them are dependent on clerical and statistical errors and unintentional use of sensory clues, and that all extra chance results not so explicable are dependent on deliberate fraud or mildly abnormal mental conditions. (Price 1955, p360)

Further to this, Price formulates his argument in the light of Hume's miracle argument (more on this shortly) and adopts a similar position with regarding psi phenomena. He shows that psi is incompatible with current scientific theory by accepting an analysis by the philosopher C.D. Broad. He cites a paper first published in 1949 in which Broad showed that the evidence for psi, if accepted as real, conflicts with Basic Limiting Principles (BLPs) which are fundamental to scientific concepts of mind, space, time and causality (Price 1955, p360). To further support this assertion George Price also quotes J.B. Rhine (a psi researcher from the 1920s who famously brought the study of psi into universities in the USA) as saying that even those who are actively researching psi phenomena believe that 'Nothing in all the history of human thought—heliocentrism, evolution, relativity—has been more truly revolutionary or radically contradictory to contemporary thought than the results of the investigation of precognitive psi' (Rhine in Price 1955, p361).

Price accepts these analyses and consequently argues that parapsychology and 'modern science' are incompatible. In Humean style he whittles his choices down to either believing in something 'truly revolutionary' and 'radically contradictory to contemporary thought' on the one hand and on the other, believing in the occurrence of fraud and self-delusion. He opts for the latter because 'all our experience suggests that it will be more profitable for us to assume that the old generalizations are still valid, and that the findings of the parapsychologists are to be explained on the old, familiar basis of human error' (Price 1955, p361).

[11] The use of supernatural rather than paranormal in the title is interesting and indicative of lack of agreement in the literature regarding psi's explanatory status. I deal with this issue when I present the historic account in Chapter 3.

So, in point form, for George Price:

PROBLEM	When presented with the evidence for psi, which looks at first glance convincing, we must remember that:
SET UP	Psi effects are incompatible with the nine 'basic limiting principles' (supported by Broad's discussion of psi and BLPs and Soal's and Rhine's work).
PREMISE 1	We must choose between believing something 'truly revolutionary' or that fraud and self-delusion occur.
PREMISE 2	Know for certain that fraud and self-delusion do occur.
CONCLUSION	Therefore there is nothing concrete to the evidence—even if it appears as if there is (as it initially did to him).

This stance has become known as the 'Humean Skeptic' position due to the Humean foundation of a modern argument which advocates skepticism regarding psi phenomena. The MMA will now be discussed and the issues pertinent to the psi debate teased out. Price's argument will be compared to Hume's original miracle argument. Then the response to Price's argument put forward by Paul Meehl and Michael Scriven is discussed. Finally, I show that some of Broad's Basic Limiting Principles do not currently hold and it is argued that the use of unchanging certainties in order to formulate a response to psi is problematic.

The MMA and Hume's miracle argument

In this section I compare Hume's miracle argument with Price's modern version. I show that because they involved different forms of testimony, psi cannot be substituted for miracles and that it is problematic to rely on a list of unchanging certainties.

In the original miracle argument Hume states that 'a miracle is a violation of the laws of nature, and as a firm and unalterable experience has established these laws, the proof against a miracle, from the very nature of the fact, is as entire as any argument from experience can possibly be imagined' (Hume 1817, p114). He uses this reasoning to develop the 'general maxim': 'No testimony is sufficient to establish

a miracle, unless the testimony be of such a kind that its falsehood would be more miraculous than the fact which it endeavours to establish; and even in that case there is a mutual destruction' (Hume 1817, p115). So for Hume, when confronted with events that appear to contravene the laws of nature (so-called miracles) it is sensible to believe they are the product of fraud or delusion rather than entertain the possibility that a genuine supernatural event occurred. Hume goes on to give us an example of how his 'everlasting check' for should be employed, Hume warns

> when anyone tells me, that he saw a dead man restored to life, I immediately consider with myself, whether it be more probably, that this person should either deceive or be deceived, or that the fact, which he relates, should really have happened. I weigh the one miracle against the other; and according to the superiority, which I discover, I pronounce my decision, and always reject the greater miracle. If the falsehood of his testimony would be more miraculous, than the event which he relates; then, and not till then, can he pretend to command my belief or opinion .(Hume 1817, pp115-116)

The power of this argument is substantial, for it makes a case that no matter what testimony one is provided with it is forever doubtful that a miracle did actually occur.

In George Price's rendition of the argument, psi is substituted for miracles, Basic Limiting Principles for laws of nature, and a similar conclusion is drawn when faced with the choice between the perceived certainty of the Basic Limiting Principles and the unknown nature of psi. It is evident that the formulation of Price's argument adheres strictly to the original Humean miracle argument.

