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**The Role of Imagination in the Construction of
Anomalous Experience**

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Declaration

I declare that this work was composed and written by myself
and is entirely my own work.

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Abstract

This work explores the relationships between individual differences and anomalous experience. The research reported here also identifies and explores possible commonalities between some reports of paranormal experiences and clinical research on hallucinations. In particular, a distinction is made between imaginative cognitive style and intolerant cognitive style. Both of these modes of thinking and judging have been associated with paranormal experience, paranormal belief and psychopathology.

These factors are explored experimentally, descriptively and phenomenologically in order to provide as full an account as possible. On the basis of experimental and correlational studies it is proposed that an experiential as opposed to a rational mode of thought underlies these experiences. This experiential pattern of thought is characterised by high levels of imaginative absorption and magical ideation.

Furthermore, these tendencies provide a rich context for the reception of unusual perceptions and ideas and a fundamentally creative, metaphorical and analogical understanding of those 'anomalous' cognitions. The recent developments in the field of conceptual metaphor offer a theoretical context for understanding these experiences and an account of this is proposed based on a metaphorical understanding of reality.

Extended Abstract

Chapter one: A consideration of conceptual issues surrounding the reality status of anomalous phenomena.

This chapter addresses the reality status of unusual phenomena. A discussion of the liminal nature of paranormal experience is undertaken in terms of fraud, unreliability of effect, and links to psychopathology. Notions of reality testing are examined and the relationship of this process to hallucinations as well as definitions and constructions of reality is considered.

Chapter two: Rationality and imagination: Bias and fantasy in unusual experiences

Two main categories of explanations of reality testing failure: bias and fantasy, are discussed. The discussion of bias considers the role of heuristics and other judgement biases such as ambiguity intolerance and impulsivity. The fantasy category includes a range of imaginative tendencies and in particular, imaginative absorption. These categories are considered in terms of a dimension which may be mediated by levels of arousal. This is discussed in terms of Gelernter's concept of low and high focus thought.

Chapter three: Three psychometric studies

Three questionnaire-based studies are presented. These psychometric studies focus on the relationship of a range of psychological variables to reports of paranormal experience. These variables reflect the bias and fantasy categorisation discussed in chapter one. The three studies indicate that fantasy and schizotypy variables discriminate between participants who report paranormal experience and those who do not, whereas the bias variables such as ambiguity intolerance and impulsivity were much less effective at discriminating between these groups. Exploratory factor analyses and a cluster analysis in the final study provide indications that paranormal phenomena have a good deal in common with positive symptoms in schizotypy. Particular kinds of paranormal experiences such as those which are

characterised by an external influence seem more related to schizotypal experiences than other types of paranormal experience.

Chapter four: An experimental decision task

This chapter describes the development and execution of three experimental studies. Two similar tasks required participants to make judgements in relation to different types of ambiguous display. In the decision task, they were asked to identify ambiguous pictures which gradually became clearer. In the imagery task they were asked to report on visual sensations in response to an animated visual noise display. The patterns of scoring across the three studies suggested a weak and partially replicated tendency among paranormal experients to make more errors and produce more guesses in both tasks. These results were not statistically significant but are tentatively interpreted as supportive of a general creative/imaginative capacity which leads paranormal experients to report more hypotheses (and perhaps mental images) in response to ambiguous displays.

Chapter five: A phenomenology of unusual experiences

The phenomenology of reported paranormal experiences is examined. These experiences originate from a small number of experience reports. These experiences are categorised in relation to the form of experience and also in terms of their magnitude. These accounts provide insights into the ways in which experients conceptualise their experiences and they also may provide some indications of underlying schematic and preconceptual structures. This section also includes some details on unusual experiences reported as happening in childhood; some of these bear strong similarities with dissociative-type experiences.

Chapter six: A possible alleviative role for paranormal explanations in the experience of hearing voices

A small survey of the Hearing Voices Network (a user-led support group for people with hallucinatory experiences) is presented in this chap-

ter. Possible links between psi and psychopathology are briefly covered. The study is described which involved the administration of a small questionnaire dealing mostly with the phenomenology of the hearing voices experience, in addition some items measuring paranormal belief were included. A wide variety of explanations of the experience are reported. Hearers reporting higher levels of control over the voices employed more paranormal explanations than the low control hearers. Relationships were also found between the degree to which these experiences were considered negative and paranormal belief, with those hearers reporting higher levels of paranormal belief reporting less distressing experiences.

Chapter seven: An integrated approach

An attempt is made to conceptually integrate the personality traits and cognitive styles identified in the previous studies through the concept of an experiential mode of cognition. Hypnagogia and Synesthesia are described as possible characteristics of an experiential mode of cognition and the role of metaphor is considered as a representation of experiential cognition. The mind and paranormal experience are considered from this experiential position and the usefulness of metaphor in structuring these experiences is explored.

Chapter eight: Metaphor and the paranormal

In the first section of this chapter a review of the parapsychological and psychical research literature is reported. This review reports on the consistent use of three core conceptual metaphors in relation to paranormal experiences; intrusions, transmissions, and connections. These metaphors are explained in relation to a wide range of contributions to the paranormal literature.

The second section of the chapter is concerned with an empirical study addressing the use of these metaphors in relation to experiential reports. A content analysis of short responses to three questions regarding the explana-

tion of different paranormal phenomena was carried out. It was found that respondents did favour the core conceptual metaphors identified in the first section and that experiencers used a higher proportion of metaphors in relation to literal explanations compared to the non-experiencers.

Chapter nine: The concept of “energy” -- a core conceptual metaphor in constructing paranormal experiences

An interview with a practising medium is reported in this chapter. A range of explanations are offered of psychic experiences but primary in many of these experiences is the concept of ‘energy’. This concept is used to structure and provide explanations of psychic experience and it is allied with the second core metaphor of transmissions.

Chapter ten: Approaching the meaning of unusual experiences

This chapter provides a conclusion to this work and indicates possible future directions in which this kind of research may be taken. The broader implications of considering experiential and metaphor accounts in relation to unusual experiences (paranormal and psychopathological) is discussed. Finally, the need for assessment of this kind of meaning in relation to science itself is briefly outlined.

Introduction

Thoughts on the approach to the thesis

Many approaches have been taken to the kinds of phenomena discussed in this thesis (unusual perceptual and ideational experience). One reason for this is that parapsychological questions offer themselves to interdisciplinary study; another relates to the benefits of a more holistic approach over the inevitable fragmentation incurred through overly specialised study. It is probably a truism to say that the kinds of methods used inevitably dictate the form of the findings. In this study, a number of approaches are developed including empirical and quantitative assessments as well as more phenomenological approaches and more importantly all of these are set within a context of the recognition of the importance of the constructive nature of thought and the reliance on the figurative nature of mind.

Any research approach implicitly employs metaphors which are consonant with the main paradigm or model within which that approach operates. Currently within psychology the cognitive or information processing approach holds pride of place. There have been cognitive interpretations of most phenomena including those unusual experiences examined in psychopathology and those in parapsychology. Usually lip service is paid to the role of metaphor and eventually the metaphors are often interpreted as literal realities.

From the perspective offered by contemporary metaphor theorists, any metaphor may offer a degree of lucidity but implicit in this position is that other metaphors may illuminate a phenomenon more (or less). As a metaphor illuminates certain facets of a phenomena it also inevitably hides others and this provides a powerful argument for 1) being sensitive to the metaphors used to describe any domain and 2) the need to recognise the important role that different metaphors can play in elucidating any domain.

In this work the importance of examining the metaphors involved in

unusual experience is assessed in a number of ways. Firstly, the objective-subjective split which is often touted as of primary importance in these kinds of experiences is reassessed from the metaphor view and the constructive role of the mind accorded recognition. Secondly, metaphor is interpreted as a mode of experiential thinking and these unusual experiences are examined in relation to this experiential mode of cognition and also in relation to related personality constructs. Finally, metaphor is examined in terms of the particular instances of metaphor use in relation to different phenomena.

A meta-perspective has been taken in this work which was partly a development of the realisation of how important a role metaphor plays in the development of lay and academic theory alike. It should be noted that the overall perspective offered here is one which highlights the fact that all research is inevitably framed and contextualised by particular conceptual metaphors (something which is becoming more widely accepted; see Ortony, 1993).

This approach affords a number of benefits:

1. As Bohm (1980) notes:

fragmentation is continually being brought about by the almost universal habit of taking the content of thought for a description of the world as it is! (p. 3).

This is primarily what will be called here the objectivist position. This viewpoint assumes that the categories used by humans to conceptualise the phenomenal world exist independently of human cognition. Bohm notes further that:

it is crucial that man be aware of the activity of his thought as such; i.e., as a form of insight, a way of looking, rather than as a 'true copy of reality as it is'. (p. 7)

We have thus to be alert to give careful attention and serious consideration to the fact that our theories are not 'descriptions of reality as it is' but, rather, everchanging forms of insight, which can point to or indicate a reality that is implicit and not describable or specifiable in

This approach is more holistic; it negates the requirement for the assessment of the absolute truth status of concepts and theories (indeed it supposes that this is a state of affairs which is impossible to achieve — as truth status as a concept only makes sense when taken in the context of the conceptual framework offered by a particular cultural and historical setting).

2. It encourages a much more creative approach to scientific understanding and research by permitting multiple views of a phenomena each of which has validity in a relative sense when seen from a particular metaphorical stance.

This thesis often presents metaphor as reality, blurs the boundaries between the literal and metaphor and generally argues that metaphorical accounts are extremely valuable in understanding all phenomena and human experience. In a sense, this is not that much different from a cognitivist who focuses on the articulatory loop or working memory, the physicist who explores the nature of quarks or even the economist who formulates an equation for the financial economy. In most of these examples the researcher supposes that they deal with an objective and literal reality in which each of these phenomena and the responses made to them actually exist in the form they suppose. In this thesis, the point is made clearly that any perspective is inevitably couched in metaphorical thought.

In one sense it could be argued that metaphors are the most appropriate vehicles for constructing and communicating experiences of a multifaceted reality.

Chapter 1

A consideration of conceptual issues surrounding the reality testing of anomalous experience.

The parapsychologists and other anomalies researchers are still locked in a "to the death battle" over whether or not these experiences "really" took place. Popular culture, on the other hand, seems to start from the assumption that they do. And many scholarly disciplines go by the rule that if a person believes that something is real, for that person it is real, and one moves on from there. White (1993) p.11

This chapter describes a movement between two perspectives. It begins by depicting a rather orthodox position which is concerned with the role of reality testing of anomalous experiences (the obvious supposition here that reality is what is consensual and limited to demonstrations of objectivity). As the chapter progresses, by the very nature of its investigation, it addresses some relatively new contributions originating in work on conceptual metaphor and imagination which permit a more flexible approach to subjective experience and suggest that we should consider reassessing the definitions of reality validation which are currently held.

Firstly a brief discussion of the legitimacy of paranormal phenomena is undertaken in an attempt to briefly register the main points summarising the marginal nature of paranormal and psychopathological experience in Western culture. Following this we proceed to explore some salient points concerning the construction and monitoring of reality.

Anomalous phenomena

People have always had unusual and anomalous experiences which they sometimes attribute to paranormal causes. The term 'paranormal' is often used to define different ranges of phenomena. Here this term will be used in relation to those reports of phenomena which are currently inexplic-

able within the constraints of contemporary scientific knowledge. These phenomena seem to have remained relatively constant in the forms they adopt over the period of recorded history and generally across cultures. Early representations of this have been largely informed by notions of some other world and entities that populate it (ancestors, spirits, deceased relatives, etc.) and who sometimes return to our world (Eisenbud, 1989). Other categories of such experiences include knowing and perceiving without the aid of any identified communication channel, this is commonly expressed as extrasensory perception (ESP). The apparent mental influence of matter without motor activity is commonly termed psychokinesis (PK). The phenomena associated with ESP and PK are often subsumed under the general category of psi. These three classes of experience form the basis for modern discussion of ostensible paranormal phenomena. Experiences like these are also commonly recorded in the reports of those diagnosed as suffering from some forms of psychopathology (notably schizophrenic experience) which provide another rich vein of liminal experiences. These experiences require judgement, some assessment of whether or not the experience was real, and it is to this question, which has been a constant source of sometimes quite heated argument, we now turn.

Debate over the reality of psi phenomena

There has been much debate over the last century or so over the reality status of phenomena such as apparitions; ESP and PK. These are the core paranormal phenomena; sometimes broader definitions are used which may even include concerns over the existence of extraterrestrial life. While there has been some progress in the experimental investigation of some kinds of phenomena, and some would argue that there is evidence for accepting the existence of these phenomena (Bem & Honorton, 1994; Honorton, 1977), others find these kinds of studies less persuasive and still debate the findings of research in this area (Hyman, 1989). Still others have recommended we move from an empirical approach to focus more on the experiential

issues related to reports of such events (White, 1985).

The liminal status of paranormal phenomena

In discussing the reality status of paranormal phenomena I will use the term 'liminal' to describe the nature of psi; by this I mean that psi often exists as a borderline concept, or is viewed as existing outside of the orthodox positions on reality. The term 'liminal' was introduced to anthropology by van Gennep (1960), in that sense it meant a middle or transitional zone. I use the term to indicate a middle position where concepts enjoy both real and unreal status. Most people have some awareness of what paranormal phenomena are, hold beliefs about their existence and even perhaps have had experience of them but in spite of this, these phenomena enjoy a certain status of unreality with the continual promise that 'the truth is out there' (but always tantalisingly just out of reach!)

A number of factors may be described as contributing to doubts about the reality status of paranormal phenomena. A good deal of debate surrounds these controversial topics and some of the arguments for the liminal nature of paranormal experience are outlined below.

Fraud

One of the main arguments fielded by counteradvocates of paranormal phenomena is that experimental results and mediumistic phenomena have on occasions been proved to have involved fraud. In the past the motivation and stakes for producing psi have allegedly led some investigators to engage in manipulation of the data (Pratt & Woodruff, 1961). It is also likely that many investigations of mediums identified fraudulent activity on the behalf of the medium and accomplices (Wiseman, 1992). To complicate things further it has been speculated that fraudulent activity in a mediumistic setting can be positive and initiate real paranormal phenomena (Batcheledor, 1984).

Experimental effect unreliability

Producing replicable results has always been a desirable goal for parapsychologists. This has proved very difficult. A number of reasons may exist for this.

Firstly, not enough is known about the conditions necessary to successfully demonstrate psi — although a recipe for success is perhaps more likely in the light of process oriented research focusing on personality factors and the circumstances of the experimental situation (Irwin, 1994; Van Kampen & Bierman, 1994).

ESP and PK seem to demonstrate very small effects in most laboratory-based studies and require large samples and sensitive measures to detect such effects. Where numbers of individual studies have been combined in meta-analyses it has been found that the effects, although small, do seem to be replicable (Honorton, 1985; Honorton & Ferrari, 1989).

