

## Part II: **Beyond Beliefs**

*To make a policy of bewilderment is surely the worst form of defeatism.*

**John Beloff**

Part I of *Beyond Beliefs* leaves us in a position to make an assessment of issues pertinent to psi theory and explanation. The purpose of the next three chapters is to undertake an analysis of the competing three hypotheses in relation to theoretical development and explanatory issues in the philosophy of science.

In Chapter 4, *Boundless Sea*, I start by examining a recent discussion between proponents representative of two of the three competing hypotheses. I show that the discussion is undertaken at cross purposes and examine the issues in the context of Larry Laudan's research traditions. I use the analysis to show that explanatory issues are important to making a comparison between the competing hypotheses.

I then go on in Chapter 5, *Explanation*, to focus on the dominant hypothesis (skeptic) and make a case that an outdated explanatory theory (the covering law model) has influenced the reception of psi in philosophy to this day. I argue that a re-analysis of psi in terms of current explanation theory is in order.

This re-analysis is undertaken in the last chapter, *Terra Firma*, where I show that the reasons that the covering law theory declined are pertinent to psi because of the changes to explanation theory and, most particularly, the status of laws of nature within contemporary explanation theories. It is at this stage that I undertaken a re-evaluation of how to express the psi explananda without emphasising their anomalous nature. I then use this analysis to examine the competing hypotheses in relation to current explanation theories. I conclude that I have prepared some cleared ground from which further comparison of the psi hypotheses discussion can take place. Consequently the apparently unresolvable psi debate and the problematic mainstream philosophical arguments that deal with psi that were outlined at the beginning of the thesis in *Terra Incognita* have been re-appraised and presented in a form that is open to further discussion as science, explanation theory and psi theory progress.

## Chapter 4 - Boundless sea

*Data and theory. Evidence and mechanism. These are the twin pillars of sound science. Without data and evidence, there is nothing for a theory or mechanism to explain. Without a theory and mechanism, data and evidence drift aimlessly on a boundless sea.*

Michael Shermer

This chapter will continue to examine the competing hypotheses in relation to pertinent issues involved with theory development. I will first make a case that development of psi theory is important. I then analyse a current example in which scientists discuss two representatives of the competing hypotheses (the Skeptic hypothesis and a small natural change hypothesis). It is rare that psi is discussed in mainstream science so I use this unique contemporary example to further explore the explanatory issues at play when scientists and philosophers discuss psi today.

The proponents of the competing hypotheses in the radio discussion are shown to be representative of opposing positions regarding the use of psi in science. I use this to demonstrate how recouping the psi debate as competing hypotheses is beneficial to coming to understand how a dialogue about psi can progress. It becomes apparent that one hypothesis is driven by data and the other by conservative explanatory issues already flagged as problematic in the analysis of the mainstream psi arguments.

I suggest that this indicates the various proponents are approaching the phenomena from different research traditions that give different weight to issues of data and explanation in science. I use Larry Laudan's work on research traditions to put the discussion into perspective and use it constructively to tease out issues that require further evaluation. Due to recent developments in explanation theory I maintain that a review is in order. This will be commenced in the next chapter.

## 4.1 The importance of the development of psi theory

The unresolved tensions that the psi debate has given rise to have created a problem. As I mentioned in the introduction, a Catch 22 situation has developed whereby mainstream scientists and philosophers criticise psi theory development because no single theory has become clearly dominant, however, if this type of theory is ever to be developed it will no doubt require development in conjunction with mainstream disciplines such as neuroscience, biology, cognitive science and physics.