I do not want to delve into the controversy surrounding the assessment of Hume's original miracle argument, as a review of this literature is far beyond the scope of this thesis, but I will mention briefly the analysis performed by the philosopher Terence Penelhum who is both a Humean expert and, unusually, aware of the modern renditions of the argument pertinent to psi. Penelhum maintains that:

> Parapsychological evidence challenges firmly entrenched assumptions. Those who doubt these assumptions may welcome this evidence, and choose to ignore the power of Hume's argument that all the experience that has caused us to make them weighs against the testimony on which the evidence rests. I think this is an irresponsible attitude. But those on the other side who are unwilling to entertain the possibility that there are more things in heaven and earth than our assumptions permit us to believe in, have to stare down the high quality of some of the testimony, and insist it must always be due to error or fraud. I think this looks like foolishness also. (Penelhum 2003, online)

Penelhum advocates an open-minded approach to parapsychological evidence, one that allows for the possibility that the evidence has been fraudulently produced but one which also questions whether or not science is able to deal with the apparent phenomena indicative of psi effects. He concludes that:

> A rational mind (Hume's wise person) should not move to resolve the conflict too hastily. It is essential in the first place to be sure that the quality of the testimony meets the highest standards possible. It is also necessary to consider very carefully whether the scientific knowledge we already have may perhaps show that even if the phenomena are genuine, they can be accommodated within the laws of nature as we understand them. If they cannot, the pressure to uncover fraud or error in the testimony will grow, and although this pressure is often offensive and due to inertia or bigotry, it is still healthy. (Penelhum 2003, online)

He bases his conclusion on an analysis of the Humean version of the argument as he accepts that because miracles and psi both contravene laws of nature and require testimonial evidence the modern version is legitimate. Penelhum thinks that Hume's 'general argument requires us to recognise that there might be situations in which a 'proof' from prior experience collides with a 'proof' from impeccable testimony' (Penelhum 2003, online). And in the case of psi this state is potentially obtainable, whereas in the case of miracles it is theoretical only.

However, I think that there is a stronger case to be made against the modern interpretation of the Humean-style argument and that substituting psi for miracles is problematic because the strength of the testimony is different. I will focus now on Price's argument and the use of the miracle argument as a template for his psi version of the argument. I start the analysis by questioning whether or not this is a legitimate manoeuvre.

Miracles and psi are not interchangeable

As noted briefly before, Hume limited his discussion to weighing up *testimonial* evidence and more pertinently testimonial evidence that was reported by witnesses of events that had happened either in the past (such as biblical miracles) or in far off places (Penelhum 2003, online). The evidence for psi, even in George Price's time, is more complex and involves more than historical human testimonial evidence. There is historical testimony for evidence for psi, but there are also both laboratory evidence, which is a body of experiments that have yielded small but significant results, along with continued reports of spontaneous psi on a larger scale that have been collected into catalogues of anecdotes (examples of which will be presented in Chapter 2).

All forms of evidence can be considered 'testimonial' in some sense, but there is a difference between the type of testimonial evidence that Hume referred to and the body of scientific evidence for psi. Compare, for instance, the testimony of a friend who relates they experienced ESP with their twin sister when a young child to that of

a psychological study which undertakes analysis of ESP between twins. The first is based on personal experience and recollection of that experience. The memory could be faulty or faded or perhaps the initial assessment of the situation, from a child's perspective, too credulous. In contrast, a psychological study of ESP between twins would be undertaken within the bounds of accepted psychology methodology and scientific practice. The paper that provided the details of the experiments would also be evaluated and discussed in scientific peer-reviewed journals.

Price does not differentiate between the different forms of evidence that the body of psi literature contain (historic, anecdotal as well as experimental). And although all forms of evidence are testimonial to some degree there are significant differences between historic testimony and scientific testimony that should be taken into account when analysing the body of evidence for psi. I therefore argue that unless Price is to limit his assessment of psi to historical testimony of evidence then psi cannot be automatically substituted for miracles in his revised modern version of Hume's miracle argument. (I discuss further the difference between scientific, anecdotal and historic testimony in Chapter 2).

The Meehl and Scriven challenge

Price's 1955 paper elicited a response from prominent psi researchers and theorists. I will cover these responses in more detail later in the thesis as I want to focus on the structure of the argument in this early chapter where I am laying the foundations for the discussion that follows. I will therefore concentrate on a reply regarding the philosophical content of the argument which is most pertinent to the analysis at this stage of the thesis. It was written by Paul Meehl and the philosopher Michael Scriven who were mentioned in Price's initial paper.

Meehl and Scriven claim that to maintain Price's argument there are two points that must hold: that psi is incompatible with modern science; and that modern science is complete and correct. If either of these cannot be upheld, they maintain, then the argument is left without a basis for the conclusion that all evidence for psi must have been obtained through fraudulent or mistaken means (Meehl & Scriven 1956, p 14). There are not many (if any) people who would be prepared to contend that modern science is complete and correct. Therefore, they believed, that they had invalidated Price's argument by refuting at least one of the premises. 'In our view'

they contend 'both of Price's hypotheses are untenable. Whatever one may think about the comprehensiveness and finality of modern physics, it would surely be rash to insist that we can reject out of hand any claims of revolutionary discoveries in the field of psychology' (Meehl & Scriven 1956, p14). I agree that Price cannot assume that the Basic Limiting Principles that he relies on will be maintained ad infinitum and I will take up this point further in the next section; for now, I suggest that the Meehl and Scriven counter argument does not do justice to Price's original argument.