Subjective paranormal experience

The majority of these experiences are private, transitory, coloured by personal beliefs and often difficult to verify. By far the most common mode of experience is probably during or near sleep states (Irwin, 1994; Glicksohn, 1990). Neppe (1983) introduced the term 'subjective paranormal experience' (SPE) to cover the reported experiences which are attributed to paranormal causes but which have not been verified or are perhaps impossible to verify.

Marginality position

From a sociological position paranormal belief and experience have been viewed as a result of social marginality (Bainbridge, 1978; Wuthnow, 1976) and from an anthropological position as a delusory way of exerting control over nature based on magical thinking and superstition (Malinowski, 1954). These accounts portray the objectivist position that religious and supernatural interpretations of the phenomena arise as a natural defence against uncertainty and have no real existence.

Links to psychopathology

Long term links exist between the study of psychopathology and the study of parapsychology. Similar kinds of experiences are reported in both fields. It has been speculated that major psychoses result from the intrusion of psychic content (Erhenwald, 1948). In addition, consistent relationships have been demonstrated between measures of psychopathology and those of paranormal belief and experience (Thalbourne, 1984; 1994). Beliefs or delusions of paranormal abilities are part of the criteria for diagnosing psychosis. On the basis of a similarity between paranormal and psychopathological experiences it is possible that examination of paranormal beliefs and experiences have important implications for understanding more severe forms which appear in psychopathology (Glicksohn, 1990). This link between madness and paranormal belief and experience has proved attractive to counteradvocates wishing to argue against the existence of the paranormal (Maddox, 1991).

Definitions of reality

The philosopher C D Broad (1969) responded to the notion of paranormal phenomena with what he called 'basic limiting principles'; these are arguments against the existence of paranormal phenomena employing what we already know scientifically about the laws of nature. Definitions of reality drawing on these principles arguably leave no room for such phenomena. In contrast to this position many sources see the developments in quantum physics as validating psi phenomena and providing possible analogies as to how ESP and PK may occur (Jahn & Dunne, 1987; von Lucadou, 1994).

Each of these points mentioned above contribute to a sense of liminality of psi phenomena in terms of academic consideration and debate, they also begin to provide a sense of the manner in which the paranormal has been constructed in relation to academic definitions of reality. Each of these arguments contribute to individual and social assessments of what constitutes reality in the case of paranormal phenomena. In the next section the

process of defining reality will be examined in more detail.

To briefly summarise: ostensible paranormal phenomena have largely been categorised in two ways:

1. They are real events characterised by some form of as yet unidentified communication channel in the case of ESP or some form of unknown energy in the case of PK. In spite of the lack of a discernible mechanism or model, parapsychologists have documented a wide range of reasonably consistent features which are characteristic of psi. From this perspective, both process and proof-oriented research are likely eventually to validate this concept.

2. From a more skeptical position psi is an illusion. People mislead themselves under certain conditions and may even demonstrate personality characteristics such as being over-imaginative and / or lacking reasoning ability which make this more likely. From a social or cultural position religious affiliation and/or philosophical proclivities can also lead to attributions of paranormal causes to anomalous events. Of course there may be a combination of these in which it may be argued that real psi exists alongside these numerous false alarms or misjudgements.

Both of these broad interpretations of paranormal phenomena stress the liminal nature of psychic experience and belief. They also illustrate the objectivist desire to prove a phenomena to be true or false. These kinds of experiences have always been the debating ground for definitions of reality and I will go on further to argue that these experiences and the conditions of their occurrence are a proving ground in another sense. These experiences, by their very ambiguity and liminality and in spite of cultural interpretations, may provide insights into how aspects of reality and facts are actually constructed.

Constructing reality

Human kind cannot bear very much reality. (Eliot, 1944, p. 14)

In the relative sense, then, the sense in which we contrast reality with simple unreality, and in which one thing is said to have more reality than another, and to be more believed, reality means simply relation to our emotional and active life. This is the only sense which the word has in the mouths of practical men. In this sense, whatever excites and stimulates our interest is real; whenever a object so appeals to us that we turn to it, accept it, fill our mind with it, or practically take account of it, so far as it is real for us, and we believe it. Whenever, on the contrary, we ignore it, fail to consider it or act upon it, despise it, reject it, forget it, so far it is unreal for us and disbelieved. (James, 1890, p.294 — in Bartholomew, Basterfield & Howard 1991).

Beliefs about reality, and exposure to unreal experiences such as hallucinations obviously influence reality testing. This process involves the difficult and philosophically sticky question “how do we decide when our experience is real and when it is unreal?” With a subject as seemingly obvious and yet inherently slippery as this perhaps it is wise (if somewhat formal) to begin with a definition. The term *reality* arrived on the scene in the 16th century, its origins were in the medieval Latin word *reālis*, the Anglo-Norman *real* and the old French *réel* which all referred to things actually existing or present. In this form it is obvious that real distinguishes objective states, events and entities from subjective equivalents, in our culture we usually employ real as a way of describing what is important and tend as a consequence to disregard or at least devalue subjective experience.

Subjective experiences can sometimes have the power and impact of external sensory impressions — when this occurs we talk about hallucinations. The first use of the word *hallucination* in English occurred in a translation of a tract by Ludwig Lavater (1570/1572), who wrote of “Ghostes and Sprites walking by nyght, and of strange noyses, crakes, and sundry forwarnynges, whiche commonly happen before the death of menne, great slaughters & alterations of kyngdomes” (Sarbin, 1990, p.314)

According to Sarbin (1990), Lavater was referring to apparitions and

using the word *hallucination*, an anglicised version of the Latin word *allucinationis* which refers to idle talk or a *wandering of the mind*. This suggests that an unusual loosening of the ties which bind thought and perception to the objective and external reality has taken place. A similar case might be made for the origins of the term *delusion* which obviously stems from the Latin verb *ludere* — to play; in this sense we can take it to mean to play falsely. In both cases, it seems that we take subjective experience to be objective when the mind plays too freely.

Philosophers have always struggled with the dichotomy of subjective and objective experience. It perhaps posed more of a problem for the empiricist tradition in philosophy. Locke drew a distinction between primary and secondary qualities, the former existing in reality regardless of occasions of observation and the latter consisting entirely of the subjective contribution of an observer. Once an analysis of commonsense reality is undertaken it is only a short step to undermining our preconceptions and expectations about objectivity.

Fischer (1975), considering the reality status of hallucinations, goes on to question fundamental objectivity.

At this point, we may ask whether state-bound flashbacks, *deja vu* experiences, and depersonalisation phenomena are perceptions or hallucinations. This of course depends on the definitions given for perception and hallucination.

Are the physicist's tracks produced in cloud chambers, bubble chambers, or nuclear emulsions, hallucinations because they are "perceptions without an object", thus conforming to Lhermitte's (1951) definition of hallucinations? And what about other forms of energy (e.g., pulsed microwaves that induce the hearing of hissing and clicking sounds, or magnetic fields provoking phosphenes)? And did the Apollo astronauts, while in translunar flight, hallucinate the flashes of light evoked by the action of cosmic rays, which are definitely not "objects" (Charman & Rowlands, 1971). Evidently, selective attention is to be paid to the very logic of language and to that logic which is based on sensory observation—or first-order interaction—and willed motor verification—or second-order interaction—with the observed. (p. 203)

As Fischer argues, defining what constitutes an object is not even as simple as it ordinarily seems to be. It seems that distinctions between objec-

tive and subjective, although seemingly something we are all capable of, are perhaps more subtle than we would think.

Subjective phenomena also have effects and so a claim on reality (Sarbin, 1967). Reality is often synonymous with materiality, yet the immaterial can have very real effects. Sarbin recounts a story of ten young boys telling ghost stories to each other at a halloween party. In a suitably dark and lantern-lit room the boys sat in circle which closed from 11 to 3 feet in diameter during the course of the story telling.

Al-Issa (1978) reviewing the status of hallucinations cross-culturally argues that there are difficulties in deciding upon criteria for categorising reality and fantasy. The predominant criteria are based around the question of materiality, if it has no measurable material basis it does not exist. As Al-Issa notes, reality defining criteria can change with time and place and also experients may be using different criteria when they act as if their imaginings are real. Whose criteria are we to accept?

Reality definitions are inevitably subject to cultural and societal limitations. Sarbin (1967) here again expresses his doubts about the usefulness of concepts such as hallucination and schizophrenia. For instance, for a Native American the kinds of vivid experiences which follow the ceremony, isolation and fasting involved in spirit seeking, are considered real by the tribal members (similar experiences are shared by other members of the tribe — affording consensuality, one of the criteria for objectivity) but would no doubt be classified as hallucinations by Western psychologists and psychiatrists. According to Peat (1995) the Western mind focuses on the surface while the indigenous heart, mind and being seeks the inscape in a relational rather than rational and participatory rather than detached mode of experiencing. Another important point made by this example is that hallucinations can take place outside of an illness context.

Holt (1964) describes the position that imaginative experiences obtain in our culture.

In a factually oriented, skeptical, anti-intrceptive, brass-tacks culture like ours, where the paranormal is scoffed at and myth and religion are in decline, the capacity for vivid imagery has little survival value and less social acceptability. We live in an age of literalism, an era that distrusts the imagination, while at the same time it develops its beat fringe of avid seekers after drugs that may artificially restore the capacity for poetic vision. It is little wonder that children rapidly lose their eidetic capacity and that adults are made uneasy by the admission that they can experience things that are not factually present. (p. 262)

A wide range of studies provide some support for this constructive rather than representational view of experience (e.g., Edge, 1994). We can never free ourselves of our interpretations, and perception is interwoven with imagination and the interpretative structures we impose upon it. It is obviously important that some form of assessment takes place with the purpose of delineating objective (externally generated public experience mediated by sensory processes) from subjective (internally generated private experience mediated by imaginative processes) experience.

Kruse (1989) notes that the process of cognition in Western philosophy has been understood for the most part as a process of representation and informational input. Reality from this perspective is objective and independent of perception and is discovered through the perceptual process and through action — the organisation, stability and richness of the phenomenal world is considered to be a feature of the organisation, stability and richness of an external world. Von Glaserfeld (1981) compared this to religion and a *metaphysical* realism. Perceptual oddities such as multistable or ambiguous figures like the Necker cube illustrate that the process of perception is not simply one of subjective representation of the object in the external world; rather it is autonomous creation of order in the visual system (Kruse, 1989). Meaning, perspective, figure and ground, all need to be constructed — they are not given.

For what Kruse calls the *curious phenomena* (multistability, suggestion, hypnosis) a “Kantian change” in psychology must take place; where the phenomenal world would no longer be seen as a more or less direct repre-

sensation but as a construction of the cognitive system itself. The recent development of self-organisation in physics, chemistry and biology has promoted a similar view of a constructivist and autonomous cognitive system (Maturana & Varela, 1980). From this viewpoint it is difficult if not impossible for the organism to assign true or false to the relations of innerorganismic events (sensory and motor); it can only consider them as possible or impossible. Cognition therefore applies to the simplest of organisms such as amoebae. In the most complicated of nervous systems—the human brain—cognition should be described as a process of relating relations of relations of relations etc. The brain is an open system concerning its exchange of energy and substance but a closed or self referential system concerning the creation of meaning. The ontological reality is considered to be a limiting factor to the self organisation process, but there is no way of knowing anything about it.

Of particular relevance to this discussion, Kruse notes that the radical constructivist's view has a bearing upon the process of reality testing. Hallucinations and hypnotic suggestion are illustrative of the constructive process. Shepard (1984) suggests aptly that he likes to "caricature perception as externally guided hallucination, and dreaming and hallucination as internally simulated perception." Kruse suggests that in this light the theoretical differences between perception and hallucination fade away. Instead of clearcut differentiation between the subjective and objective we are left to answer the following questions.

1. "How does the cognitive system normally distinguish between perceptual phenomena, dreams, and hallucinations if this distinction cannot be regarded as the trivial consequence of the representation of perception."

2. "And, if there are some inner-systemic mechanisms responsible for this discriminative ability, what happens to them during suggestion and hypnosis?"

In fact, paranormal experiences provide more problems in dealing

with this division because while ESP may constitute a wholly subjective experience, it has by definition objective relevance in that it ostensibly relates to a real event or stimulus outside of the experient's perceptual field. On the other hand the same experience may occur but not be linked with a relevant objective event in the case of subjective paranormal experience.

The matrix of both subjective and objective experience requires some kind of attribution process and the successful performance of this process will be dependent upon on a number of factors and be responsible for our sense and understanding of reality. Of course, as we have seen, the definitions of reality offered by a particular culture and time will naturally provide filters for this process. These filters provide the definition for an ecology of perception and hypothesis where subjective and objective are less differentiated.

In more traditional cultures this subjective and objective split is of much less consequence, "with people perceiving reality in a much fuller sense, they receive visions, inner journeys, fly in the air, converse with rocks and trees and interact with energies and spirits" (Peat, 1995, p.287).

These are all experiences which might be labelled broadly as magical and in our culture are certainly considered to be liminal and quite possibly indicative of psychopathology. Instead more concern is placed on assessing what is real and 'out there' from what arises subjectively.

Reality testing

The contemporary view of hallucinations is that they are internally generated experiences which are misattributed to external origins (Bentall, 1990). It seems reasonable that many reported paranormal experiences can be viewed in the same way. Podmore (c. 1909), subscribing to this objectivist position, expresses some concern about this common failure of humans to accurately describe reality.

Man, as has been said by someone, is not naturally a veridical animal. It is not in fact an easy thing to tell the truth. It is the most dif-

ficult of all arts, and one of the latest acquirements of the most civilized races. There are in the first place defects and excesses in narration caused by self interest , or by the dramatic instinct, the love of telling a good story. But defects of this kind are generally recognised and proportionately easy to guard against. The real danger is more subtle. Not only our memory but our very acts of perception are shaped by our preconceptions and prejudices. To put it crudely, what we see and what we remember is not actually what happened, but what we think ought to have happened or what was likely to have happened. p. 4

Podmore believes that although there may be room for apparitions in this as yet not fully understood world it is likely that these experiences are in fact hallucinations.

These concerns for categorising real as opposed to hallucinatory experiences have been made the core of a number of research efforts. The criteria used in testing the reality of a stimulus are likely to involve such factors as *intensity* — the more an object stands out from its ground then the more real it is — (Kruse, 1989). Spatial, contextual, sensory and semantically detailed attributes have also been isolated in reality monitoring research (Johnson, Hastroudi & Lindsay, 1993).

Aggarnaes (1972) summarises the components of sensory and subjective experience and how these are employed in making decisions and judgement about the reality of such experiences.

Table 1 showing the seven reality characteristics (in the form of bipolar contrast) proposed by Aggarnaes (1972).