I should note here that some philosophers have tackled the problem of psi theory development in the past. For instance in C.W.K. Mundle's thoughtful essay on 'Strange facts in search of a theory' (Mundle 1972). And, of course, Stephen E. Braude deals with various theories in his books on the philosophy of psi (1979, 1986, 2003). I do not mean to diminish the importance of these intelligent philosophical discussions of psi theory. However, despite these contributions to the philosophical discussion of the evidence, psi theory development remains problematic. Firstly, there are many competing theories with various ontological implications; the formulation of one working theory acceptable to the mainstream has remained elusive. Secondly, the dominance of the mainstream arguments has very comprehensively rendered the less mainstream investigation of psi on the fringe. However, I have shown that the mainstream arguments are problematic and, more importantly, that they are based on some assumptions that should be brought out into the open. The upshot of the situation is that one working theory is unlikely to develop, if it ever does, unless it is undertaken in conjunction with mainstream scientific theory development. Given this situation, at this stage the discussion between various interpretations of the evidence, rather than the promotion of one working theory itself, should be considered progress.

The philosopher H.H. Price also made a similar case in 1940. He appealed for wider discussion of psi in philosophy and the sciences and that as scientific investigation of psi was fledging area of inquiry. He wrote that:

it was a mistake to lay down a hard-and-fast distinction between a scientific investigation of the facts and philosophical reflection about them (or, if you like, about the terminology in which they are formulated). At the later stages the distinction is right and proper. But if it is drawn too soon and too rigorously those later stages will never be reached. (Price 1940, p109)

In the next chapter I outline why it might be that philosophical interest in psi diminished subsequent to H.H. Price's appeal in 1940. I argue that it is most likely due, in part, to the publication of Hempel and Oppenheim's seminal paper on

covering law theory in 1948 and the subsequent dominance of the covering law theory. But briefly, here I note that I think that because the fraud hypothesis has dominated the philosophical discussion of psi in contemporary philosophical analysis, the type of speculation that Price called for in 1940 never substantiated. This thesis is an attempt to further productive discussion of the competing hypotheses. I commence in the section below by analysing an example of contemporary debate.

## **4.2 Example of contemporary discussion about psi**

In this section I use an example of contemporary discussion about psi to highlight the issues involved when current scientific discussion occurs between proponents of competing hypotheses. This serves to develop an understanding of how best to proceed in developing psi theory for all hypotheses. The comparison is used to tease out the various theoretical and explanatory issues involved. I show how sometimes professionals who undertake discussion of psi theory compare competing hypotheses at cross purposes because different values of explanatory worth underlie their assessment of the phenomena. It is argued that these should be brought to the fore and this initiates further discussion of psi in relation to explanation theory. First I present the details of the radio discussion.

### **4.2.1 The radio discussion in context**

A recent radio show on Radio National (ABC<sup>24</sup>) featured a discussion between a psychologist, a cognitive scientist and a philosopher. The topic was the use of psi in developing cognitive theory. To put this into context I will first make some comments about why this radio show caught my attention and I defend the use of it in this thesis.

First of all it is unique to have current mainstream scientists engaging in psi theory development. It is even rarer to have a discussion between proponents of competing hypotheses. This is because, currently, the development of psi theory is carried out mainly in the parapsychology literature or psi-oriented literature (such as the work of Dean Radin or Dick Bierman) which is not widely accessed by

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<sup>24</sup> In Australia, the ABC stands for the Australian Broadcasting Commission and it is the government-funded national broadcaster. It has a national television station, a national radio station as well as a youth station and numerous local stations that draw on the national service as well.

mainstream scientists and philosophers. There is a handful of mainstream philosophers and other academics who contribute to the discussion on a philosophical level. I have mentioned before that Stephen E. Braude is the most prolific of these in philosophy having published now three substantial works on philosophy and psi as well as numerous articles. But his work is rare in the philosophy arena. It is interesting to note that many of the journal articles he has written on psi have been published in psi-oriented parapsychology journals whereas mainstream journals carry his articles on less controversial topics such as self identity. This is not meant as a criticism, but rather a comment on the fact that even an expert on philosophy and psi is presumably unable to combine the two research interests in the mainstream forums for publication.