There is no need to maintain something as controversial as 'science is complete and correct' in order to validate Price's argument. Although it is never seen spelled out as such (since it may be implicit in the argument), it appears that Price need only maintain that science is complete and correct *enough,* in order to uphold that the possibility of something like psi existing is nil – or as close to nil as makes no difference. However, this forced concession also reveals a small chink in the armour through which can be pursued an argument against Price. Namely, that if the evidence for psi ever becomes persuasive enough to warrant attention then it should be further investigated.

The conclusion I come to on this basis is similar to Penelhum's. It is sensible to keep an eye on the evidence with the fraud hypotheses in mind, but also to allow for the possibility that the evidence is indeed legitimate. Price's argument is then weakened so that it is not so much an 'everlasting' check as an immediate check that should be reviewed over time.

C.D. Broad's Basic Limiting Principles

In the set up to his argument Price refers to an analysis by the philosopher C.D. Broad which he uses to support his contention that psi is incompatible with modern science. Price argues that the evidence for psi is incompatible with Broad's list of Basic Limiting Principles (BLPs) and it is on this analysis that his ultimate conclusion rests. He then uses the structure of the Humean miracle argument to bring about his final conclusion. Price makes the claim that 'psi contravenes BLPs' in the same way as Hume maintains that 'miracles are violations of the laws of nature'. This is problematic because the BLPs have not been upheld as Broad anticipated.

Broad's analysis of psi and Basic Limiting Principles is one of the most commonly cited assessments of the anomalous nature of psi by a philosopher. And as

I have shown it is used as the foundation for one of the main arguments involving psi, it is worthwhile going back to the original work done by Broad to make a more contemporary assessment of the analysis.

Broad defined a paranormal phenomenon, such as a psi event, as one that defied one of at least nine Basic Limiting Principles. His work was instrumental in setting out the ways in which psi defied the commonly accepted limitations of time, space and causal laws which, according to him, physics determined were unchanging. For Broad, Basic Limiting Principles (BLPs) were precisely what the name indicates: they define the limits of what is considered possible in science. These are principles that are stronger than a natural law in the sense that it is commonly believed that something is impossible rather than that they could be contravened. According to Broad, BLPs are:

> …prior to and more fundamental than any named laws of physics: they are and have been accepted as items of basic common sense by many who have never benefited from any contact with systematic science. Like those named laws of physics, and like all other true laws of nature, these BLPs assert: not only that there in fact have been, are, and will be no occurrences incompatible with their own truth; but also, and more strongly, that such incompatible occurrences have been, are, and will be impossible. (Broad 1953, p7)

There are nine principles in total but I will focus on the main four for the purposes of this discussion. The remaining five are subcategories of the four, so the same criticisms apply as to the overarching four main BLPs. The four main basic limiting principles that, according to Broad, psi contravenes are:

1. General Principles of Causation. It is self-evidently impossible that an event should begin to have any effects before it has happened.
2. Limitations on the Action of Mind on Matter. It is impossible for an event in a person's mind to produce directly any change in the material world except certain changes in his own brain.
3. Dependence of Mind on Brain. A necessary, even if not a sufficient, immediate condition of any mental event is an event in the brain of a living body.
4. Limitations on Ways of Acquiring Knowledge. It is impossible for a person to perceive a physical event or material thing except by means of sensations which that event or thing produces in his mind.
(Broad 1953, pp9-10)

At first glance it is clear that the principles are far from being 'certainties' in the context of current day science and philosophy. The principles divide into two

types: One and three are examples of statements that are no longer credible in terms of current theory; and principles two and four are statements based on the anomalous nature of psi. Both types of statement are problematic and are discussed separately below.

First and third BLPs

Broad's first and third Basic Limiting Principles involve statements about causation and mind theory that would not be considered certainties according to current mind and causation theory. These principles may have been considered certainties to Broad at the time he defined the term BLP. However, subsequent development of mind, time and causation theories have shown that his statements are outdated and other theories now vie for dominance in the territory.

For instance, Broad states that ' it is self-evidently impossible that an event should begin to have any effects before it has happened' (Broad 1953, p9). However, this statement is certainly not taken as self evident in contemporary theoretical physics and philosophy of time and causation There are current theories that deal with the notion of backwards causation that speculate 'we in fact do not live in a world in which there are three dimensions of space, but in one in which there are four, time being the fourth spatial dimension.' (Brier 1976, p53) There is no theoretical reason to discount backwards causation.

More recently Huw Price discusses the problem of apparent time symmetry - why does a vase break and smash into pieces rather than 'unbreak' from pieces to a vase? He maintains that although the 'unbreaking' of a vase is not conceivable at the intuitive level of everyday experience, at the high-level of physical theory if 'a given physical process is permitted by physical laws, so too is the reverse process' (Price 1996, p18). This allows—conceptually at least—for cause and effect to occur both forwards and backwards in time. Huw Price suggests that 'the best strategy is… to study the more familiar arrows of time in physics as if there were no exceptions to the principles that the underlying laws are time-symmetric.' (Price 1996, p18) So it would seem there is contemporary assessment that allows for the plausibility of backward causation, which is counter to Broad's statement in principle one.