Sensation (perception)	Ideation (imagination)
Behavioural relevance	No behavioural relevance
Publicness	Privateness
Objectivity	Subjectivity
Existence	Non-existence
Independence	Dependence
Involuntarity	Voluntarity

It can be seen that real events should possess the qualities in the left

column of table 1 and imaginary events should possess those in the right. So a real event should incorporate a perceptual quality, it should be accessible to others and it should be independent of the actions of the observer. On the other hand, the imaginary experience should be less vivid than a perception, be inaccessible to other potential observers and should be reliant upon the psychological conditions in the experient. It is in situations when some of these qualities are contravened that confusion over origin of the experience can take place.

It seems likely that there is a developmental progression in assessing and categorising experience in terms of its objective and subjective status in reality assessment and monitoring. Research in developmental psychology has indicated that this is a gradual acquisition. Young children often confuse private with public experience (Flavell, 1979; Flavell, 1986). This tendency to confuse subjective with external experience is also evident in adults.

Of particular interest for discussion here is the work of Johnson and colleagues (e.g., Johnson & Raye, 1981). In a variety of studies they assessed the kinds of factors involved in reality monitoring, which can be viewed as a metacognitive process involving the categorisation and discrimination of internal (private) and external (public) experience as they are perceived, imagined, and remembered. This process can be subsumed under the category of source monitoring which is the process involved in making attributions about the origins of memories, knowledge and beliefs (Johnson, Hastroudi & Lindsay, 1993).

Johnson has provided an outline of how the absence of various cues usually associated with perception or the act of imagining are used to recall whether or not an event was private or public. These cues such as vividness, location within a particular series of events and a sense of effortlessness contribute to an attribution that an event was objectively perceived. On the other hand, feelings that the image was less vivid, unconnected to

contemporaneous events, and accompanied by a sense of effort would contribute to it being classified as subjective and imaginary. When these cues are for some reason absent or unattended to; difficulties in assessing what is real and what is imaginary will naturally ensue. This might be more common to some people than to others. They propose that two types of processes are called upon in reality monitoring decisions. The first involves a relatively fast general category decision (heuristic) about the stimulus (often a memory trace) probably focussing on the basic tenor of the experience (possibly employing some of the criteria proposed by Aggernaes (1972)). The second is a slower and more time consuming (systematic) process which is based on more extended reasoning, drawing on supporting memories and knowledge.

A wide range of studies have demonstrated the failure of this monitoring process in a number of different areas, such as recalling and identifying one's own and others' dreams (Johnson, Kahan & Raye, 1984); in stereotype maintenance (Slusher & Anderson, 1987); in discriminating between performed and imagined actions (Markham, 1991); reality monitoring in relation to psychotic hallucinations (Bentall, Baker & Havers, 1991) amongst others.

There are a number of factors which have been demonstrated to influence this reality monitoring process. These would include such events as the experience of stress or divided attention and any event that reduced the likelihood of embedding the stimuli or event in the matrix of other events. Presumably, although not discussed by Johnson, there is the possibility that certain personality characteristics which relate to changes in arousal or altered cognitive functioning may contribute to these errors in distinguishing between internal and external events. At the forefront of this position is the proposal that reality is not given directly in perceptual and memory representation but is a product of judgement processes (Johnson et al. 1993). Interference and biases influencing this judgement process will obviously

direct and inform any decisions about the source and reality of the representations. In terms of delusions and unusual beliefs there is usually a tendency to unbidden thoughts and a reduced sense of voluntariness in their generation; this would contribute in Johnson's view to a sense of external rather than internal locus (Johnson, 1988). It might be argued that this could be considered to operate in a similar way for paranormal beliefs about ideational experiences, such as reports of ESP (especially where there is an imagery component) as well as in a more perceptual sense for apparitional experiences where the appearance of an entity is reported.

Although this research has been valuable in delineating the problems and difficulties involved in discriminating the reality and source of experiences, in some cases it unfortunately tends to present a one-sided picture emphasising the error in the uncontrolled free play of the mind. From the viewpoint of most of this research reality monitoring or testing has obvious connotations; it supports an objectivist reality position. Bentall (1990), obviously recognising this, employed the term *reality discrimination* in order to try and obviate some of the pejorative connotations of the term *reality testing*. Even further than this, the general approach fails to appreciate the important constructive role played by the imagination (although Johnson and colleagues do admit that reality is the product of judgement processes). This must largely be attributed to the general tendency to avoid considering the less rational characteristics of thought such as imagination and affect. A powerful argument is being fielded by contemporary researchers which contends that imagination, far from being inconsequential, is actually fundamental in providing the categories and schemas used to understand the world (Lakoff & Johnson, 1980); this will be more fully explored in a later section.

In dealing with psi experiences it is obvious that reality testing or monitoring paradigms are more readily linked with sensory-like experiences such as apparitions but it may be argued that they are also valuable in

understanding more ideational experiences such as ESP. Although ESP experiences (by definition) occur without the experient identifying an external perceptual locus, it could be argued that there would be an association with a particular external event. So that even if the event occurred without any form of perceptual registration it has an association with external entities and locations: a person, place or event. This is particularly worth considering when, as in the case of ESP experiences, delusions and some hallucinatory experiences are not image rich and sensory-like but instead rich in affect and numinosity.

In summary, it seems that many paranormal experiences like hallucinations can be considered to be failures of adequate reality testing. It is likely that there are worthwhile issues to explore in this kind of argument, however they are not likely to be resolved in terms of naive realism where the objectivist position is considered of paramount importance. There are also particular consequences contingent upon examining the subjective/objective distinction which lead to definitions of reality, objects and experiences. Paranormal and psychopathological paranormal experience may actually fall into a number of categories, some being due to perceptual and ideational error as well as those which may be considered as veridical accounts.

It is almost impossible to play down the importance of the role of constructive processes and the particular *weltanschauung* involved in objective descriptions of the world as well as in a paranormal view of the world. As Edge (1994) says it is difficult to ignore the changes which are occurring across a range of disciplines which focus on the constructive nature of mind and reality. This position does not require a stance of absolute relativism, on the contrary *the world is out there* but how we relate to it and describe it are dependent upon what we bring to the perception in terms of images, metaphors, expectations, models and preconceptions.

The next few chapters explore the role of personality traits in relation to unusual perceptions and thoughts (used here as an alternative way of

discussing subjective paranormal and psychopathological experiences). These are followed by a more speculative and obviously tentative description of these experiences at a fundamental level in terms of the processes and metaphors of cognition. This approach is intended to question the indubitably simplistic distinction between objective and subjective classification of experience and provide a much needed context for understanding anomalous cognitions.

Chapter 2.

Rationality and imagination: bias and fantasy in unusual experiences

Having briefly examined concepts of reality and reality testing and having seen that there are inevitable philosophical problems attached to such processes, we shall now examine research on correlates of paranormal and anomalous experience which may be indicative of individual differences, and important in predicting the tendency towards such experiences. White (1990) recommended that research should be undertaken to elaborate possible variables which relate to paranormal experience and belief. Paranormal belief and experience are dealt with together here, it is relatively difficult to isolate which of these variables takes precedence — although this work implicitly points to experiential precedents in paranormal belief.

A wide variety of personality variables have been explored in relation to paranormal experience and belief. This review will concentrate on variables which can be considered to occupy two broad categories, designated here as bias and imagination as they seem to sum up the two main cognitive avenues to understanding and explaining attributions of paranormal and anomalous experience. In these two sections the literature from parapsychological, psychological and clinical areas of research will be surveyed continuing the theme of suggested possible similarities between abnormal and paranormal experience and belief.

Concepts of bias

Within the clinical literature on hallucinations and delusions there are suggestions of a cognitive bias being responsible for these misattributions. A similar case has been proposed (although to a lesser degree) in relation to research on paranormal experiences and beliefs. This bias may be construed in a number of forms relating to a number of psychological variables and be sensitive to other moderating variables such as arousal and stress; these will

be discussed where necessary in conjunction with the background information on these variables.

Rules of thumb and judgement bias

Kahneman, Slovic and Tversky (1981) initiated a deep foray into the role of bias in decision making. In contrast to early cognitive and social psychological theories which assumed that humans may act as lay scientists or even human processors of information there is strong evidence to suggest that humans are actually wary of processing commitments, preferring instead to employ rough guidelines or heuristics instead of rigorous effortful procedures. This work indicates rather unsurprisingly that humans make mistakes in assessing probability and randomness which they could avoid if they employed statistical strategies such as Bayesian analysis. The implications of this have been taken seriously in the experimental work of Blackmore and Troscianko (1985) and Brugger, Landis and Regard (1990). However, it should be mentioned that this negative view of human cognition has largely been informed and structured through an over-reliance on the mechanistic computational metaphor in cognitive psychology. Recent commentaries summarised by Watt (1990-91) indicate that Kahneman, Slovic and Tversky's findings are perhaps too damning and inherently unfair in their representation of human cognition.

Kahneman, Slovic and Tversky's writings evolved from a consideration of heuristics to a passionate acceptance of bias conveying a much more critical and negative image of everyday cognitive abilities (Watt, 1990-91). In addition their criticism has been targeted at the specific tasks set by Kahneman, Slovic and Tversky in relation to understanding probabilities, with phrasing and problem choice playing an important role in determining the kinds of responses received. It is worth noting that similar tasks were employed by Epstein and colleagues (Epstein, 1994) but without such negative interpretations.

A related explanation of deficits has been proposed which would bias

the judgement of paranormal believers. This focuses notions of reduced levels of critical thinking and reasoning in believers in the paranormal (Alcock and Otis, 1980; Wierzbicki, 1985). Irwin (1993) expressed some concern that the outcome of some of these studies may well have been contingent upon the skeptical position of the experimenter, with the paranormal believers with good critical abilities downplaying their beliefs in the face of obvious skepticism. In a study of his own, Irwin (1991) found that strong religious but not paranormal beliefs were related to poor reasoning, supporting his claim.

Intolerance of ambiguity

A bias which has shown some promise in distinguishing between hallucinators and non-hallucinators is that of intolerance of ambiguity (Heilbrun, 1972; Heilbrun & Blum, 1984). Intolerance of ambiguity reflects the tendency towards a more rigid and dogmatic rather than flexible cognitive style. It seems worthwhile exploring this variable in relation to reports of paranormal experience and also to performance in parapsychological experiments. Much of the pre-experimental protocol in free response ESP tests such as the Ganzfeld (a partial sensory deprivation paradigm, Honorton, 1977) aims to encourage a flexible cognitive approach to the task through relaxed attention to mentation; anything that comes to mind is reported with little attention diverted to making sense of the images experienced. Participants with a tendency towards low tolerance of ambiguity would respond in line with personal preferences when faced with weak and almost certainly ambiguous signals. Also regarding reports of paranormal experiences which are closer in form to hallucinations, it might be assumed that individuals who are more intolerant of ambiguity may carry out judgements relatively rapidly on ambiguous stimuli and as a consequence possibly draw unreliable conclusions.

Frenkel-Brunswik (1949) provided an early description of tolerance of ambiguity as a personality variable, she was predominantly interested in the

relation of this variable to authoritarianism and prejudice. It was defined by Frenkel-Brunswik as a "tendency to resort to black-white solutions, to arrive at premature closure as to evaluative aspects, often at the neglect of reality, and to seek for unqualified and unambiguous over-all acceptance and rejection of other people" (p. 115). The maintenance of such solutions implies that information potentially threatening to the solution would be actively avoided. It should be stressed that the close interaction of cognitive and evaluative factors be envisaged here. "It is this problem of 'reality adequacy' vs. 'reality inadequacy' which injects a distinctly cognitive element into the broader sphere of the problem of ambivalence" (Frenkel-Brunswik 1949, p. 115). If a person prefers not to think about probabilities, instead choosing the concrete, this is indicative of intolerance of ambiguity. This bias toward premature judgement occurs both in social and cognitive/perceptual spheres, and tolerance of ambiguity according to Frenkel-Brunswik might be evidence of the incapability to see things in two or more different ways.

In an early study, which Frenkel-Brunswik (1949) describes as a 'tentative experiment' looking at prejudiced people (which might be a manifestation of tolerance of ambiguity) revealed that they preferred to maintain initial judgements on identifying ambiguous drawings (e.g., a dog which changed over a series of presentations to a cat). They responded more slowly to changes in the stimuli, they tended not to see the features of later presentations which did not harmonise with their prior judgement, they also avoided the use of any transitional judgements on the nature of the stimulus. When the perseverance with a particular judgement could not be maintained these subjects seemed to engage in haphazard guessing or 'a blocking by the uncertainties inherent in the situation'. (p. 128) It would seem that the general characteristic isolated by these studies was that prejudiced (more intolerant) participants remain with what is familiar rather than avoiding novel solutions or judgements compared to unprejudiced participants.

(Heilbrun & Blum, 1984). Differences were found between reactive (good premorbid, predominantly external attentional focus) and process (poor premorbid, predominantly internal attentional focus) psychiatric patients (see De Wolfe, 1974) on tolerance of ambiguity and upon availability of unusual meanings.

The main focus for this result: reactives tend to focus their attention towards external events (with the possible risk of stimulus flooding, whereas process patients focus upon the internal environment restricting the deployment of attention towards external stimuli). This would mean that they would more likely to show deficits in this type of cognitive functioning. Heilbrun (1984) notes that excessive outward deployment of attention may create the risk of auditory hallucinations in some people whereas excessively inward-directed attention may do the same in others. Assuming that this would be facilitated by the tendency towards limited processing of possible sources of stimulation (either real or imaginal) this would no doubt incur the possibility of misinterpretation or elaboration of these sources.

Heilbrun (1972) examined the tolerance of ambiguity in late adolescent males in relation to the development of paranoid behaviour. He argued for a model in which paranoid behaviour develops out of a particular style of interaction of mother and son. Heilbrun notes that the open-adaptive style which is "characterised by a vigilance towards social cues and the imposition of meaning in the absence of clarity is disposed to broad-scanning of the social environment and a narrow scanning of symbolic cues". The major attentional disposition is towards external happenings rather than thinking through their meanings. These tendencies in the open style adaptor, both the orientation and sensitivity to extrinsic evaluation and the liability to impose meaning on unclearly communicated messages combine to make him intolerant of ambiguity in the meaning of external cues. Further, Heilbrun suggests that this tendency toward premature evaluation and attribution of meaning can contribute towards episodes of disorganised thinking

There have been very few attempts to explore paranormal belief in relation to ambiguity intolerance (although studies have been undertaken employing related measures such as rigidity and dogmatism (Alcock & Otis, 1980; Tobacyk & Milford, 1983). Nanko (1986) took ambiguity tolerance as one of three measures of critical thinking and related these to paranormal belief. Ambiguity tolerance was not significantly related to global paranormal belief but was negatively correlated with sub-factors such as superstitiousness and traditional religious belief. Clearly this finding supports early research (e.g., Budner, 1962) which demonstrated links between ambiguity intolerance and traditional religiosity. It seems possible that ambiguity intolerance may be viewed as a dimension upon which high scorers at either end are inclined to report unusual experiences and beliefs.