Secondly, I have mentioned before that psi is almost invisible in philosophy. My analysis of research into psi indicates that psi is most often published in forums dedicated solely to that activity in, for instance, parapsychology journals or books solely dedicated to the topic of psi. In 2002 I surveyed philosophy texts in a major university's book store and revealed that only one text had an indexed reference to psi and the comment regarding psi in the text was quite derogatory. Though the radio show discussion lacks a certain rigour because of the medium, I justify its use because it is unusual to find a realist psi theorists and the mainstream in conversation. Furthermore, the radio discussion I draw on exemplifies two of the hypotheses with regard to current issues in science which can then be used as a relevant case to study the pertinent issues raised in philosophy of science. I therefore proceed to by outlining the discussion before I reword the content into representative stances, relevant to this thesis, so that further discussion can follow.

### 4.2.2 The setting

The radio discussion is taken from a transcript of an ABC program which airs weekly called 'All in the Mind'. In this particular week it aired a show called *The Paranormal and Quantum Theory - Beyond the realms of scientific respectability?* (Browning 2005, online). Julie Browning is the host of the show which was produced by Gretchen Miller. The participants in the interview for that program were:

Dr Peter Slezak – philosopher  
*School of History and Philosophy of Science, UNSW, Sydney, Australia*

Dr Diane Powell – psychiatrist  
*Cambridge Hospital (formerly) - currently director  
of the John E. Mack Institute*

Dr Ken Hennacy – cognitive scientist  
*Computer Science Department, University of Maryland, USA*

The main content involved a discussion between Dr Powell and Dr Slezak regarding the use of psi in constructing theory. Their two views are representative of the problems that are encountered when comparing competing hypotheses for psi and will provide a basis for further examination of psi theory in this chapter. The discussion commenced as follows:

Today we explore speculation that quantum physics may account for some of these unusual phenomena of the mind. And I have to give a warning - that the following ideas most regard as way off the wall, beyond the boundaries of respectable science, and we'll come to that later. But at a recent international conference on the science of consciousness psychiatrist Dr Diane Powell and computer scientist Dr Ken Hennacy from the University of Maryland argued the case for the paranormal and quantum mechanics.

The introduction acknowledges that the topic matter<sup>25</sup> is considered 'off the wall' and 'beyond the boundaries of respectable science' which voices a common perception about the study of psi. They use the word paranormal, but the content of the subsequent program indicates that they are referring to anomalous communication. The program becomes more relevant to the psi hypotheses discussion once the conversation between the psychologist and the philosopher starts to deal with the potential use of psi in current speculation about models of the mind.

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<sup>25</sup> The radio show does not use the word 'psi' but their example and the discussion are clearly about this aspect of the paranormal rather than the broader category of such phenomena which usually includes ghosts or UFOs. So the ensuing discussion will use the word 'psi' in place of their 'paranormal'.

### 4.2.3 The psychologist and the cognitive scientist

The psychologist, Dr Diane Powell, commences the discussion by outlining how she became interested in using psi to develop cognitive theory. She relates how her interest in the phenomena was instigated because on two occasions, when apparent psi phenomena were exhibited in her presence. Following these experiences she says she felt that ‘they were so compelling and I, being a scientist, believed that you need to be open minded to changing your paradigm or your theory if you have data that just will not fit in it’ (interviewed in Browning 2005, online). Consequently, in collaboration with cognitive scientist Dr Ken Hennacy they have developed a new model of how the mind functions. In a paper which outlines her new theory she explicates:

I’ve been collaborating with Ken Hennacy, a physicist with expertise on quantum mechanics and artificial intelligence, to create a new model for understanding savant abilities. Our model suggests that there are two modes of processing information within the human brain. The processing we are consciously aware of is what we call “classical.” It is slow, linear, and capable of handling only a limited amount of information. It solves problems by using abstract concepts, relies upon neural network connectivity and occurs in the neocortex. “Quantum” processing, by comparison, is extremely rapid, parallel, and capable of handling exponentially more information than classical processing, but it usually operates outside of conscious awareness. It takes place in all brain regions and becomes more evident when classical processing is turned down or off. (Powell 2005, p17)

Powell has developed her theory to explain the ability of savants to perform mental feats that are beyond the capability of the average person. The memory feats include the ability to calculate complex equations quickly or ability to play complex music by ear. Powell also believes that the model might be applicable to psi. It is a theory that adds the quantum level of processing into a regular brain model.<sup>26</sup>