Broad's analysis appears to assume a dualistic mind/body framework which is currently out of favour in contemporary mind theory. There are, of course,

contemporary dualists such as David Chalmers (1996). And psi theorists also count dualists amongst their number, for instance, John Beloff (1990) argues for a dualist ontology on the basis of acceptance of psi as real. However, there are current theories of mind that do not maintain, contrary to Broad's assessment, that 'a necessary, even if not a sufficient, immediate condition of any mental event is an event in the brain of a living body' (Broad 1949, p41). Functionalism, for instance, accounts for mental states (what Broad would refer to as 'the mind') by ascribing to them a 'complex causal network anchored to the external world at various points' (Kim 2003, p123). According to this explanation of mind our beliefs and desires are constituted by their causal relations to sensory inputs and outputs, rather than more traditional notions of mind/brain mental states. Of course functionalism is but one of many other competing theories of mind which do hold, as Broad does, that the mind is dependant on the brain. But that functionalism is still part of current discussion in mind theory indicates that Broad's notion of a set-in-stone Basic Limiting Principle that denies this possibility is a flawed foundation to work from.

The examples discussed above show that far from being scientific and theoretical certainties, Broad's list of BLPs has not stood the test of time. Presumably, when Broad constructed the list, it represented the dominant theories of his time (or the ones he believed were considered the unchangeable certainties). However, it is apparent that the statements are no longer applicable as a benchmark to which any phenomenon, anomalous or not, should be assessed. I therefore argue that the anomalous nature of psi and how it should be dealt with by science and philosophy should be updated and reassessed as the body of scientific knowledge changes and adapts to new theories and discoveries.

Second and fourth BLPs

I turn now to the second and fourth principles in which Broad states that 'it is impossible for an event in a person's mind to produce *directly* any change in the material world except certain changes in his own brain' (Broad 1953, p9). And also that 'it is impossible for a person to perceive a physical event or material thing except by means of sensations which that event or thing produces in his mind' (Broad 1953, p10). These statements are similar as they are both based on the anomalous nature of psi. However, psi is defined negatively; a psi event is only determined as such if there

are no normal explanations immediately apparent. I believe that there is much more than semantics being played out here. There are two issues involved which I will flag here and deal with in more detail during the course of the thesis.

The first is the circular argument which is apparent when a phenomenon is defined by virtue of its anomalousness. It is not enough to define something as anomalous and then to use this very definition against its possible existence. Principles two and four are statements adopted from the definition of what psi is when divided into the two main categories ESP and PK. Rather than merely reiterating that they are anomalous, I claim that it is necessary instead to make an assessment of the apparent anomalous nature of the phenomena and try to understand how best to approach the explanatory issues involved. I undertake such an analysis later in the thesis when, in Chapter 3, I commence an investigation into the explanatory history of the phenomena. Further discussion is carried out in Part II of the thesis when the explanatory issues are explored in more detail and placed in a contemporary context.

The second is that anomalous phenomena have been shown to be important in the development of new theories in science. Though anomalous phenomena pose special problems to science it is often through the investigation of such phenomena that science progresses. The history and philosophy of science literature is replete with examples. For instance, in a paper on the response of scientists to anomalous data William Brewer and Clark Chinn mention that 'the history of science suggests that theory change often requires a series of empirical anomalies, which collectively appear to be better explained by an alternate theory' (Brewer & Chinn 1994, p310). And they go on to give an example regarding the discovery of X-Rays which were 'met with some initial disbelief, but within a month the scientific community was convinced, as the basic phenomena were quickly and easily replicated' (Brewer & Chinn 1994, p310). The anomalous nature of psi is not as easily resolved, however, the fact that anomalous phenomena are sometimes subsequently subsumed into science and actually help to develop theories in science is a reason to ensure that the phenomena are not dismissed solely on the basis that they are not currently explainable by science.

It cannot be assumed that lists of Basic Limiting Principles, such as Broad's, will hold over time. It is therefore problematic to rely on them, as George Price does, in order to formulate a modern version of Hume's miracle argument. I argue therefore that Price's argument is flawed because of its reliance on Broad's list. This raises the

problematic nature of anomalous phenomena in regard to science and especially to the problem of laws. I address these issues in chapters 5 and 6 when I look at the psi hypotheses in relation to covering law theory. For the moment I hope that I have shown that the notion of an 'everlasting check' for psi is not plausible because of the difficulties in assessing what scientific certainties will absolutely, definitely hold over time. And that this is especially problematic in relation to anomalous phenomena, which are defined by the fact that science is unable to account for the production of the apparently anomalous events.

The use of outdated lists such as Broad's, in order to make a philosophical assessment of psi, indicate that the background beliefs and explanatory considerations regarding analysis of the phenomena require a contemporary update.

1.1.3 Summary – explanatory issues & questionable certainties

So far I have analysed representatives of the two main philosophical arguments that assess psi phenomena. I have shown that both are problematic. It is evident that certain assumptions regarding explanation of anomalous phenomena such as psi are guiding the set up and construction of these arguments, which have remained the dominant understanding of psi in mainstream philosophy to this day.