In a recent study, Thalbourne, Dunbar and Delin (1995) explored a wide range of possible correlates of paranormal belief. They examined dogmatism as measured by Rokeach's scale (1960) and ambiguity tolerance using McDonald's (1972) scale. Correlating scores on these measures with both the 10 item Australian Sheep-Goat Scale (ASGS—Thalbourne, 1981) and the Paranormal Belief Scale (PBS—Tobacyk, 1988) they obtained small to medium positive correlations between dogmatism and the PBS but no relationship with the ASGS. Ambiguity tolerance showed a small positive but non-significant relationship with the ASGS, no relationship with total score on the PBS and a small negative relationship with the traditional religious belief subscale.

Keinan (1994) in a study of the effects of stress in the war zone environment of Israel during the Gulf conflict, found that intolerance of ambiguity interacted with stress resulting in higher levels of magical thinking. In particular, he examined two laws of magical thinking: the law of contagion — the notion that something once in contact remains in contact, and the law of similarity — which holds that things that resemble each other share fundamental properties. Keinan found that both measures of magical thinking

correlated positively with stress and negatively with ambiguity tolerance. It was also found that magical thinking was more likely to emerge in high stress conditions in those individuals with low levels of tolerance of ambiguity.

Paranormal belief, according to some researchers, is a method of coping with uncertainty. Zusne (1985) has argued that such beliefs are a way of dealing with uncertainty and cognitive dissonance. Schumaker (1990) takes this idea to its logical conclusion. For Schumaker, belief in the paranormal is an important evolutionary development, a delusion which heads off the anxieties and fears associated with death.

Pronounced levels of intolerance of ambiguity are probably related to categorisation processes largely informed by emotional defensiveness and intellectual rigidity; pronounced levels of ambiguity tolerance are likely to promote a labile and weak boundaried form of categorisation permitting the overlap of a wide number of concepts. The association of anomalous experience and belief with ambiguity intolerance seems to depend on the kinds of phenomena inherent in rigid philosophical and religious systems. On the other hand, the relationship of these kinds of experiences to ambiguity tolerance seems to be related to alternate states of cognitive processing.

Impulsivity

The descriptions of the bias present in hallucinators as offered in the literature (Heilbrun & Blum, 1984; Bentall, 1990) suggest that ambiguity intolerance is characterised by rather fast judgements with a disregard for cautious assessment. This is comparable with definitions of ambiguity intolerance offered by Frenkel-Brunswik (1949) who notes that individuals higher on intolerance tend to make premature judgements. Another variable which is worth examining here is that of impulsivity. Impulsivity as defined by Dickman (1990) indicates a tendency to enjoy making fast judgements. In contrast to Eysenck & Eysenck's (1978) concept of impulsivity Dickman addresses both functional and dysfunctional aspects of this trait. In

Dickman's view impulsivity may confer certain advantages when it is functional and hinder when it is dysfunctional.

According to Dickman, dysfunctional impulsivity is related to the failure to use slower more methodical approaches under certain circumstances. He also suggests that stressful circumstances may interfere with a dysfunctional impulsive's ability to engage in slower and more accurate information processing strategies.

In a particularly pertinent study, Brunas-Wagstaff, Berquist, Morgan & Wagstaff (1995) found that dysfunctional impulsives performed poorly on a task which required them to view ambiguous pictures and ascertain alternative interpretations. Functional impulsives however, performed much better than the dysfunctionals on this task. Brunas-Wagstaff et al. interpret this to mean that dysfunctional impulsives have difficulty in inhibiting competing information; instead they become fixated. This does seem to be a rather similar interpretation to that offered by Frenkel-Brunswik in relation to intolerance of ambiguity.

Summary

This discussion of bias has attempted to provide a focused view of decision making. It is worth considering this briefly in a dynamic context. Heilbrun assumed that intolerance of ambiguity arose in individuals who were exposed to certain family dynamics especially where a parent demonstrated high levels of control. This situation, according to Heilbrun, leads to a paranoid cognitive style which is highly vigilant and prone to make judgments quickly as a form of defence. This cognitive style might be seen as a rather rigid one which relies on strong conceptual and categorical boundaries as opposed to weaker more fluid boundaries. Hartmann's (1991) work on conceptual boundaries is relevant here. Thin boundaried people are considered to demonstrate fluid thinking which does not separate things out or make a sharp distinctions between themselves and the rest of the world (this would of course incur reality monitoring failures if we view this from a

cognitive perspective). On the the other hand, thick boundaried people will be more defensive and show marked distinctions between themselves, others and the world in general. This dimension seems to readily ally itself with interpretations of a five-factor model of personality (the so-called big five; McCrae & John, 1992). McCrae and John describe a factor which they call 'openness to experience'. People who score highly on this factor tend to be more imaginative, open to ideas and seek aesthetic stimuli as opposed to being closed and somewhat rigid in their thinking. This echoes Hartmann's concept of boundaries. This is also interesting because of the distinction made here between judgement bias (characterised above by ambiguity intolerance) and imagination (characterised mainly by absorption). This is perhaps less of a dichotomy and more of a dimension, with people adopting different positions and making more or less errors (or possibly even errors of different kinds — one arising from a lack of categorical thinking and the other from an over dependence upon personal categorical thinking) in their reality monitoring. Or to take another perfectly legitimate interpretation, the more fluid and thinner boundaried imaginative people are making creative perceptions of the world which may have a reality as well but one which jars with currently accepted definitions of consensual reality. In fact these perceptions may be the basis of much of our creation of facts via the construction of new ways of seeing reality and creating meaning.

Imagination

There are a number of threads of evidence which suggest that an imaginative style of cognition is relatively common amongst experiencers of the paranormal (Irwin, 1993). There is also what might be identified as an imaginative tendency in a number of forms of psychopathology (Ingram, 1990) — this is particularly implicated in the concept of schizotypy where pronounced levels of unusual perceptual and ideational content are defining characteristics. The term *imagination* will be used here to organise a discussion of a range of phenomena which have been associated with paranormal

experience as well as hallucinatory experiences as discussed in the clinical literature.

Fantasy Proneness

An orientation towards an imaginative cognitive style in experiencers of the paranormal was identified in a classic study by Wilson and Barber (1983). A number of secretarial students who were described as excellent hypnotic subjects were classified by Wilson and Barber as 'fantasy-prone' (a term with unfortunate negative connotations). The characteristics of fantasy proneness include high suggestibility (without the aid of hypnotic induction procedures) and the frequent occurrence of hallucinatory experiences which sometimes are taken for reality; in addition a good number of these fantasy prone individuals (estimated at 4-5% of the population) reported paranormal beliefs and experiences. According to Wilson and Barber 65% of their fantasy prone personality group reported that their fantasies were as real to them as their sensory experiences:

They see sights equally well with their eyes opened or closed. Also, imagined aromas are sensed, imagined sounds are heard, and imagined tactile sensations are felt as convincingly as those produced by actual stimuli.... almost all of the fantasy prone subjects have vivid sexual fantasies that they experience "as real as real" with all the sights, sound, smells and emotions, feelings, and physical sensations.... [and they] are so realistic that 75% of the fantasizers report that they have had orgasms produced solely by sexual fantasies. (Wilson & Barber, 1983, p. 351).

The fantasy prone personality possesses pronounced imaginative abilities and according to Wilson and Barber 92% of the fantasy prone personalities in their study considered themselves to be psychic. It is obvious that these imaginative capacities, where subjective experience is "real as real", could lead a person to believe that they had had an experience which could also be described in terms of a reality monitoring failure discussed earlier. From a skeptical and objectivist position paranormal experience is readily associated with over-imaginativeness (Alcock, 1981). However given the

obvious imaginative abilities of creative populations and their unparalleled achievement in ESP ganzfeld studies (Honorton and Ferrari, 1989) it may also be that this kind of imaginative processing provides a labile form of cognition that would be open to real psi influence.

Fantasy proneness is positively related to global paranormal belief (as measured by Tobacyk's, 1988, paranormal belief scale) and to its subcomponents with the singular exception of superstitiousness (Irwin, 1990). Fantasy proneness also occupies a prominent position in a model offered by Irwin (1993) which describes the developmental context of paranormal belief. He sees fantasy as a response to traumatic childhood experience and to parental encouragement of fantasy and as providing a sense of control over often uncontrollable events. Further discussion will be oriented around the concept of imaginative absorption (Tellegen, 1982) which is highly correlated with fantasy proneness (as measured by the inventory of childhood memories and imaginings). This is more useful in that it provides a clearer concept of this imaginative attentional style (in terms of the items used in the scale) than fantasy proneness and in measurement relates to current rather than childhood experience. It should be kept in mind that according to Rhue and Lynn (1987) fantasy proneness and absorption are not truly discriminable constructs.

Imaginative absorption

Absorption as measured by the Tellegen Absorption Scale (which is part of the multidimensional personality questionnaire, Tellegen, 1982; 1992) is seen as a general capacity for entering experiential states which are characterised by a marked restructuring of cognition, this is demonstrated in a narrowing or expansion of consciousness, deep involvement with the stimulus and a heightened sense of reality. According to Tellegen (1992):

Absorption appears to represent a disposition to enter under conducive circumstances psychological states that are characterised by marked restructuring of the phenomenal self and world. These more or less transient states may have a dissociated or an integrative and

ty students along with a measure of subjective paranormal experience. The results highlighted that absorption was important in discriminating experi-ents from non-experi-ents of the paranormal on a number of kinds of experi-ences (the only non-significant result was for experiences of psychokinesis).

People who attain high absorption scores tend to adopt a highly focused experiential set which is reliant upon mental imagery and emotion-al contact with attentional objects. This intimate relationship between self and the attentional object has led to the proposal that high absorption sub-jects tend to incorporate into their sensory experience events that are subtly cued by their imaginings (Tellegen, 1981). The kind of increased reality of internal events which is characteristic of this cognitive style, corresponds well with some explanations of how hallucinations and delusions may origi-nate. For instance, this relates back to earlier discussion of reality monitor-ing where Johnson and Raye (1981) have noted that it is likely that we are continually engaged in a metacognitive process of assessing the qualities of private and public experience, in order to properly attribute it to internal or external origins. On occasions this process fails and internal events such as dreams or mental imagery may be misattributed to external sources. Johnson, Hastroudi and Lindsay (1993) have proposed that this monitoring process is particularly vulnerable to failure during periods of stress, distrac-tion or divided attention.

Absorption as a capacity to restructure one's phenomenal field, espe-cially the experienced self and its boundaries, can be seen as a function of other personality characteristics (Tellegen, 1982). The experiences and imag-inings of high absorption persons will interact with their experiential histo-ry. Depending upon the interaction of personality characteristics and per-sonal history these experiences will be "primarily integrative or disruptive, communal or alienating, pleasurable or distressing" (Tellegen, 1992, p.2). There is also the suggestion that a hallmark of high absorption would be a tendency to appraise information in such a way that links it to the self. One

states. Parker notes how absorption seems to tap a psychopathological dimension, specifically unusual perceptual, ideational experiences and altered states of consciousness. According to Parker, the truly pathological aspects of these experiences involve a sense of threat and a recognition of lack of control.

He proposes that defensiveness may also play a role in leading individuals to respond in a threatened way to these unusual experiences and view them as alien to the self. He assumes that "schizophrenia is an enforced state of perceptual absorption in inner conflicts leading to perceptual aberrations which by nature of the individual's defensiveness are interpreted as alien and become delusory" (p. 174).

He also speculates that people showing schizotypal traits such as pronounced levels of magical ideation would rather attribute more significance to their chance experiences and if they took part in an ESP experiment the same outcome would arise. However, Parker considers it unlikely that these factors would allow any clear relationship to actual success on the ESP test because they would often be so strongly coloured by personal needs.

Similar psychopathological correlates of paranormal belief were identified some time ago in an early paper by Windholz and Diamant, (1974):

The believers have neurotic tendencies that express themselves in subjective suffering and complaints about somatic symptoms. These individuals also have a greater propensity to action, especially of the impulsive sort rather than for deliberate, planned action. Dissatisfied and impulsively motivated they have a tendency to reflect, where their thought is of abstract rather than concrete nature. Apparently, their general dissatisfaction expresses itself in the more emotional rather than objective thought processes. Hence, the tendency is toward private, more fantastic contents of beliefs that characterise the schizophrenic thinking. (p. 126)

Schizotypy

Imaginative traits are considered as pathological if they lead to gross impairments of reality testing and functional problems in daily living. These have been discussed both in terms of schizophrenia and schizotypy (a predisposition towards schizophrenia).

In recent years there has been a considerable body of research which has advocated a new view of schizophrenic symptomatology. Traditionally schizophrenia has been viewed as a disease entity which is sharply differentiated as a gross and sudden deviation from normality. More recently there has been a move to view psychosis as a trait or graded set of traits which are widely distributed in the general population. In effect, many well adjusted people will demonstrate milder forms of schizophrenic symptomatology but only a few of these will develop full blown psychosis. Claridge (1985) has suggested that 'schizotypy', the term used to describe this set of traits, is analogous to the traits which increase the likelihood of coronary problems. If you have high blood pressure and tend to respond badly to stress then there will be a higher likelihood of your developing heart problems. Higher levels of the symptoms of schizotypy make it more likely that you will develop full blown schizophrenia if they are combined with sufficiently stressful life experiences. The concept of schizotypy has obvious benefits in predicting the eventual development of psychosis (Chapman, Chapman, Kwapil, Eckblad & Zinser, 1994).

Different sets of symptoms are observed in schizophrenia. 'Positive symptoms' which relate to hallucinatory and delusional experiences and 'negative symptoms' which concern tendencies towards asocial behaviour are both recorded to different degrees in different cases of schizophrenia. Examinations of these symptoms on a much wider scale have been made possible by the theoretical conjecture that these symptoms also exist on a continuum in the normal population. Psychometric studies carried out on samples from the normal population as well as student samples have provided support for these two types of symptoms as well as for perhaps a third set of symptoms which seem to be composed of both positive and negative aspects. Bentall, Claridge & Slade (1989) reported a threefold structure which included positive symptoms as tapped by scales measuring magical thinking and hallucinatory experiences; negative symptoms as tapped by

measures of anhedonia and cognitive disorganisation or social anxiety tapped by the neuroticism scale and by Claridge's schizotypal personality scale. These symptoms can be exhibited to different degrees as shown in a cluster analysis study by Williams (1991).