The radio show contrasts Powell’s model to the more widely accepted model for mind which maintains that ‘the mind is like an algorithmic computer and the brain’s vast neural network is the key to the mind’s complexity’ (interviewed in Browning 2005, online). I am unsure whether this statement refers to a connectionist or computational theory of mind or whether it is referencing both modes, but I take it

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<sup>26</sup>I note here that even without psi, this it is a controversial step in itself, given the explanatory gap that must be negotiated to explain how the micro and macro levels of the model interact. However, this is not unique to psi theory. It has already been mentioned that mainstream mind theories contain just such assertions, such as the theories of Roger Penrose which I mentioned earlier. The theories are problematic because they require some answer as to how to explain the micro/macro interaction between the micro quantum level and the macro level. I address this issue in relation to contemporary explanation theory further in Chapter 6.

that that they are referring to some kind of dominant mainstream mind theory that advocates a physicalist account of mind where mind is equated to brain states.

The radio show host points out that Dr Powell risks her reputation by including psi in her theory development. The host then asks that given this is a controversial manoeuvre, why is it that she takes the contentious step of including both psi and quantum theory in her proposed on mind models? Tellingly Dr Powell answers:

... because I really think that even though it is very, there are going to be a lot of sceptics, it's very controversial, I think that it's necessary to put it out there to stretch people, to get them to start thinking about some of these things that for a long time people have really been puzzled by and are not explained by the current model. And so the way that science evolves is by proposing new models that explain the data that's out there and then generating hypotheses and testing, testing the model and then refining it and moving forward.  
(interviewed in Browning 2005, online)

Her defence of the use of psi is very pertinent to theory development and competition in philosophy of science. These will be examined in much more detail shortly. But first a brief summary of the opposing point of view taken from the same program.

#### **4.2.4 The philosopher**

A philosopher from the University of New South Wales, Dr Peter Slezak, was asked onto the show in order to respond to the new model of mind which Dr Diane Powell and Dr Ken Hennacy were developing. His first point was about the mention of paranormal (psi) phenomena that the theory postulates as part of its explanatory scope. He comments:

If one is going to introduce the whole idea that there are paranormal phenomena the first thing that has to be said is that there's not the slightest empirical grounds to believe that such phenomena exist. So before one resorts to explanations that invoke paranormal abilities one would have to have some grounds for believing that there's evidence that warrants these claims.

Further to this he does not think that there is any need to introduce another level of process into the model of mind. Slezak says:

The area of quantum physics as an explanation of either the abilities of savants or other forms of consciousness is, I think, fair to say, speculative but it's again on the wild fringe end of speculation in this area. The question that has to be asked is whether the existing understanding of conventional physics and in fact, just the understanding of the brain and its neural networks is adequate to explain these behaviours. And there's not the slightest reason to think that current models are inadequate.

He then goes on to make a comment regarding the introduction of quantum physics into the model of mind and questions the reasons why this is necessary:

There's lots of things we don't understand but it doesn't mean that you invoke immediately some, what I have to say is, sort of a wild level of explanation that goes well beyond what is currently within the existing framework.

Dr Peter Slezak makes it clear that although the problem of consciousness is very much discussed (What is there to explain? Will science ever be able to explain it?) in the philosophy of mind, he believes that science will eventually understand the brain in the same way that it understands the functions of other parts of the body. His statement does not take into account that there are dualists who might disagree with such an assertion, but given that in Australia materialism is the dominant tradition he is voicing an opinion that would be upheld by many, if not all, Australian philosophers of mind. Dr Slezak concludes by saying that the main difference between his point of view and that of Dr Ken Hennacy and Dr Diane Powell:

is whether one has to resort to what I think one would say are extreme alternatives, as opposed to working within the framework of our current understanding, which appears to be adequate and which we are racking our brains to kind of solve these problems.