In short, the Explanation by Fraud Argument (EFA) is flawed because it assumes an unwarranted conservative explanatory approach to the phenomena which does not take into consideration the body of evidence for psi. And the Modern Miracle Argument (MMA) falls short for two reasons: firstly, because the psi cannot be legitimately substituted for miracles unless the argument is limited to historic testimony of psi events; and secondly, because it relies on a list of outdated basic limiting principles.

The next section continues to explore problems with the arguments using a generic form of argument devised from both the EFA and MMA forms. I argue that in generic form, there is failure to recognise the structure and logic of the arguments as inferences to the best explanation. I introduce a new term 'Pre-emptive Inference to the Best Explanation' to explain the problem in more detail. I introduce this new term in the section below.

1.2 Psi arguments as pre-emptive inferences to the best explanation (PIBE)

I have devised the term 'Pre-emptive Inference to the Best Explanation' to describe inferences that are made without making a thorough assessment of the situation that requires explanation. First I outline what an Inference to the Best Explanation (IBE) is and I outline why they must be used cautiously. I then define Pre-emptive Inference to the Best Explanation and indicate how to determine instances of Pre-emptive Inference to the Best Explanation. I show that both the Modern Miracle Argument (MMA) and the Explanation by Fraud Argument (EFA) are cases of Pre-emptive Inference to the Best Explanation (PIBE). I then use this analysis to tease out the explanatory issues that require updating and indicate how they will form the structure of the following chapters of the thesis.

1.2.1 Inference to the Best Explanation

An Inference to the Best Explanation (IBE) is the process used in order to choose the best hypothesis that explains the evidence for any given situation. In everyday life this is easy to comprehend and apply. For instance one evening I am happily reading a book in my living room and as it starts to get dark outside, I switch on a lamp so that I can continue to enjoy reading. At that moment I hear a sharp snapping sound and see a brief flash of light. However, the usual warm glow does not emanate from the bulb. I conclude that the bulb needs replacing. I am about to do this when my flatmate—let's call him Spooky—who is also sitting in the living room at that time says that changing the bulb will not fix the problem, because a ghost in the socket of the light has temporarily shorted out the bulb. Spooky asks "Didn't you see the flash of astral energy and hear the snap of the ghost de-materialising?"

Now we have a situation whereby two competing hypotheses have been postulated to explain the same event. Both apparently explain the events experienced— the cracking noise, the flash of light and the current lack of light. However, most reasonable people would think that my explanation was better than Spooky's. But why is that so?

Inference to the Best Explanation theories of explanation address two important issues about making such inferences. First, they assess the relationship between such inferences and approximation to 'truth' or 'knowledge' and second they delve into the explanatory issues involved during the selection process of one hypothesis as 'best' given a set of competing hypotheses that could be used to explain the same data.

Gilbert Harman coined the term Inference to the Best Explanation in a paper published in 1965. Harman was concerned to make a distinction between enumerative induction (if all *observed* As are Bs then one may infer that *all* As are Bs) as warranted non-deductive inference and to make a case that 'where it appears that a warranted inference is an instance of enumerative induction, the inference should be described as a special case of another sort of inference, which I shall call "the inference to the best explanation."' (Harman 1965, p88) Inference to the Best Explanation then, according to Harman, is how we make a distinction between a warranted inference and one that is not. He explains the process of making an IBE as follows:

> In making this inference one infers, from the fact that a certain hypothesis would explain the evidence, to the truth of that hypothesis. In general, there will be several hypotheses which might explain the evidence, so one must be able to reject all such alternative hypotheses before one is warranted in making the inference. Thus one infers, from the premise that a given hypothesis would provide a "better" explanation for the evidence than would any other hypothesis, to the conclusion that the given hypothesis is true. (Harman 1965, p89)

So, in its most simple form, an IBE is as follows—there are the three stages:

E	The evidence, data or phenomenon that requires explanation is examined.
$\{H_1,\ldots H_n\}$	A group of possible hypotheses is compiled that explain the evidence.
H_b	The best hypothesis is chosen from the group.

Analysis of IBE involves discussion about how the group of possible hypotheses is compiled, how it is that one is chosen and how strong the final hypothesis is in relation to obtaining a 'truthful' assessment of the situation. Harman, for instance, argued that the process of Inference to the Best Explanation had considerable import. However, as the notion of truth became less strong, claims that the final explanation was an approximation of truth became accepted.

A more recent analysis of Inference to the Best Explanation by the philosopher Peter Lipton fleshes out these issues. He adds complexity to the process by arguing that, rather than inferring the 'best' explanation, when we make an Inference to the Best Explanation 'we do not infer the best actual explanation; rather we infer that the best of the available potential explanations is an actual explanation' (Lipton 1991, p60). So the competing explanatory considerations that vie for attention are acknowledged up front. For instance my hypothesis that the bulb needs changing might be considered a favourable hypothesis because it does not require an ontology in which immaterial ghosts have an effect on the electric circuitry of the home, thus it is neater and less complex. However, Lipton also allows for the fact that background beliefs play an important role when making an Inference to the Best Explanation:

> Given our data and our background beliefs we infer what would, if true, provide the best of the competing explanations we can generate of those data (so long as the best is good enough for us to make any inference at all). (Lipton 1991, p58)

The explanatory issues, informed by background beliefs, guide both the compilation of the group of possible hypotheses and the selection of one as the 'best'. So, there might be a case for my flatmate's scenario after all. Maybe it *was* a ghost that caused the light to short out and if so, then my flatmate's explanation would be better than my more prosaic one. However, at some stage we need to make a decision: should I change the globe or should I get my flatmate to perform an exorcism on the light socket?