The construction of the schizotypy construct creates some concern over deciding where 'merely unusual' experiences fade into symptoms and become a clinical problem. Some have argued that the concept of schizophrenia as a discrete illness does not stand up to criticism (Bentall, Jackson & Pilgrim, 1988). Another possible issue which can be raised in terms of these sets of symptoms is the degree to which these are specifically related to psychiatric problems and to what degree they are manifestations of already recognised general personality traits. Eysenck has provided a robust three factor model of personality (E,P & N) which tends to account for most traits which compose larger factorial models of personality. It is noticeable that N is related to the cognitive disorganisation and social anxiety factors of schizotypy and E is clearly evident in the asocial character of negative symptoms. Eysenck's P scale tends to characterise antisocial and perhaps sociopathic behaviour and sits outside of the usual schizotypy structure. If instead of using Eysenck's taxonomy we adopted a five factor model of personality then it seems reasonable to draw parallels between the openness to experience trait and the positive symptoms of schizotypy. There does seem to be a reasonable fit between the factors of schizotypy and the broader models of personality which raises the question once more 'when and under what circumstances do these traits become pathological'?

Magical ideation and hallucinations are those facets of schizotypy which are most closely related to paranormal belief and experience. In fact, in the DSMIIIr there are specific references to belief in paranormal causation or perception which pathologise the experience or belief.

Imagery

In both the spontaneous paranormal experiences and in experimental studies it has been found that imagery is predictive of spontaneous experience and also of psi performance (George, 1981). For example, strength of imagery has been considered as important variable in the out of body experience (Blackmore, 1984). Irwin (1985) notes that absorption in a somoesthetic image (which may be synesthetically transformed into visual image) may underlie OBE's.

Particular experimental paradigms which emphasise conducive conditions for performance, for instance the highly successful ganzfeld paradigm (Honorton, 1977) provides the right conditions for effortless attention to internal states. Greater exposure to these states, to imaginative involvement in themes relevant to paranormal phenomena, would feasibly increase the likelihood of both experiences and conviction in the reality status of those experiences — in effect, imagining is believing (see Koehler 1991).

A number of researchers have proposed that abnormally vivid imagery might on occasions be thought to have a sensory origin (Mintz and Alpert, 1972; Horowitz, 1975; Jakes and Hemsley, 1986; 1987; Barrett, 1993). Attempts have also been made to assess the preferred mode of imagery (e.g., Heilbrun et al., 1983). These investigations have focussed on both normal and psychiatric subjects and as Bentall (1990) remarks in his review of hallucinations research that the findings have been inconsistent. More recently, the work of Barrett (1993) has indicated that verbal hallucinations are quite common in a student population and that these may be caused by imagery vividness. He found that as many as 25% of students responded to a questionnaire admitting that they had experienced frequent auditory hallucinations. Employing questionnaire measures of vividness of imagery, Barrett found that hallucinators rated their imagery as significantly more vivid than non-hallucinators. It might be suggested that these results could possibly be attributed to demand characteristics. However, a second study

carried out by Barrett showed a similar pattern of results to the first, with hallucinators reporting more vivid imagery than non-hallucinators, while no difference was detected in control of imagery between the two groups.

Mintz and Alpert (1972) proposed that the experiences of hallucinators are due to 'abnormal' vivid imagery and impaired reality testing. Horowitz (1975) argued that it may be possible that hallucinators, while experiencing vivid imagery at the time of their hallucinations, probably are deficient in imagery at other times and they mistake occasional vivid imagery to have the kinds of cues and "realism" expected of external stimuli.

'Transliminality'

In hallucinations research it has been proposed that the seepage of pre-conscious or subconscious material into conscious awareness can account for hallucinations (West, 1962). A more recent theory with a similar contention implicates the failure of cognitive filters which normally offset this seepage (Frith, 1979). Irwin (1986) proposes that high levels of hypnotic suggestibility and low levels of psychodynamic defensiveness characterises individuals who are responsive to this subconscious content. Irwin however, prefers to translate these concepts into terminology more appropriate to a cognitive perspective.

The relationship between schizophrenia, magical thinking and paranormal belief, although explicit in the diagnostic criteria of the DSMIII (APA, 1980), was empirically assessed by Thalbourne (1985). Thalbourne found that much to his surprise the magical ideation scale — a measure of schizotypy (Eckblad & Chapman, 1983), was positively and significantly related to paranormal belief as measured by the Australian Sheep-Goat Scale (Thalbourne, 1981). In spite of the omission of possible overlapping items from the magical ideation scale there was a residual significant correlation. Thalbourne, himself a manic depressive, concluded that believers in the paranormal seemed more likely to demonstrate schizophrenia-like experiences; he recently replicated this finding (Thalbourne, 1994). In a more

recent study Thalbourne and Delin (1994) explored the relationship of paranormal belief to a variety of other variables including degree of creativity, mystical experience and aspects of psychopathology (magical ideation, hypomania, and symptoms representing mania and depression). A principle components analysis yielded a single factor which they tentatively name transliminality in an attempt to communicate a tendency and willingness to experience the contents of preconscious, subconscious regions of the mind. This factor, according to Thalbourne and Delin, indicates a 'largely involuntary susceptibility to, and awareness of, large volumes of inwardly generated psychological phenomena of an ideational and affective kind'. The correlates of this factor include religious experience and interest in dream interpretation as well as a proneness to hallucinations. They conjecture that if subsequent research validates this construct then paranormal belief and experience will be seen as one type of consequence among many of a mind possessing high transliminality.

Cognition and anomalous experiences

In the preceding discussion there has been a general review of personality variables and their relation to anomalous experiences, both paranormal and psychopathological. It was conjectured that there were two main categories of personality factors (bias and imagination) which have been associated with hallucinations, anomalous and paranormal experience, and further that these may be indicative of a broad dimension which is characterised at one end of the spectrum by sharp boundaried categorisation as opposed to more fluid and blurred categorisation at the other. In this section the phenomenological aspects of these cognitive styles will be discussed with particular attention paid to the role of arousal in the generation of these experiences.

It seems likely that as well as these preferential cognitive styles there will be a tendency towards these kinds of styles as shifts in arousal take place. West (1962) described a model in which hallucinations could take

place at high or low levels of arousal. At low levels of arousal they occur in a similar way to the onset of dreams and at high levels they occur as a response to what West calls 'jamming of the circuits'. Slade and Bentall (1988) discuss how arousal is likely to play an important part in the generation of hallucinations. More generally, Friedland and Keinan (1991) hypothesised and received support for the notion that stress would strengthen the tendency of individuals to apply causal explanations to events of any kind, including events that do not directly affect them or are unrelated to their condition. Relaxed states also incur unusual perceptual and ideational content, Mavromatis (1987) describes the stark similarity of hypnagogic experiences to both hallucinations and psi experiences.

If we take an abstract and hypothetical example of normal everyday states of awareness, we might presume that cognition for most people is characterised by a relatively alert attentional state which deals optimally with both internal and external experience. The distinction between perceptions of self, body boundaries etc. are salient but are not pronounced. From a reality monitoring perspective it is likely that attention shifts between internal and external features of this experiential ecology and engages in processing both salient and relatively unavailable associated material (Ingram, 1991). Taking this hypothetical norm as a bench mark we should be able to plot possible changes in the environment or personality traits that drive attention to (high) narrow or (low) broader focus with associated changes in cognition, experience of self, body boundaries, and experienced reality. It is argued that major changes in cognition which appear in strong altered states of consciousness and in psychotic states obviously incur changes in the construction of reality for the person experiencing them.

Heightening and lowering the focus

The pattern and dynamics of cognition change, we might picture it, as a stream of consciousness ranging from a fast flowing brook which throws separate droplets of water into the air as it crashes over stones to a slow

moving river where the only movements on the surface are signs blurring tensions between deeper currents.

Gelernter (1994) presents a valuable discussion of the range of cognition or 'mental focus' with its shift between narrow focus and higher detail to broader focus and a more diffuse pattern of detail. According to Gelernter science is a high focus activity, it requires the detection of differences, borders and polished details and is characterised by honing in, and suppressing individual idiosyncrasies in favour of common features. The narrow attentional beam in high focus thought which deals with details tends to neglect context and ambience which are the watchwords of low focussed attention with its much broader attentional beam. Gelernter further describes the differences between these two modes of cognition. Low focus attention is like drifting off into associations while reading (normally a high focus activity — except perhaps when a measure of low focus thought is needed while reading poetry). High focus thought can keep us awake at night focussed on details rather than permitting the usual move downstream to more blurred associations.

High focus thought has become something of a standard for the modern mind, it is associated with rational, analytic thought, and with science. It is highly likely that the ancient mind relied much more on the low focus end of the spectrum. High focus thought relies less on association and so is more removed from emotion and creativity; of course, for most people there is a flow between these two modes of thought. Sharp, analytical thinking requires the blurred boundaries of low focus thinking in order to provide inspiration and answers to problems. Although high focussed thought sets the question it is often in the reflective pause that ensues that the answer arrives.

As low focus thought becomes more prominent there is a shift towards more global thinking where emotion and affect play a role. Whereas in the rational analytic mode of high focus thinking there are dis-

crete entities, clear boundaries and logical entailment the logic of low focus thought is reliant on imagery rather than words and metaphorical rather than literal relationships. According to Gelernter this provides us with parallels with an older way of thinking. He also notes that you can see the evidence of this mind in the writings of the distant past. For instance in ancient literature such as the bible you can see this tendency to have a plastic illogical constructed quality.

There is an obvious antithesis, then between the mental universe of antiquity, dream and child and the analytic rigour of "rational man." But it isn't by a long shot merely the timeworn, threadbare antithesis between "metaphoric thought" and "logical thought." There is the whole rich world of mental phenomena that accompanies the nonrational states of mind. It is a strange-seeming world, uncanny even, in which thoughts are vivid (verging on hallucinatory) and thought-streams can be oddly and illogically built, where unexpected connections emerge like the features of a moonlit landscape as you grow used to the dark, and memories are slippery: it's hard to recall just what happened, and where you have been... (p. 13)

Movement down the cognitive continuum to lower focus thought results in problems:

ranging from a loss of control over the thought-stream to an increased propensity to have creative insights and to encounter vivid imaginings or even hallucinations, a relaxation of logic, a loss of "goal-directedness" and all directedness, and the emergence of emotion as the main glue of thought. But it is essential to grasp that this is no mere jumble of thoughts that just happen (allegedly) to be correlated. These are all consequences of one underlying event. They are all consequences of the relaxation or lowering or widening of the crucial property I have called mental focus. Lowering mental focus causes all of these processes to occur. (p. 14)

We have tended to emphasise a very narrow view of thinking and cognition in contemporary cognitive science and psychology. This consequently leads to narrow views and definitions of reality and thought exemplified by Gelernter (1994):

When the cognitive psychologist Robert Sternberg (1982, 225) writes that "reasoning, problem solving, and intelligence are so closely interrelated that it is often difficult to tell them apart," he is trying to tell us something: that intelligent thought is directed at a goal, dedicated to the rational solution of a problem. Anyone who has ever

looked out of his window, let his mind wander and realised that indeed he is still, right now, manifesting his intelligence, knows that this is false. From my perspective, the mainstream's view of thought is a parody. Thinking is vastly richer than that. A thought theory that never comes to grips with intuition, hallucination, spirituality or dreaming cannot possibly be a serious account of cognition. (p. 15)

This unfocussed attention generates unexpected connections and a sense of relationship and it strikes us because amongst other things it is involuntary, vivid and meaningful. In a sense, the aggregate of the characteristics of hallucinations (Aggarnaes' criteria) as experienced are moulded in terms of a metaphorical and affective form.

Gelernter argues that this lowered focus is also indicative of creative states. Lowering the focus permits the connection of usually unconnected things as well as permitting new insights to be obtained through analogistic and metaphorical states — seeing things in a new light.

Lowering your mental focus allows creativity to happen, then it must encourage the discovery of unexpected connections. Analogies, metaphors, unexpected connections start to emerge as we make our way down-spectrum..... Unexpected connections are also part of childhood cognition ("chaining," metaphor); and are central to dreaming. (p. 16)

Not only is this lowered focus characteristic of older frames of mind it is a common state for children. Gelertner argues that children have vivid imaginations, they commonly hallucinate and they are very good at free associating, all of these are characteristics of cognition which are experiential and complement more logical, rational, sharply focused thought. He also notes that it is this logical level of mentation which children are characteristically bad at. Adults can relive some of this ancient and childlike way of thinking as they progress towards a state of sleep. When this happens thinking is more concrete, more real. Nelson (1989) in reference to what he calls the *Ontic Shift* (a change in the perceived reality which becomes the basis for decisions about reality) argues a similar point.

This distinction is further apparent in discussion of memory recall.

Whereas memories formed at high focus are recalled by focusing on details, low focus memories on the other hand are whole events, thought is concrete instead of abstract.

The breadth and inclusiveness of memories recalled at low focus give those recollections their potentially hallucinatory power to transport the thinker to another time and place. The breadth and inclusiveness of memories formed at low focus makes them slippery. What emerges isn't detail but ambience. If a memory is formed, not of anything in particular but of everything in general, then, other things being equal, it's hard to grasp such a memory; hard to find any mental handhold. (The very quirk that makes memories slippery is the same quirk, of course, that makes thought vivid and potentially hallucinatory; and makes thinking not abstract but concrete.) (p. 23)

This is of particular importance in relation to the kinds of experiences under discussion here. During episodes of low focus thought, cognition is characterised by the generation of subjective yet concrete mental representations which are low in perceived voluntariness and high in the perceived sense of reality. These are precisely the conditions which according to Aggarnaes (1972) define objective experience and according to Johnson & Raye (1981) will lead to reality monitoring failures.

Although these experiences are concrete with a certain fleshiness of reality they can also partake of a strange quality which singles them out from experience in the normal *bandwidth* of thought. They are likely to possess metaphorical structures informed by affect. To provide a clarifying example here, we might assume, for instance, that an apparition appearing to someone in bed late at night can have all the features of a sensory event, seem solid, detailed, animated and seemingly with a volition and independence of its own, yet be related to the current emotions of the experient. If the experient is distressed the apparition can give advice and reassurance, if the experient feels guilty it might admonish and reprimand. Its appearance or communication may also bear testimony to the emotional and metaphorical matrix in which it was born. Many of the alien contact experiences bear characteristic dream-like logic where the aliens' appearance and what they say or do is strangely incongruous (Vallee, 1988). The creativity involved in

low focus thought is also likely to inform psychotic episodes and may account for the complex accounts provided by the experiencers. To give another example here, it has been found that paranoia is partially defined by normal attribution processes. According to a cognitive psychological view the individual displaying paranoia makes external attributions, he/she simply blames others rather than him/her self (Bentall, Kaney & Dewey, 1991). But it tends not to be a simple attribution to another person or event, it is often a drama of more epic proportions that is reported by the paranoid individual. This suggests a role for low focus thought and particularly for the further indications of the metaphorical and analogical structure of such thought.