Dr Slezak's position is therefore at odds with Dr Powell's. At the point at which the radio show ends the discussion, they are in a situation whereby they just have to agree to disagree. The situation is similar to the psi debate which I outlined in the introduction to this thesis. One cannot expect much more from a radio discussion on the subject, however, I will use this example to clarify some of the issues that inform the discussion. The points of view expressed on the show between these disparate views are very telling. I outline the main positions represented below.

## 4.2.5 Discussion of competing hypotheses

The example of how a scientist and a mainstream philosopher respectively assess psi theory in a mainstream medium will be used to explore relevant issues of theory development in philosophy of science and hence provide a better understanding of the issues involved in comparing the competing hypotheses. The arguments for each side advocated in the discussion deal with theories, anomalies, problem-solving, and evidence. They are therefore pertinent to issues in the philosophy of science, and I will show how they can elucidate the issues regarding the psi hypotheses discussion.

The respective views of each of the contributors on the radio show will now be honed down to two representative stances. I call them the pro-psi and anti-psi stances. Dr Slezak is representative of the anti-psi approach and Dr Powel and Dr Hennacy of the Pro-psi approach. Here they are in point form:

### *Pro-psi*

- Apparent psi phenomena (ESP) require an explanation
- It is also apparent that the phenomena are anomalous
- The evidence for psi is apparently legitimate and science should try to explain the data
- A new model of mind has been developed to explain another unsolved (but not anomalous) phenomena (skills of autistic savants)
- Psi mechanisms can possibly be explained by this new model of the mind (which introduces QM)

CONSEQUENCE     The data for psi require an explanation. The new theory proposes a radical new model of mind functioning (because it involves adding another level of operation) which, if correct, potentially explains how psi might work.

The pro-psi approach is representative of the reductive realist approach to explaining psi phenomena. This is because it advocates a theory that accounts for psi as an anomalous phenomena which requires explanation. It does this by introducing a new model of mind, which though controversial, does not add any new ontological category to the connectionist model. In terms of progress of theory development in science the pro-psi account considers the generation of the more problematic, radical theory worthwhile because it has greater explanatory capacity. According to this

view, theory-generation is considered more important than maintaining a conservative approach and it is based on the perceived need to explain psi data.

### *Anti-psi (AP)*

- Evidence for psi is weak or nonexistent therefore it most likely does not require an explanation
- The current (connectionist/computational) mind models are adequate and the best working models so far, even if there are some phenomena as yet unresolved (e.g. savants).
- The evidence for psi does not warrant reconsideration of the current model.

CONSEQUENCE     The current theory remains unchanged with the anticipation that it is capable of solving any currently unsolved problems. (though there is disagreement about what problems require a solution)

Slezak states clearly that ‘there’s not the slightest empirical grounds to believe that such phenomena (anomalous communication) exist’ (ABC radio 2005, online). I suggest therefore he is a representative of the anti-psi approach and a proponent of the eliminativist view that there is therefore no phenomena that require explanation. In earlier chapters I have shown that the debate over the body of evidence for psi is complex and involves beliefs about the phenomena based on explanatory considerations. More specifically to make the statement along the lines of ‘there is no evidence for psi’ is to either display ignorance about the state of play of the evidence or (more likely) to be making an assessment of the phenomena based on the mainstream arguments for psi which I have shown to be problematic. So the anti-psi proponent who states that ‘there is no evidence for psi’ is really making a claim regarding conservative explanation and theory development.

Slezak’s own statements appear to support this analysis as he sees the main difference between himself and Hennacy and Powel as making a differentiation between ‘whether one has to resort to what I think one would say are extreme alternatives, as opposed to working within the framework of our current understanding which appears to be adequate and which we are racking our brains to kind of solve these problems’ (interviewed in Browning 2005, online).

In summary, the anti-psi approach denies there is a problem to solve in regard to explaining psi and consciousness and advocates the adequacy of current models to eventually explain current unknowns such as the behaviour of savants. On the other hand the pro-psi proponents believe that there are phenomena that require explanation (psi, abilities of savants) and that these phenomena can be accounted for by developing a new, more complex, scientifically problematic, more radical model of mind functioning with the hope that the roughness of the new theory will be smoothed in time.