We must therefore weigh up the hypotheses in relation to each other. Lipton gives an indication of what the guiding factors are when one hypothesis is selected over another. Lipton makes a case that IBE is more effective at obtaining approximation of truthful inference if the process is understood as 'inference to the loveliest potential explanation', rather than 'best'. He comes to this conclusion by comparing *likeliest* explanations (ones that seem most likely but don't tell us very much) versus *loveliest* explanations (ones that are more comprehensive). For Lipton:

> An Inference to the Best Explanation is not simply an inference to what seems the likeliest explanation, but rather the inference that what would be the loveliest explanation is likeliest. (Lipton 1991, p169)

Discussions regarding likeliest and loveliest hypotheses involve explanatory issues therefore these are also important when considering the process by which one hypothesis is chosen over the other. So it is important to be able to assess when enough appropriate competing explanations have been compiled in order to be sure

that the selection of the 'best' potential explanation is legitimate. My understanding of the IBE process, taking into account Lipton's additional points regarding the compilation and selection of hypotheses, is as follows: in this version there are also three stages:

E	The evidence, data or phenomenon that requires explanation is examined.
$\{H_1,\ldots H_n\}$	A group of possible hypotheses is compiled which is guided by background beliefs and explanatory considerations that should be made explicit
H_l	The loveliest hypothesis is chosen from the group of hypotheses such that it has the greatest subjective probability of being true of the group.

Lipton's theory of Inference to the Best Explanation shows how we go about choosing one hypothesis over another, but also making sure that we have the most comprehensive selection of hypotheses to choose from.

We can return to the light in the living room example: just say I decide to try changing the light bulb first rather than getting my flatmate to perform an exorcism on the light socket. I choose to try out my theory first because I deemed it the loveliest on the basis that it fitted with my prior experience of light bulb blow outs and what I know about the workings of light sockets and light bulbs. It was also ontologically more simple—it was not based on additional entities such as ghosts.

However, if I changed the light globe and it didn't work and I tried another one and still the light was not functioning, I would have to reassess the process by which I had concluded that mine was the 'loveliest' explanation. I must then go back and reassess the hypotheses and compile another list (taking out the one that I mistakenly thought was the 'best') and select another.

Maybe this time I get my flatmate to perform an exorcism on the light socket, but then again I am more likely to ring an electrician to check the wiring. My new assessment is also based on my background belief that faulty wiring, rather than poltergeists are more likely to be responsible for the faulty light socket. Only perhaps as a last resort when everything else had failed I might humour my flatmate and ask that he perform an exorcism on the light socket. If it worked I would be surprised.

The process of making an Inference to the Best Explanation is then to select one hypothesis then to test it and if the initial assessment proves to be faulty, to go back and revise the compilation of the hypotheses and select another. There are two

points that I emphasise here: the first is that during all of these steps our background beliefs and our experience and knowledge will be guiding what we consider the best hypothesis to explain the data; and the second is that the process is reviewed and can be undertaken again if the first hypothesis proves to be unworkable.

The light bulb example is intended to show that IBEs make intuitive sense when applied to such a small domestic concern and to illustrate the process by which they are made. The IBE process is, however, more complex when employed to understand the machinations of explanation in the sciences. Lipton's analysis makes it clear that the relationship between inference and explanation is subtle and complex and involves background beliefs and explanatory concerns as well as the need to test and update the hypotheses as required. And even the light bulb example showed that experience and belief systems play a role in determining the compilation and selection of the hypotheses.

Therefore, the IBE process must be used cautiously, only when we can be fairly certain that a reasonable assessment of the evidential situation has been obtained and that we are in a relatively knowledgeable position to allow us to select one hypothesis over others. It is always possible that, despite our best intentions, we are wrong and if the hypothesis selected does not accord with future predictions then we should go back and take a look at how we made that initial assessment and whether it was justified or not.

1.2.2 Pre-emptive Inference to the Best Explanation

There are concerns about the IBE process that should be kept in mind: How do we know we are actually inferring the best explanation when explanatory considerations are already potentially guiding that very inference? What happens when we are oblivious to potential hypotheses because they do not accord with our current belief system? How do we know we are making a reasonable comparison between competing hypotheses? How strongly should we maintain that any selection is the 'best', let alone approximately truthful?