According to Gelernter the links and associations between thought are based on affective tenor — emotions are the glue which binds thoughts together. He quotes Coleridge on this matter:

I hold, that association depends in a much greater degree on the recurrence of resembling states of Feeling, than on Trains of Ideas ... I almost think, that Ideas *never* recall Ideas, as far as they are Ideas—any more than Leaves in a forest create each other's motion—The Breeze it is that runs through them; it is the Soul, the state of Feeling— (p. 27)

It has also been suggested that dream images and the memory traces they represent may be associatively linked by a capacity to evoke the same emotions (Resier, 1990). It is clear then, that conceptual metaphor can be seen as operating as a primary process which is largely preconceptual, prelinguistic and enactive. It is likely that this syncretic activity, primary process, low focus, experiential thought is allied not only to metaphor but to an earlier and more primary process of synesthesia (Osgood, 1980).

Synesthetic processing is metaphor without the words; it uses one domain to structure and inform another. It draws on similarities and differences across sensory and conceptual domains to construct forms. This metaphorical construction process will be discussed more fully in a later chapter, suffice it to say that synesthesia and metaphor are likely to struc-

ture sensory, conceptual and linguistic domains in low focus thought.

The low focus attentional state or style is linked by Gelernter with creativity and spirituality and is viewed as largely mediated by emotion. Emotion permits the association of memories whose contents are completely different. Emotion is a content-transcending abstraction. We have already mentioned the typical creative insight where the idea comes from nowhere, possibly following a period of concentration on a problem. Low focus thought is tied to spirituality because the former infuses the latter with a sense of interconnectedness — the sense that all life is linked — which is the root of spirituality. Whereas creativity is sudden fleeting connection between two formerly separate domains, spirituality is a sustained process of connection. Creativity is seeing connections and spirituality is a sense of connectedness, of wholeness (Gelernter, 1994).

The primacy of wholeness at this level of thought relates to what Bohm (1980) called the implicate order, where mind and matter are more closely related. Chadwick (1988; 1992) reports his own psychotic experiences in terms of what he calls the 'borderliner'—this is a person who occupies a transliminal realm which is close to the creation of reality — they exist near to a matrix of imaginative flux where the traditional objects we know are fluid and in which new forms are nascent. It is at this level that creativity and its vehicle metaphor define and construct what we later take as reality.

Chadwick (1992) notes that he felt he had discovered the truth in terms of the structuring rules of rational mind:

it was how rational mind *had* to think in order to have any purchase on the world in the first instance. And yet this was a bias, the true 'reality' back of all this was undifferentiated. In many ways my thinking was similar to that articulated by David Bohm (1985) who speaks of the 'implicate' and 'explicate order', the former being the ground which contains all forms in a kind of holographic potential.
p. 33

According to Chadwick the higher levels of creativity exhibited in psychotics helps them "... to access a domain beyond that reachable by the aver-

age brain.” Chadwick proposes that this domain could be similar to the psychoid level described by Jung or the implicate order described by Bohm. In either case matter and mind are merged and Chadwick supposes that an

...understanding of the creative process and associated relational judgemental processes will give an insight into the deepest (or highest) levels of reality. 1988, p. 21

Also:

... in the mystical-creative or borderline state one has a direct apprehension of reality—one feels “at one” with the Truth. This is quite different from the realm of discourse appropriate to talking about a spade digging. The person in the mystical or the related delusional psychotic state is not doing but being, not operating but resonating, not diving but floating, not changing or manipulating but experiencing an essence; mapping onto, establishing an absorbed state of parity. Here there is no demarcation between *res extensa* and *res cogitans*. Given the quality of the experience it is possible that some insight into how this is permitted and into what happens when it occurs will give us a glimpse of what we are resonating to or what we are establishing an absorbed parity with. In this endeavour the study of psychology may take us to what Niels Bohr (e.g. 1958) often referred to as deep truth. 1992, p. 98

This distinction between high and low focus thought provides a useful context in which to view the general personality patterns we have discussed in relation to anomalous experience. The high focus thought discussed by Gelernter is a kind of baseline state such as Tart's (1975) discrete state of consciousness (d-SoC) and in Gelernter's discussion is an adaptive mental state. Movement downstream to low focus thought is very close to the kinds of cognition indicated by such traits as absorption. This would particularly be the case as one reaches the bedrock of low focus thought — dreaming. Movement beyond the adaptive states of high focus thought boosted by high levels of arousal may lead to conceptual rigidity and possibly incur the *jamming of the circuits* discussed by West (1962).

Arousal and mental focus

Accepting the movement up and down the mental focus spectrum described by Gelernter (1994) we can examine the driving force of such tran-

sitions between different modes of thought. As arousal increases there are changes in the way attention is allocated. Easterbrook (1954) noted that as arousal increases beyond normal levels there is a tendency to focus on those salient details which are easily accessible and some difficulty in entertaining alternative less salient interpretations.

Fischer (1975) proposed in his cartography of inner space that a continuum exists between meditation, perception and hallucination which is a function of changes in physiological arousal. Ergotropic arousal leads to states such as creativity, anxiety and beyond these (in hyperarousal) to schizophrenic states and eventually to ecstatic states. Moving from the normal state to the other end of the spectrum in terms of trophotropic arousal the individual experiences relaxed states eventually progressing to meditative states and (in extreme hypoarousal) samadhi. Each of these lead to a gradual turning inward toward a mental dimension at the expense of the physical state of normal consciousness and awareness. Irwin (1995) has proposed that high or low levels of cortical arousal evoke a state of high absorption and this can lead to OBE's.

Not only is it likely that marked increase or decrease in arousal from a normal baseline will change decision making and judgement criteria, according to Fischer (1975) arousal may also influence the basics of experience and be responsible for changing perceptions of constancies such as size, hue, colour etc.

These information or signal noise ratios (i.e. dimensionless qualities) are part of our learned projections associated with physical space-time and daily routine levels of arousal. Other constancies, or invariants, such as those of size, hue, colour, and taste, are also gradually transformed or unlearned when one progresses on the perception-hallucination continuum from the normal through the creative, psychotic, and, ultimately, to the ecstatic state. The further we progress on the continuum, the more complete is the transformation, or unlearning, of the constancies of the physical dimension. Thus St. Teresa of Avila tells us in her autobiography that at the peak of a mystical experience, 'the soul neither hears or feels. While it lasts, none of the sense perceives or knows what is taking place'. Space and time, then, which were gradually established in ever-widening circles during childhood, gradually contract with increasing arousal

and ultimately disappear.

With rising levels of ergotropic and trophotropic arousal, interpretive behaviour becomes increasingly dependent on (or less free of) the subcortical substratum that generates it. p. 208

According to Fischer the separateness of object and subject disappears with movement along the:

perception-hallucination continuum of hyperarousal from the I toward the self and reflects the integration of cortical and subcortical activity on the one hand and the preferential information processing in the visuospatial, nonverbal hemisphere on the other. In this state of unity, the separateness of subject and object implicit in dualistic, Aristotelian logic and language becomes increasingly meaningless; only an analogical or postlogical, a visuospatial mode of computation can convey the experience of intense meaning. p. 220

This means that at these unusual levels of experience everyday language loses its adequacy and that:

During the Self or analog state of highest levels of hyper- or hypoarousal, meaning can no longer be expressed in dualistic terms, since the experience of unity is born from the integration of interpretive (cortical) and interpreted (subcortical) structures. Because this intense meaning is devoid of specificities, the only way to communicate its intensity is the metaphor; hence only through the transformation of objective sign into subjective symbol in art, literature, and religion can the increasing integration of cortical and subcortical activity be communicated. (p. 221)

Fischer makes a distinction between hyper- and hypoaroused states and in terms of subject and object relations. In the former there is a tendency for the subject and object to lose any sense of separateness and their fusion becomes the main aspect and content of the experience. In the latter case it is the detachment of subject from object which suffuses the experience and a sense of unity — self reference without content.

Arousal levels not only indicate how an individual will change in terms of the low or high focussing of thought and in terms of attentional resources they will determine to what extent an individual depending upon personality will be inclined to adopt an internal or external perspective. One example that is useful here is offered by Silverman (1964). He suggests

that process and reactive schizophrenics differ in that the former seems to avoid anxiety by taking a predominantly internal perspective relying on fantasy and hallucinations, while the latter adopts a predominantly external perspective which is defensive and perceptually vigilant. This external vigilant approach seems to be associated with more rigid and narrowly focussed attentional style. While this state is not simply the turning inwards described by Fischer it is heavily reliant on personal preconceptions and beliefs to structure perceptions and certainly likely to generate conclusions which are heavily biased as a result.

A less lofty view of arousal is summarised by Chadwick (1992). He notes that hyperarousal tends to increase confidence levels and incurs risky judgement styles, especially in situations where the stimulus is ambiguous. This particular model hinges heavily on concepts of information processing capacity and leads to a preference for salient properties at the expense of more delayed consideration. Chadwick interprets psychotic behaviour in the light of these tendencies and views the psychotic as displaying early closure on perceptual and ideational content and not tolerating ambiguity. This in turn leads to a risky criterion which maximises hits and minimises misses. The delusional seeks to confirm his delusions and avoids patterns which offer disconfirmation.

Summary

To summarise this chapter, it was proposed that phenomenological similarities exist between unusual perceptions and thoughts which are considered as being paranormal and those considered as psychopathological. A number of personality variables were discussed which were organised under two general categories of bias and imagination. It was further speculated that these two categories may function as two different locations on a single dimension with position on this dimension being dictated by arousal. The work of David Gelerntner (1994) was discussed as being useful as it offered a broad principle of low- versus high focus thought. Low focus

thought was considered to be more experiential and likely to support figurative and syncretic thought of the kind evidenced in hypnagogia and in synesthesia. High focus thought on the other hand is what is currently valued more highly as rational and analytical. Extreme high arousal may also impair high focus thought and lead once more to low focussed thought and a higher rate of anomalous experiences, perhaps characterised by a defensive judgement bias oriented around personal themes.

Chapter 3

Three psychometric studies

Overview of psychometric studies

The three studies that follow all involved presenting respondents with a range of psychological measures which predominantly address three areas of interest: 1) paranormal experience, 2) general and cognitive personality traits and 3) traits indicating predisposition to psychopathology. This range of measures provide a means of locating paranormal experience in relation to other personality and cognitive variables as well as particular kinds of experience (assuming different kinds of experiences may show associations with different personality traits). As well as permitting indications of association with other variables, the reasonably large samples and the range of measures assessed permitted exploratory factor analysis. This again provides an idea of the structure of psychometric space in which paranormal experiences occur.

All three studies presented here were carried out on opportunity samples of students. As a result it is difficult to claim any gross principles of generalisation. However, it may be claimed that the very general processes and traits which are addressed here would be reasonably represented in these kinds of populations. Add to this the fact that a large number of studies in the area of schizotypal research have been conducted on similar kinds of samples. The representation of people with zero and low levels of paranormal experience was encouraged in each of the studies in order to maximise a range of responses; and to avoid the potential biases of a high return rate only from those interested in the study because of their high levels of experience, and a low return rate from those who assume they have little to say on the matter because they have had no such experiences.

These studies constitute the broad beginnings of the overall investigation. These three psychometric studies provide an opportunity to assess the relationship between a wide range of psychological variables and paranor-

mal belief and experience. The variables already mentioned in chapter 2 dealing with bias and imagination are examined here in conjunction with other similar variables. For instance, the imagination variables are composed of Tellegen's (1992) absorption scale as well as the self consciousness scale (Fenigstein, Scheier & Buss, 1975). The tendency towards more pathological forms of imaginary experiences are tapped by the Magical ideation (Eckblad & Chapman, 1983) and hallucination scales (Launay & Slade, 1981). The bias variables are measured in each of the different studies by the ambiguity tolerance scales (Norton, 1975; McDonald, 1972; & Geller, Tambor, Chase & Holtzman, 1993) as well as by the impulsivity scales (Dickman, 1990) in the last two studies and the cognitive failure questionnaire (Broadbent, Cooper, Fitzgerald & Parkes, 1982).

In addition to assessing the two themes of bias and imagination, a number of other measures were explored as they have also been argued to contribute to the generation of hallucinations and paranormal experiences. For instance, vividness of visual imagery (Marks, 1973) and auditory imagery (Gissurason, 1992) was explored.

Initially, the broader personality dimensions as measured by Eysenck's EPQ were explored. Being a large measure this was omitted in the two later studies and replaced by a more expansive set of schizotypy measures. The measurement of schizotypal traits was limited to positive symptomatology in the first two studies where the magical ideation scale (Eckblad & Chapman, 1983); the perceptual aberration scale (Chapman, Chapman & Raulin, 1978) and the Launay Slade hallucination scale (Launay & Slade, 1981) were used. Later the schizotypy measures used included a measure of hypomania (Eckblad & Chapman, 1986) and a broader measure of schizotypy measuring positive, negative and cognitive disorganisation traits (the survey of attitudes and experiences) used by Venables & Bailes (1994).

These provide opportunities to assess the interrelationships between a wide variety of variables as well as narrow down and identify the most

robust relationships where two or more measures of the similar variables are used. Over the three studies, measures were sometimes replaced by shorter versions where they seemed to play a minimal role in paranormal experience (e.g. ambiguity tolerance) which permitted conceptual replication. Sometimes the measures were expanded (e.g. schizotypy measures were more comprehensive in the later studies) where they had shown some promising relationships and fine tuning could take place to identify particular subgroups of traits.

General format of questionnaires

For all three psychometric studies there are some common elements which are worth mentioning in advance of specific differences between the three. The three studies each used measures of paranormal experience and belief (although these changed somewhat across the three occasions in an attempt to maximise clarity of responses). The three studies each employed psychometric measures of predisposition to psychopathology. Again these differed in precisely what form they were delivered, becoming more comprehensive in the third study. The measures used are described below with reference to relevant conceptual and empirical issues in their administration.

Overview of questionnaire measures.

Imagination and attention to self

Self consciousness scale (SCS, Fenigstein, Scheier and Buss, 1975)

The self-consciousness scale of Fenigstein, Scheier and Buss (1975) draws on Jung's concept of introversion (1933) and Mead's notion of the individual's experience of self as a social object (1934). The global concept of self-consciousness was divided into three domains 1) private self consciousness SCSA; 2) public self consciousness SCSB; and 3) social anxiety SCSC. The first subscale is similar to Jung's introversion factor, it addresses attention to self concerns and a private mulling over the self. The second

subscale is focussed on the person's ability to adopt another person's perspective and view self as a social object. The final subscale is concerned with discomfort in the presence of others. According to Fenigstein et al. social anxiety may result from a reduced ability to handle public self consciousness.

Darvill, Johnson & Danko (1992) note parallels between self consciousness and the exhibition of guilt and shame ("sensitivity of conscience"). Significant relationships were obtained between private self-consciousness and the psychoticism scale of the EPQ-R ($r = .31$); between public self consciousness and neuroticism ($r = .60$) and between social anxiety, extraversion ($r = -.40$) and neuroticism ($r = .38$). Significant positive relationships were noted between public self-consciousness and shame; and social anxiety and shame.