The example taken from the *All in the Mind* radio program exemplifies the explanatory trade-off that is required for each option to be maintained. In the analysis of the main psi arguments in Chapter 1, I mentioned that there was no way to determine which of the two alternatives (copied below) would eventually be shown to be the most reasonable when, as is the case with psi, a body of evidence for a phenomenon is anomalous.

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

$E_\psi$  - 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 radio discussion presents a case where we see discussion about psi between proponents who are representative of both the  $E_n$  and  $E_\psi$  approaches. The anti-psi proponents maintain a conservative, more simple approach at the expense of explanatory scope ( $E_n$ ), versus the pro-psi proponent's more radical and more complex theory, but one which has greater explanatory power ( $E_\psi$ ). However, these two stances will remain at loggerheads unless the discussion can be ameliorated. In the broader picture these are different approaches to theory development in science that are relevant to explanation theories in philosophy of science which will be discussed in more detail in Chapter 6. For the time being in this chapter I will continue to examine the competing hypotheses and focus on issues pertaining to theory development in science.

I suggest that the most important question now to consider is: when should conservative explanatory concerns give way to the development of new, even if radical, theory? The pro-psi approach maintains that the data that indicate psi effects

means that a theory should be developed to explain them and they have started to formulate some ideas that involve quantum mechanics to explain psi which they have developed to explain another unsolved problem in cognitive science. Their approach is considered radical according to contemporary mind theory, and is even more radical because it is used to explain psi phenomena.

On the other hand the anti-psi approach maintains that current theory is adequate to the task at hand and will eventually be used to explain the unsolved problems such as the ability of savants to calculate quickly and they question the addition of psi as a phenomenon that requires explanation because the evidence is believed to be unsubstantiated.

I therefore suggest that the pro and anti psi stances represented on the radio show, are better understood if it is shown that the discussion confuses two important issues. The pro-psi approach is data-driven whereas the anti-psi approach is theory-driven. Both of these issues are important to explanatory considerations. I will explain this further in the next section when I use the work of Larry Laudan to clarify this point.

### **4.3 Research traditions**

This chapter will continue to explore the anti-psi and pro-psi stances using relevant areas in philosophy of science. In particular it will look at Laudan's analysis of research traditions to provide an avenue to understand how the competing hypotheses can be understood with this broader context in mind. Laudan's work is pertinent because, as I started to indicate in the section above, the two camps can be seen to represent different conflicting approaches to the body of evidence for psi. Laudan's theories on research traditions give a framework to try to understand some of the issues that inform the discussion. First I will outline Laudan's notion of research traditions and then apply it to the discussion. I will also draw on the analyses of psi undertaken previously in Part I of this thesis (especially the historic account) and tie any relevant issues into the discussion of research traditions in this chapter.

### 4.3.1 Research traditions and the radio discussion

I note at the outset briefly that Laudan himself appraised ESP phenomena as follows:

Most scientists today would claim to be unsure that there is *any* evidence of ESP which is in need of theoretical explanation. The so-called “pseudo-sciences” (as well as newly emerging sciences) generally flourish on just such cases, where it is unclear whether there is, at the outset, any problem which needs to be solved. (Laudan 1977, p33)

I hope that I have shown in the earlier chapters of the thesis that there is a problem. The outline of the radio discussion further gives weight to the problem when competing hypotheses are compared. I think that they are representative of different research traditions and will use Laudan’s work on such to further understand the issues involved.

Laudan’s notion of research traditions was developed because of criticisms of both Kuhn’s idea of paradigm change and Lakatos’s postulation of research programs. Laudan defines a research tradition as follows:

A research tradition provides a set of guidelines of the development of specific theories. Part of those guidelines constitute an ontology which specifies, in a general way, the types of fundamental entities which exist in the domain or domains within which the research tradition is embedded. (Laudan 1977, p79)

Further to this:

The function of specific theories within the research tradition is to explain all the empirical problems in the domain by ‘reducing’ them to the ontology of the research tradition. (Laudan 1977, p79)

He gives the example:

If the research tradition is behaviourism, for instance, it tells us that the only legitimate entities which behavioristic theories can postulate are directly and publicly observable physical and physiological signs. (Laudan 1977, p79)

According to Laudan then, research traditions dictate what is acceptable science at any one time. They are a way of understanding that science is informed by current beliefs, history and general consensus regarding what is appropriate in terms of methodology and (importantly for psi) content. They are ‘a set of ontological and methodological “do’s” and “don’t’s”’ (Laudan 1977, p80). This can change over time as has been witnessed by major developments in science over the years. The usual examples are the over throw of Aristotelian physics by Newton’s physics and then later, the changes to scientific theory after Einstein’s relativity theories gained favour.

A dominant research tradition is considered:

A set of general assumptions about the entities and processes in a domain of study, and about the appropriate methods to be used for investigating the problems and constructing the theories in that domain.' (Laudan 1977, p81)

I will now apply the notion of a research tradition to psi. The study of psi uses the accepted methods of investigation that are required by the current dominant research tradition. However, the actual subject of the study is what is open to question in this regard. The current dominant research tradition declare psi to be paranormal (as shown in Chapter 3). This is where the historic account comes in and helps to put the competing psi proponents into perspective. For Laudan also advocates that:

Because these larger systems (which I have called "research traditions") function at any given time as the effective units of acceptance (or rejection), it follows that the intellectual historian—in so far as he wants to explain the evolving vicissitudes of belief—must take such traditions as his fundamental units for historical analysis. (Laudan 1977, p182)

Once the historic account is brought to bear on the example of the discussion between the anti-psi and pro-psi stances, the issues become clearer. Remember that the historic account made a case that psi is currently considered paranormal because of its explanatory history as a supernatural phenomena at the time the modern world view was formed. Thus, the limits of science which were roughly sketched in those times impact on its status according to current day science. Despite the changing status of the explanatory category of the phenomena and the consequent assessment of psi as anomalous to current science, the data that requires explanation has persisted.

There has been a continued build up of evidence for psi. Evidenced, for example, by the continuing collation of anecdotal evidence as well as the increasing experimental evidence. There must be a point at which the apparent need to account for the evidence will convince some that conservative explanatory considerations must eventually be put to one side. I think that the discussion on the radio station indicates that we are seeing such a change now.

Anti-psi proponents, who represent the dominant research tradition, maintain that the current framework works too well to be upset by the introduction of phenomena that appear to be unexplainable within the framework. Pro-psi proponents consider the reverse and maintain greater explanatory scope is required in order to encompass the data that the current framework provides *even if it is anomalous to that framework*. One is a conservative theory-driven approach (anti-psi) which puts its hopes on current theory to eventually resolve the problems the data have given rise to.

The other (pro-psi) is data driven and regards the anomalous data associated with the body of evidence as being substantial enough to warrant a more radical development in mind-theory.

Therefore the discussion on the radio was carried out at cross purposes and was not, in fact, a discussion of similar concerns regarding mind models and psi phenomena, but instead the presentation of two conflicting points of view regarding explanation. They will remain unreconciled until it is realised that they represent these two different approaches representative of the dominant mainstream research tradition and a minor data-driven research tradition. Each stance (pro-psi and anti-psi) is equally worth investigating at a meta-level which compares them with these issues upfront. An analysis of the approaches as competing research traditions helps to tease out the explanatory issues that inform the discussion. So I now turn to Laudan's work on comparing research traditions to further tease relevant issues in the psi hypotheses discussion.

#### **4.3.2 Comparing research traditions**

According to Laudan 'a successful research tradition is one which leads, via its component theories, to the adequate solution of an increasing range of empirical and conceptual problems.' (Laudan 1977, p82) It is important to note that he also believes that a successful research tradition is not necessarily more or less correct in its assessment of the world than an unsuccessful one. In fact a strong research tradition may be ontologically or methodologically flawed in comparison to competing traditions but may remain dominant for other reasons. So the anti-psi research tradition, which represents the mainstream take on psi phenomena, has remained strong, despite the empirical disadvantage that it cannot explain certain apparent anomalous events (psi) and so has no alternative to rejecting the mass of evidence that I outline in Chapter 2 as having been produced by fraud, self-delusion, flaky methodology or flukes of coincidence. It could be considered flawed in this regard (because of the amount of fraud etc. that must be postulated in order to explain the evidence in such a fashion), but according to Laudan this wouldn't necessarily diminish its status as the dominant research tradition. What his analysis helps us to do is understand that such traditions can remain dominant despite such problems.