Inferences to the Best Explanation can lead to what are ultimately thought to be incorrect explanations. Some of the reasons the initial assessment is later found to be faulty is that background beliefs are illicitly guiding the compilation of the initial set of hypotheses, or perhaps some hypotheses were missed when the process was

first undertaken. It might be that one hypothesis was selected over others because of beliefs about explanation that should be updated, or too much was assumed at the time that has subsequently come to light. When the process is clearly not thorough or contains hidden presumptions, an IBE is not a legitimate assessment.[12] I call an instance of this kind a 'Pre-emptive Inference to the Best Explanation' or PIBE. As the name suggests, they are inferences to an explanation that are made without taking into consideration assumptions regarding the initial assessment of evidence and compilation of hypotheses.

How to detect a PIBE

If my charges that the fraud hypothesis is a Pre-emptive Inference to the Best Explanation are to hold, then I must show how to differentiate between a PIBE and a legitimate IBE. Here are the three warning signs that one is dealing with a PIBE rather than a legitimate IBE:

1) The assessment of the evidence was flawed
2) The initial compilation of the hypotheses was not thorough
3) The selection of the 'best' explanation is shown to be unwarranted

To exemplify, take an everyday example. I turn on my computer and the digital display doesn't appear as per usual. If I cry 'Oh no, someone's broken my computer either that or those gremlins in the keyboard somehow got into the hard drive and wrecked it', and subsequently conclude 'Someone must have broken into my home in the middle of the night and broken my computer,' I would be guilty of making an PIBE. As I leave my desk and go to exit the room in order to call the police and report a burglary, out of the corner of my eye I see that the plug is lying on the floor. I plug it in and sit back down, red-faced and feeling foolish that I hadn't thought of this before. I forgot that I had unplugged the computer yesterday as there was a storm when I was closing down my computer and I was worried about power surges. I determine not to make such an error again and go through my thought processes at the

[12] In Chapter 6 I deal briefly with the argument that inference to the best explanation cannot be considered a legitimate explanation. I argue that this point does not diminish my argument that a re-analysis of psi is warranted as I could make a case for re-analysis of psi in a contemporary context on the basis of the critique of the arguments earlier in the chapter when I showed that both the EFA and the MMA are problematic.

time. I realise that I was guilty of making the three mistakes (aside from being forgetful) that correlate to the ones above:

1) I didn't look at all the evidence available

A quick check of the whole computer would have ascertained that it was not plugged in.

2) I only thought of the two dramatic scenarios to explain why the screen didn't work

I didn't think to add the hypothesis that the power supply was temporarily cut from my computer into the list of possible explanations which would have enabled me to select a more appropriate explanation.

3) I selected the most unlikely of the already limited wrong batch of scenarios.

My earlier mistakes ruled out the possibility that I select the best explanation for my computer screen not working. So I really had no chance to rectify the situation at this stage. It was just lucky I saw the plug as I left the room.

My experience with the computer makes me resolve to be more thorough when making explanatory assessments in the future. It is important to make sure that the initial assessment of the evidence is as comprehensive as possible, to compile the hypotheses as thoroughly as possible and to make a selection based on considered explanatory issues. Otherwise one risks making a pre-emptive IBE.[13]

The process must be performed at the same time as acknowledging that background beliefs will play a role in each stage of this process - maybe I was paranoid about burglars at that time having recently been burgled three times. Explanatory considerations (unfounded or not) will also be lurking behind the scenes. It is important that all issues that could be guiding the assessment should be brought into the open so that they can be addressed and analysed. Caution must be taken with

[13] Unfortunately making a Pre-emptive Inference to the Best Explanation in everyday life can have a tragic result. In a story reported in the newspapers earlier this year a mother who was jogging with her child in a pusher stopped to take a mobile phone call and turned briefly to write a number down on her leg. When she turned back around the pusher was gone. She assumed that someone had stolen the baby and ran to the nearest road to get help. By the time they returned to the site and realised that the pram had rolled down the bank into the river the baby was not able to be revived. (Kyriacou, & Doherty 2006, online)

any IBE-like assessment of a given evidential situation and the more upfront these issues are the more likely it is that the appropriate hypothesis is selected.

1.2.3 MMA and EFA and PIBE

I will now use a generic form of the argument in order to analyse the mainstream assessment of psi in relation to issues of Inference to the Best Explanation.

Both the EFA and MMA claim to make an assessment of the body of evidence for psi and they both run a similar argument, which in its most simple form it can be formulated as follows:

> There is some evidence for which there is no explanation that indicate people can move things without touching them and obtain information without the use of the regular five sensory channels.
>
> We know that people cheat
>
> We know that psi is unlikely
>
> Therefore we should explain all apparent instances of psi as produced by fraud.

When recouched in this form it is apparent that it contains all the elements of an inference to the best explanation. There is a phenomena that requires explanation (psi), two hypotheses (fraud or telepathy and psychokinesis) and the selection of one (fraud) that is chosen over the other (belief in the veracity of evidence for telepathy and psychokinesis). To make this clearer I'll put it in the form of Lipton's IBE which was outlined in the previous section. So we have:
The evidence:

E body of evidence of apparent psi events

Then the compilation of the hypotheses based on the premises above:

$\{H_1,\ldots H_n\}$ {evidence is produced by fraud; evidence is produced by psi}

Then a selection takes place and it is concluded that the 'best' explanation for the evidence is that:

H_l Evidence for psi is produced by fraud

Each version of the argument has a different reason why the fraud hypothesis was chosen over the telepathy/psychokinesis hypothesis; Price uses the Broad list of BLPs and Campbell the repeatability problem. However, essentially they are both performing the same type of assessment of psi phenomena and favouring one hypothesis (that the evidence is produced by fraud) over another (that the evidence is produced by an anomalous and unexplained phenomena).