Franzoi, Davis & Markwiese (1990) examined motivational issues related to private self-consciousness. They suggest that individuals who score higher on private self-consciousness place a higher value on accurate self-knowledge than do those who score lower on private self-consciousness. Two tentative explanations in terms of motivations are offered by Franzoi et al.) that the low private self-consciousness individuals have a need for self-defence which outweighs the need for self knowledge, while the high private self-consciousness individuals have a need for self knowledge which is greater than their need to protect their self esteem.

The norms for males are reported for private self consciousness ($M = 25.9$, $SD = 5.0$); public self consciousness ($M = 18.9$, $SD = 4.0$); social anxiety ($M = 12.5$, $SD = 4.1$) and total scale ($M = 57.7$, $SD = 9.2$). For females the norms are private ($M = 26.6$, $SD = 5.1$); public ($M = 19.3$, $SD = 4.0$); social anxiety ($M = 12.8$, $SD = 4.5$) and for the total scale ($M = 58.7$, $SD = 8.9$).

The Tellegen Absorption scale (TAS; Tellegen, 1982, 1992)

Tellegen (1992) provides self descriptions of high and low absorption scorers. A high scorer:

Is emotionally responsive to engaging sights and sounds; is readily captured by entrancing stimuli; thinks in images and has synaesthetic and other "crossmodal" experiences; can summon and become absorbed in vivid and compelling recollections and imaginings; experiences episodes of expanded (extrasensory, mystical) awareness and other altered states.

A low absorption scorer:

Is not easily caught up in sensory and imaginative experiences; does not readily relinquish a realistic frame of reference.

The MPQ is composed of eleven primary scales of which absorption is one. These primary scales are subsumed by three higher order factors: positive affectivity — concerned with well being, social potency and achievement; negative affectivity — consisting of stress reaction, alienation and aggression; constraint — which incorporates control, harm-avoidance and traditionalism. In a factor analysis of the eleven scales absorption was found to load primarily on the second factor of negative affect.

In a note on the structure and meaning of the MPQ Tellegen (1992) presents the results of a factor analysis of the MPQ absorption scale (Tellegen, 1981; Tellegen 1982). This resulted in a six factor oblique simple structure rotation of a matrix of tetrachoric correlations (N = 2000). Tellegen also reports on an "element centred" nonmetric scaling procedure, Escal, which produced a result congruent with the factor analysis. The six factors were plotted in terms of two dimensions labelled "internal versus external focus" and "narrowing versus expansion of consciousness". The six factors identified by Tellegen include: 1) 'Responsiveness to engaging stimuli': this contains seven items which are predominantly concerned with absorption in external sensory stimuli; 2) 'Synesthesia': this has seven items which generally relate to cross modal experiences; 3) 'Enhanced cognition': seven items dealing with the unusual sense of presence, precognition and effortless imagery; 4) 'Oblivious/dissociative involvement': six items which are concerned with immersion in an experience or dissociation; 5) 'Vivid reminiscence': three items concerned with vivid memories; 6) 'Enhanced aware-

ness': four items related to changes in the experience of self and boundaries and an increased sense of significance.

The norms for females are ($M = 21.4$, $SD = 6.9$; $N = 500$) and for males ($M = 19.6$, $SD = 7.3$; $N = 300$). Thirty day test-retest interval on a sample of 75 college females and male was .91.

2. Mental imagery

The vividness of visual imagery questionnaire (VVIQ, Marks 1973)

Assessing differences and accuracy of verbal reports of vividness of visual imagery is extremely difficult. In an attempt to remedy this Marks (1973) designed the VVIQ. The scale employs descriptive verbal images which subjects are asked to visualise. Each of these four images develops over four stages. The response scale requires the subject to tick a five point scale with lower scores being obtained from better visualisation.

The responses were:

1 'perfectly clear and as vivid as normal vision'

2 'clear and reasonably vivid'

3 'moderately clear and vivid'

4 'vague and vivid'

5 'no image at all, you only "know" that you are thinking of the object'

Marks reports that the scale has a test-retest reliability coefficient of .74 ($n=68$) and a split-half reliability coefficient of .85 ($n=150$). Marks reports that the lowest scorers (good visualisers) in his study had a mean of 1.64 and highest scorers (poor visualisers) had a mean of 3.25.

In the present study the scale was altered so that high scores indicated vivid imagery.

Auditory imagery scale (Gissurarson, 1992).

Gissurarson (1992) designed a short questionnaire measuring auditory imagery. The scale consists of seven questions addressing auditory imagery. The AIS requires subjects to engage in imagery sounds which change in

intensity, becoming louder or fainter such as 'the sound of footsteps coming up a stair'; sounds which are prolonged and static such as 'the sound of water dripping' or short sounds such as the 'sound of snapping twigs'; and complicated noises such as 'conversation as if there was a party next-door'.

Each item is scored on a four point rating scale with stronger reports of imagery being given smaller scores (this was altered in the administration in this work so that a stronger degree of imagery yielded larger scores):

- 1 'very clear sound/ noise'
- 2 'moderately clear sound/ noise'
- 3 'vague sound/ noise'
- 4 'no sound/ noise at all'

The reliability of the AIS is reported as good by Gissurarson; split-half reliabilities were .81 for the AIS and Cronbach's alpha demonstrated a reliability coefficient of .80. A principal components factor analysis of the seven questions produced a single factor, with each of the items loading with values higher than .50. The correlation between the AIS and the VVIQ was $r(158) = .48, p < .001$.

3. Paranormal belief and experience

1. *The revised paranormal belief scale (PBS; Tobacyk, 1988)*

The PBS is a widely used measure of paranormal belief encompassing seven factors: 1. traditional religious belief (four items); 2. psi belief (four items); 3. witchcraft (four items); 4. superstition (four items); 5. spiritualism (three items); 6. extraordinary life forms (three items); 7. precognition (four items) — 26 items in total. The measure uses a 7-point response scale with responses ranging from strongly agree (7) to strongly disagree (1).

The PBS has been employed to assess paranormal belief in a wide range of studies, including assessing belief in the paranormal in a wide range of settings, including amongst others; ethnic populations (Tobacyk, Miller, Murphy and Mitchell, 1988), reasoning ability (Wierzbicki, 1985;

Irwin, 1991); dissociation (Irwin, 1994); psychological adjustment and fantasy proneness (Irwin, 1991); schizotypy (Williams & Irwin, 1991); temporal lobe signs and paranormal belief (Persinger & Makarec, 1987).

In spite of its wide use this measure has recently been criticised as suffering from a number of problems including poor methodology in its construction, item selection, and validity for measuring paranormal belief (Lawrence, 1994; Thalbourne, Dunbar & Delin, 1995).

2. *The Australian sheep goat scale (Thalbourne, 1981).*

Thalbourne's sheep-goat scale is more focussed on the extent of psi related beliefs and is directed in large part at specific kinds of psi experiences such as telepathy, apparitions, and PK. The scale has been employed to examine the relationship between paranormal belief and schizophrenia-relevant measures (Thalbourne, 1985; 1994). The scale consists of 13 items and responses are usually scored in the form of yes (2), unsure (1) and no (0).

3. *Paranormal experience*

These included eight questions assessing different types of paranormal experience: telepathy, clairvoyance, precognition, PK, vision, ghost, OBE, these questions were drawn from the Koestler participant information forms. They provide a context for brief, relatively clear answers to whether or not the respondent had experienced a particular kind of experience. An example of the question form is: *Have you ever had an experience which is best explained by telepathy?* The response format included a 7-point scale which ranges between yes, uncertain and no, with intermediate positions between the extremes and the central uncertain position. These questions were presented with a short clear definition of the terms such as telepathy used in the questions.

In the last study a broad measure of paranormal or unusual experience was employed; the inventory of ascribed paranormal experience (APEX;

Longhurst & Morgan, 1995). This incorporates a relatively large number of different kinds of questions (fifteen in all) about unusual experiences, ranging from telepathy through divination and contact with non-human entities.

The 15 questions require that the respondent answers on a 3-point scale regarding their confidence that they have had such an experience, the frequency of the experience and whether or not they believe the experience is explicable in terms of contemporary science. Each of these answers are multiplied together to provide an overall score for each dimension. This measure was used in study three; as experiences rather than beliefs about the adequacy of science were of interest the last values regarding the experience being explained by modern science were omitted.

An example question from this measure is:

I have on occasion had a premonition (either dreaming or awake) of a future event that subsequently became true.

4. General personality factors

Eysenck personality questionnaire (EPQ, Eysenck and Eysenck, 1984).

The Eysenck personality scales in the various forms of the EPQ have been used over the last 40 years; they have demonstrated good reliability (the psychoticism scale has received some criticism for low internal reliability, low range of scores and skewed distribution but the revised version of the scale, Eysenck, Eysenck & Barrett, 1984 sought to remedy this) and validity. Kline (1993) remarks upon the replicable clarity of the Eysenckian personality factors.

5. Schizotypy

The schizotypy scales below were all devised with the intention of tapping unusual experiences which may be viewed as milder versions of the experiences reported in schizophrenia. The MGI, PAb and SoA scale been successfully used to identify psychosis proneness (Chapman, Chapman, Kwamil, Eckbald & Zinser, 1994). The following scales, two by Chapman

and colleagues (Eckblad & Chapman, 1983; Chapman, Chapman & Raulin, 1978), one by Launay and Slade (1981) and one by Venables and Bailes (1994) are most often used with dichotomous true/false response scales.

The magical ideation scale (MgI, Eckblad and Chapman, 1983)

The magical ideation scale is a 30-item true-false scale which addresses the 'belief in forms of causation that by conventional standards are invalid'. A number of these items refer directly or indirectly to paranormal-like experiences, in fact Thalbourne (1985) produced a reduced form of the scale by removing 8 items which were specifically related to paranormal beliefs or experiences. This was not undertaken in these studies and so the resulting relationships are likely to be slightly inflated through content overlap. This strategy was not adopted because Thalbourne (1985; 1994) has shown that although content overlap between the two scales accounts for a portion of the shared variance the effect remains relatively robust even when the modified scale is employed.

The perceptual aberration scale (PAb, Chapman, Chapman & Raulin, 1978).

The PAb scale consists of 30 items which are concerned with unusual bodily sensations and distortions in body-image. Although direct overlap is less likely for this scale than for the MgI scale it is possible that it coincides with standard paranormal belief scales especially if they address OBE type experiences. The items of the scale were constructed around various experiences of body-image aberration as reported in the clinical literature. The kinds of experiences tapped include changes in body size, unusual spatial relationship of body parts, feelings of estrangement from one's body, and unclear boundaries of the body.

MgI and PAb have been found to be positively correlated .68 for male subjects (n = 2500) and .70 for females (n = 3067), Chapman, Chapman & Miller (1982).

The survey of attitudes and experiences (SAE, Venables and Bailes, 1994).

This is a schizotypy scale meant for use with more normal populations. It is compilation of a number of the other recognised schizotypy scales including the ones already mentioned here. It incorporates four different sets of questions (found through factor analysis) which address the different components of schizotypy: positive symptoms, social anxiety/cognitive disorganisation, physical and social anhedonia.

The Launay Slade hallucination scale (LSHS, Launay and Slade, 1981).

The Launay Slade hallucination scale is a twelve item scale which measures the predisposition to hallucinatory experiences. It includes both items related to pathology and items related to subclinical forms of hallucinatory experience. Launay and Slade (1981) found that high and low psychoticism scoring prisoners showed significantly different scores on the hallucination scale. Scores on the hallucination scale were positively correlated with P-scores from the EPQ (Eysenck & Eysenck, 1975). They report mean scores and standard deviations for two normal control groups ($M = 1.77$, $SD = 1.66$) and ($M = 2.71$, $SD = 2.37$); non-hallucinating schizophrenics ($M = 3.17$, $SD = 2.08$) and for hallucinating patients ($M = 7.57$, $SD = 2.44$).

The hypomania scale (HoP, Eckblad & Chapman, 1986).

This forty item true-false scale measures a range of experiences which are characterised by a gregarious, overactive personality with racing thoughts, who experiences episodes of hypomanic euphoria. For 713 men the HoP score was 21.08 ($SD=8.19$) and the reliability coefficient was .87. For women, the mean was 22.40 ($SD = 8.12$) and alpha was .87.

6. Ambiguity intolerance

Three different measures were used over the three different studies as a consequence of the smaller role this variable seemed to play. A large mul-

tifactorial measure devised by Norton (1975), the MAT-50, was employed in the first study. The older and shorter McDonald's AT 20 (McDonald, 1970) was employed in the second study and in the final study a much more recent and quite short modified measure (Geller, Tambor, Chase & Holtzman, 1993) was used.

The internal reliability was .86 (split-half). Correlations of -.42 and -.41 were obtained between the AT-20 and Rokeach's measure of dogmatism (Rokeach, 1948) and a measure of rigidity (Gough and Sanford, 1957). Test retest reliability was reported as .63 over a six month period. The scale employs a dichotomous response scale with the tags true-false.

Norton (1975), after an extensive foray into possible meanings of the term ambiguity, devised a 61 item measure (drawing on some of the items used in previous measures such as McDonald (1970)) which addresses eight different domains in which ambiguity tolerance can be expressed: philosophy, interpersonal communication, public image, job-related, problem solving, social, habit, art forms. Norton reports high reliability (internal reliability $r = .88$; test-retest reliability after 10-12 weeks = .86) and validity (correlations between .07 and .57 with different measures of ambiguity tolerance and rigidity). The scale is answered using a 7-point scale.

Geller et al. (1993) carrying on the strong tradition within medical research to assess physician's tolerance for ambiguity devised a short scale of 10 items which selected items largely from the McDonald and Norton scales. An overall internal reliability of .72 was achieved they do not report test-retest reliability, nor do they show criterion related validity, although it should generally behave in a similar fashion to the other measures reported since it draws on many of the items of these scales. Geller et al. employed a six point response scale (in the study presented here this was reduced to a dichotomous scale in order to produce more consistency in answering methods — this will obviously result in reduced variability). These scales are usually scored high for tolerance, in each of the studies presented here the

opposite scoring pattern was employed.

7. Impulsivity

The Dickman impulsivity scale (Impulfunc/dys Dickman, 1990)

This scale was designed to clarify the nature of impulsivity. It possesses two subscales, one which measures functional impulsivity (a tendency to enjoy making fast responses with little forethought) and also dysfunctional impulsivity (a variant on the same behaviour which has negative consequences in terms of producing errors).

The functional impulsivity subscale consists of 11 items scored true or false and the dysfunctional scale consists of 12 items scored in the same way. The two scales correlate with each other (.23), the internal consistency of the functional scale was assessed at .74 and the dysfunctional scale at .85 (Cronbach's alpha).

8. Cognitive failure

The cognitive failure questionnaire (Broadbent, Cooper, Fitzgerald & Parkes, 1982).