Trevor Pinch is a sociologist of science with an interest in ‘fringe science’; he makes a pertinent point about the fraud hypothesis in his paper ‘Normal explanation of the paranormal: the demarcation problem and fraud in parapsychology.’ He questions ‘what makes the ‘fraud’ hypothesis a better scientific explanation for the results of the parapsychologists than the ‘paranormal’ hypothesis?’ (Pinch 1979, p330). During the course of answering this question he makes a case that ‘the fraud hypothesis can be rejected as unscientific for the same sorts of reasons that have been used to reject parapsychology’ (Pinch 1979, 334-335). He does this on the basis that the fraud hypothesis is not generalisable (that is, showing one instance in which a fraudulent activity has produced an apparent psi effect does not mean that this is the case for all psi effects) nor is it falsifiable. Finally he suggests that it is theoretically inadequate, that is, there is no successful theory that explains why so many people would engage in fraudulent activity. His answer as to why, what he calls the fraud hypothesis, is dominant despite these problems is:

The ‘normal’ hypothesis is, almost by definition, more central than the paranormal hypothesis: hence the weight of the demarcation process has been directed towards denying scientific status to the claims of the parapsychologists. (Pinch 1979, p343)

His analysis gives weight to my notion that the pro and anti-psi stances are representative of different research traditions, one more radical than the other (pro-psi) because of how far it varies from the central tenets of contemporary science. As a social constructivist Pinch maintains that he is ‘pessimistic about the possibility of establishing independent standards of rationality’ (Pinch 1979, p344) leaving the question about determining which hypothesis is the most reasonable unanswered. Though I find his analysis of the fraud hypothesis relevant, I think otherwise. I suggest that teasing out the explanatory considerations and showing what beliefs about theory development and data inform each hypothesis,, allows us to at least understand how to go about making a comparison of the hypotheses.

I will therefore turn back now back to Laudan’s work which outlines a similar scenario in which ‘if a theory is closely linked to an unsuccessful research tradition then – whatever the problem solving merits of that particular theory – it is likely to be regarded as highly suspect’ (Laudan 1977, p83). This appears to be what is occurring in the discussion between the pro-psi and anti-psi proponents. It is borne out by the reception that the pro-psi stance was given in the radio discussion by the upholder of the status quo anti-psi proponent. More specifically the pro-psi theory was considered

suspect because it was speculative and involved data from a questionable area of scientific research according to the anti-psi (mainstream) proponent's hypothesis which maintained that it was more reasonable and was based on the need to maintain the dominant mind theory at the expense of representing a conservative approach to theory development.

The question now remains: if we are not to accept the status quo, how does an independent analysis of the two positions come to a conclusion regarding the most appropriate approach to developing psi theory? I don't think that at this stage we can determine resolutely whether we go with the more radical, less accepted pro-psi approach or the conservative theory-driven anti-psi stance. I suggest what we can now see is that different issues guide the development of each theory and the hypotheses are not well-matched for comparison; one is data-driven, the other theory-driven.

### **4.3.3 Summary of radio discussion**

I have used an analysis of a radio program regarding psi to show that discussion in science and philosophy between representatives of the competing hypotheses is complex, and involves comparison of different research traditions. It is not a mere matter of epistemologically evaluation the body of evidence. Even with the historic account taken into consideration it is not normatively clear which of the anti-psi or pro-psi advocates is the most reasonable path to follow. What is clear is that the discussion of the competing psi hypotheses require further analysis which takes into account various stances regarding how science explains anomalies. I therefore take up the task of assessing psi in relation to explanation theory in philosophy of science in the next two chapters.