I have suggested that an IBE is pre-emptive, and therefore explanatorily illegitimate, if: 1) The assessment of the evidence was flawed; 2) the initial compilation of the hypotheses was not thorough; and 3) the selection of the 'best' explanation is shown to be unwarranted. I now argue that the generic argument that advocates that fraud is the best explanation is a Pre-emptive Inference to the Best Explanation because it fails on the first two counts: it does not take into consideration the body of evidence and show how fraud can account for the phenomena; and it has not considered other plausible explanations for the phenomena that are available in the psi literature. As in the computer example, the final 'selection of hypothesis' was consequently illegitimately limited to two hypotheses that were not appropriately compiled given the initial scenario.

1.2.4 Summary of critique of mainstream psi arguments

Below I summarise the main criticisms that I have made against the mainstream psi arguments. I mention where I go on to address the issues later in the thesis.

Failure to recognise the structure and logic of the arguments as IBEs

As I argued for in the above section, there has been a general failure in to understand that the EFA and MMA arguments are pre-emptive inferences to the best explanation. Hidden assumptions regarding explanation issues are behind these assessments of psi. It appears, therefore, that assumptions about the potential to explain the phenomena as fraudulent, without further evaluation, are unrealistic and founded on an assessment which fails to take into consideration the body of evidence. Nor do the arguments deal with other potential hypotheses that could be employed to explain the phenomena, but which are available in the psi literature. The assessment of the evidence and the compilation of potential hypotheses is therefore lacking in

rigour. I address this issue by using the IBE structure to carry out a reassessment of psi in three stages.

Failure to consider the body of evidence for psi

A related point is that the conclusion of both the EFA and MMA that the evidence for psi is most reasonably attributed to fraud, fails to consider the amount of fraud that is required if the evidence is to be explained by such an hypothesis. Whether it be fraud or unwitting self-delusion that is proposed, an examination of what evidence there is and how it could be explained by such activities and behaviour is warranted, just as it would be in other similar circumstances when a 'weighing' of the evidence is required to resolve a dispute. The fraud hypothesis, as argued for by the EFA and MMA, is maintained at a cost because they exclude other plausible hypotheses from entering the explanatory scene. This situation is redressed in Chapter 2 where I outline the evidence for psi as well as some of the psi realist theories that have been proposed as explanation for the phenomena.

Misapplied explanatory conservatism

Once again, the point above is related to the assumptions that lie behind the fraud hypothesis. The fraud hypothesis is maintained because the arguments are founded on an unwarranted conservative estimation of the explanatory situation. The arguments are not an epistemic assessment of the weighing up of the evidence for psi. Instead they have chosen one explanatory option over another:

> E_n - psi cannot be explained currently as a natural phenomenon therefore the fraud hypothesis is the most rational
>
> over
>
> E_ψ - psi does not fit into current scientific theory, but, given the apparent evidence, some kind of explanation is required regardless of the ontological outcome

The EFA and MMA propose that only E_n is plausible. It is thus biased towards the conservative solution. The arguments do not make a case for choosing E_n over E_ψ, except on the basis of psi's apparent anomalous nature. However, I have shown that it

is a circular argument to eliminate the plausibility of a phenomena on the basis of its anomalousness when it is defined as such. At this stage a more comprehensive argument would be required in order to justify the choice of E_n over E_ψ and this does not appear explicitly in the literature. I deal further with issues regarding explanatory conservatism in relation to anomalous phenomena in much more detail in Part II of the thesis. I also undertake a re-analysis of the psi explananda in Chapter 6 that attempts to avoid the problem of explanatory prejudice for anomalous phenomena when constructing explanatory statements.

Failure to acknowledge background beliefs

Background beliefs inform explanatory considerations. It is important that these beliefs are explicit. Current beliefs about psi are determined by hidden beliefs about the explanatory status of the phenomena. These are evident when assumptions are made about the potential to explain the phenomena in relation to perceived scientific certainties. However, I argue that these beliefs should be examined and brought upfront. Further assessment of the background beliefs that inform the discussion is made in Chapter 3 when I present the historic account.

A way forward

I have highlighted the importance of understanding the background beliefs and explanatory considerations that inform the dominant analysis of psi in mainstream philosophy, which I have shown to be lacking. A review of the psi and related explanatory issues is therefore warranted.

I suggest that it is more prudent to make an assessment of the phenomena by outlining the evidence that requires explanation, compiling the hypotheses thoroughly and all the while explicitly acknowledging the background beliefs that have previously informed the mainstream assessment of psi. All of these steps will be undertaken during the course of the thesis.

I commence the analysis in Chapter 2 where I show how the argument must be fleshed out in order to avoid the criticism that it is a Pre-emptive Inference to the Best Explanation. I then outline the evidence for psi and recouch the psi debate as a discussion between competing hypotheses.