This measure addresses the behaviours involved in everyday cognitive failure in the perceptual, memory and motor domains. The response scale addresses the frequency of behaviour on a five point scale. Small correlations were observed between this measure and the EPQ measures but only that between EPQ-N and the CFQ is worth noting (.28). Other positive correlations were recorded with the Spielberger (Spielberger, Gorsuch & Lushene, 1970) trait-anxiety measure (.31), and with Rotter's (1966) external control measure (.350).

Correlation study 1

Rationale

In this first correlational study an attempt was made to 'place' paranormal belief and experience in relation to general personality variables such as Eysenck's EPN model as well as more specific variables related to imagination (e.g. Tellegen's 1991 absorption scale) and bias (e.g. Norton's MAT-50 scale).

This provides a general picture of the relationship between paranormal belief and experience and a wide range of psychological variables. It also provides a preliminary attempt to assess whether paranormal experience and belief are more strongly related to cognitive styles emphasising imagination or bias.

A rather large battery of measures was distributed in order to provide an indication of where the strongest relationships existed. An attempt was made to find a number of measures tapping the same or similar dispositions in order to later refine the number of measures needed in the following confirmatory studies and reduce the size of the measures if they failed in their multifactorial forms to adequately relate to measures of central interest. As an example, the Norton MAT-50 is a eight factor measure of ambiguity tolerance, it was used in this correlational study presupposing that this would be a more sensitive instrument than a unidimensional measure. As this showed little relationship with paranormal experience it was replaced in the second study by a unidimensional measure; this still allowed conceptual replication and afforded the introduction of further measures of interest by virtue of the reduction in the number of items caused by omitting the larger measure.

Participants and procedure

Three hundred questionnaires were distributed to student volunteers to complete. These respondents were recruited through 1st and 2nd year

Three additional questions were included which addressed related experiences such as lucid dreaming, *deja vu*, and dream recall, responses ranged on a 7-point scale similar to that used in the questions assessing paranormal experience.

A further 6 questions were included for heuristic purposes. These drew upon the general orientations of attentional style offered by Nideffer (1976). These questions generally assessed internal versus external locus of attention, broad versus narrow attention, as well as the degree of overload in cognition. Overall these resulted in low correlations and they are not reported here.

Results

Comparisons of groups were made on the basis of a high, low and no experience split of the participants according to their self reported level of paranormal experience. This provides a rough assessment of the changes in scoring on the range of psychological variables according to level of paranormal experience. As the participants were responsible for indicating the number of experiences they had had the number of experiences could range from 0 through to any number. The participants were allocated to three groups which would provide some range of experience, from none (where the participant had reported no experience) through low levels of experience (where the participant had reported between 1 and 4 experiences) to high (where the participant had reported 5 or more experiences). There are some difficulties with this allocation process: in the first instance there were noticeably some participants who reported only 1 or 2 experiences but these were ones which might be considered quite profound; on the other hand you may have a participant who reports have 20 or 30 experiences but these may actually be of rather minor significance. Using this system of allocation will undoubtedly bias the membership of the comparison groups. It is difficult to envisage how these kinds of problem may be avoided without resorting to actual interviews in order to more properly assess each experience.

These misgivings aside this division in terms of experience at least provides some indications of general differences between the groups.

Occasionally respondents did not indicate in numerical terms their estimates of the number of experiences they had but indicated they had 'a few' or 'many'. In order to translate these into a usable numerical form the convention 'few' or 'several' = 5, 'many' or 'lots' = 10 was used.

Descriptive statistics were calculated for different types of experiences, the numbers involved in each of these calculations vary according to the number of completed scales. Using these figures as an indicator of reported frequency it seems that experiences attributed to telepathy were reported more frequently and those attributed to clairvoyance less so (See Table 2).

For comparison the respondents were divided into three groups: a no-experience group (no PE, N = 30) who reported no experiences, a low experience group (low PE, N = 30) reporting fewer than five experiences and high experience group (high PE, N = 36) consisting of respondents who reported five or more experiences (three respondents neglected to indicate how many experiences they had had).

Descriptive data for the personality measures along with the results of Univariate ANOVA comparisons are displayed in Table 3. Pronounced differences are obvious between the three levels of paranormal experience and their scores on absorption (high PE mean = 23.89; low PE mean = 18.43; no PE mean = 14.20; $F = 28.97, p < .001$). A clear difference was also found for magical ideation (high PE mean = 10.91; low PE mean = 7.77; no PE mean = 4.90; $F = 16.46, p < .001$). On both absorption and magical ideation there were clear trends, with values increasing across the three groups in line with higher levels of reported experience. The scores on the social anxiety scale of the self consciousness scale were also significantly different across the three experience groups (high PE mean = 18.03; low PE mean = 18.97; no PE mean = 21.17; $F = 4.16, p < .02$). The trend this time suggested increasingly higher levels of social anxiety as the groups report fewer experiences.

Finally, differences were also apparent for scores on the private self consciousness scale (high PE mean = 34.64; low PE mean = 34.30; no PE mean = 30.83; $F = 3.68$, $p = .03$) and the Launay Slade hallucination scale with higher scores on these scales occurring in the higher experience groups (high PE mean = 5.43; low PE = 4.20; no PE mean = 3.57; $F = 5.31$, $p = .007$).

Table 2 showing percentage of respondents reporting they were certain or possibly may have had various paranormal experiences.

	Telepathy	Clairvoyance	Precognition	Apparition	OBE
(%)	46	13	33	25	28

These results seem to confirm previous findings of higher levels of absorption and magical ideation in experiencers of the paranormal. The other variables that discriminated to a lesser extent included the private self consciousness and social anxiety scales of the SCS as well as the Launay Slade hallucination scale. These all seem to indicate distinguishing differences in terms of cognitive style between experiencers of the paranormal and non-experiencers. More specifically this difference seems to lie in the patterns of attentional and imaginative style displayed by experiencers and non-experiencers.

Interestingly, paranormal belief did not discriminate between the three levels of experience. Of course, an individual can hold paranormal beliefs without having had experiences to initiate those beliefs, although it does seem more likely that paranormal experience is likely to be the main cause of paranormal belief. Another reason for this apparent failure of paranormal belief to correspond to levels of experience can be traced back to the particular measure employed here. The PBS (Tobacyk, 1988) addresses a wide range of phenomena which a number of critics have argued are not necessarily paranormal (Lawrence, 1994; Thalbourne, Dunbar & Delin, 1995) which may have led to this unpredicted finding.

Table 3 showing means and standard deviations of personality measures for different levels of paranormal experience.

Variable	High experience	Low experience	No experience	F (df)	p<
E	14.65 (3.73)	12.33 (5.12)	12.50 (4.50)	2.70 (2,89)	.07
P	5.12 (3.27)	4.60 (2.18)	4.77 (2.82)	.28 (2,91)	.75
N	13.46 (4.98)	13.40 (5.28)	12.37 (4.87)	.45 (2,91)	.63
L	5.17 (3.38)	5.37 (3.09)	5.33 (3.30)	.03 (2,92)	.97
SCSA	34.64 (5.71) a	34.30 (7.30)	30.83 (5.29) b	3.68 (2,93)	.03
SCSB	25.58 (3.69)	24.33 (5.48)	24.67 (4.33)	.69 (2,93)	.50
SCSC	18.03 (3.90) a	18.97 (5.68)	21.17 (3.65) b	4.16 (2,93)	.02
VVIQ	62.28 (8.37) a	57.60 (10.62)	56.10 (10.66) b	3.59 (2,93)	.03
AIS	23.86 (2.82)	22.60 (3.98)	23.80 (2.91)	1.49 (2,93)	.23
MGI	10.91 (5.12) a	7.77 (3.69) b	4.90 (3.50) c	16.46 (2,92)	.001
LSHS	5.43 (2.66) a	4.20 (2.33) b	3.57 (1.96) b	5.31 (2,92)	.007
PBS	97.78 (22.67)	96.50 (24.06)	89.07 (31.47)	1.02 (2,91)	.34
TAS	23.89 (4.42) a	18.43 (5.83) b	14.20 (5.21) c	28.97 (2,92)	.001
MAT50	256.80 (28.46)	264.63 (32.95)	267.45 (29.24)	1.09 (2,91)	.34

Note the sample size varies in the high and no experience groups across the variables due to missing data. Different letters indicate values which are significantly ($p < .05$) different from each other using post hoc comparisons (Duncan test).

Although ambiguity intolerance has been identified as an important factor in predicting unusual experiences such as hallucinations it does not seem to successfully discriminate between different levels of paranormal experiences. In addition, the trend is the opposite of that reported in the study of hallucinations, with those respondents reporting the lowest levels of ambiguity intolerance reporting more paranormal experiences.

The distributions for the personality measures were normal and Pearson correlations were calculated between personality measures and types of reported experience. These were calculated prior to carrying out factor analysis and missing data were replaced with variable means, the correlation matrix displayed in Table 4 and the factor analysis displayed in Table 5 are based on these imputed data replacements.

As with the univariate comparisons it is evident that magical ideation and absorption are robustly related to ratings of different paranormal experiences, with values of r ranging between .39 and .51 for magical ideation and between .25 and .54 for absorption (see Table 4). The different kinds of

paranormal experience show consistent small positive relationships with the Launay Slade hallucinations scale (values of r range between .18 and .34). Small positive relationships were also obvious for clairvoyant and precognition experiences with neuroticism (.22 and .20). Small positive values of r were obtained between the ratings of paranormal experience and the private self consciousness (SCSA) scale (and less so for the public self consciousness (SCSB) and social anxiety (SCSC) scales, which frequently demonstrated smaller correlations which were negative for SCSC). Consistent positive relationships ranging between $r = .17$ and $r = .24$ were found between SCSA and the different paranormal experiences.

The measures of imagery vividness (the VVIQ and the AIS) produced small positive relationships with paranormal experience ratings, however none of these are of sufficient magnitude to be considered as indicating reliable relationships.

Table 4 Pearson correlation coefficients between ratings of different paranormal experiences and 12 personality measures

	Tel	Clair	Precog	Appar	OBE	Total PE
Pbs	.16	.24	.29	.24	-.02	.15
E	-.02	-.07	.02	-.05	.02	.13
P	-.03	-.08	-.04	.13	-.05	-.03
N	.03	.22	.20	.15	.05	.04
L	.02	.04	.11	.10	.09	.15
SCSA	.23	.22	.18	.24	.18	.17
SCSB	.01	.08	.15	.26	-.05	.08
SCSC	-.05	-.00	-.07	-.06	-.06	-.11
Vviq	.09	.10	.18	.15	.09	.18
Ais	-.09	.03	.04	-.04	-.03	.02
Mgi	.43	.39	.39	.49	.39	.51
Lshs	.30	.31	.19	.23	.18	.34
Tas	.43	.25	.38	.38	.40	.54
MAT-50	-.13	.11	-.07	.07	-.02	-.08

Note: Values of r greater than .22 are significant at $p = .05$

Note: Variable means were substituted for missing values

In order to summarise the relationships between these variables and to explore the structure of paranormal experience in relation to them they were entered into a principal components factor analysis with a root curve selec-

tion criterion using Statview™.

The root curve selection criteria employed in statview follows the same principles as Cattell's Scree test. In the scree test the eigenvalues are plotted and a cut-off point is selected where the curve generated by plotting these values starts to 'flatten out' or change slope. This method of selecting the number of factors to rotate is considered to be a better solution than adopting the overly liberal 'eigenvalues greater than one' solution (Kline, 1994).

This analysis yielded 3 eigenvalues of 4.715, 2.425 and 1.885 which accounted for 24%, 12% and 9% of the variance respectively (45% overall).

Statview provides both orthogonal and oblique solutions and provides an opportunity to choose the solution with the simplest structure. In this case the oblique solution provided the simplest structure, these factors and their loadings are presented in Table 5.

Factor 1 shows high positive loadings from the paranormal experience variables as well as magical ideation, the Launay Slade hallucination scale and the Tellegen absorption scale. This factor clearly relates to unusual perceptual and ideational experiences.

High loadings were obtained on factor 2 from the neuroticism scale and the public self consciousness scale as well as a more moderate loading from the private self consciousness scale. This factor seems to represent an anxiety related internal attention state.

The final factor was strongly positively loaded by the extraversion scale of the EPQ along with a more moderately sized negative loading from the social anxiety scale of the self consciousness scale. In addition, both mental imagery measures demonstrated substantial positive loadings.

These three factors clearly represent unusual experiences, anxiety related states and extraversion. This general factor pattern tends to appear in analyses related to schizotypal variables. For instance, in Bentall, Slade & Claridge (1989) a threefold factorial structure was found comprising positive symptomatology (unusual thoughts and perceptions); negative symptoma-

schizophrenia and paranormal belief and experience. The PBS failed to load significantly on any of the factors and showed a small to moderate loading on both factors 1 and 2 indicating that it has components which relate to unusual perceptions and ideation as well as social anxiety and disorganised mental states.

In summary, the general findings of this psychometric study suggest that reports of paranormal experiences are related to measures of imaginative experience such as absorption, as well as to those measures such as the magical ideation scale which assess a predisposition to psychopathological states of magical thinking. This was demonstrated by definite trends observed in the ANOVA comparisons as well as in the correlations between particular ratings of paranormal experiences, and finally in the factor structure of the variables.

In relation to the initial hypotheses it seems that imaginative thinking exists in a robust relationship with paranormal and schizotypal experience. The perceptual and ideational bias, ambiguity intolerance, does not seem in the light of the present study to be as important a variable in relation to anomalous experiences, although a marginal association between ambiguity intolerance and reports of paranormal experience was identified, with lower levels of intolerance relating to higher levels of paranormal experience.

These findings suggest that the role of imaginative processes associated with absorption and magical thinking are more likely to be involved in generating experiences which are interpreted as paranormal experience than are judgement biases linked with ambiguity intolerance and dogmatism.

Further efforts are made to explore these relationships in the following psychometric study.

Correlation study 2

Measures and method

The second psychometric study was intended to provide some confirmation of the findings in study 1 while providing further opportunities for refining the selection of measures. Following the failure of Norton's (1975) MAT-50 to indicate substantive relationships with paranormal experience this was replaced by a shorter measure McDonald's (1970) AT20. This replacement freed up space which permitted the inclusion of Dickman's (1990) measures of impulsivity which may be considered to share certain characteristics with ambiguity intolerance.

This second study was also carried out in order to extend the number of variables examined in the first study. This was made possible by omitting some general variables as offered by the Eysenck Personality Questionnaire (Eysenck, Eysenck & Barrett, 1984) and including further measures such as Dickman's impulsivity questionnaires and a further measure of schizotypy: the perceptual aberration scale (Chapman, Chapman & Raulin, 1978).

The measures that were included in the second questionnaire booklet included:

1. *The measures of paranormal experience*, which consisted of nine questions about various experiences from telepathy to OBE and requiring respondents to rate the confidence in having had such an experience on a 7-point scale. Included in this section was a question assessing total number of experiences as well as a question regarding the respondents' preference in not viewing such experiences as paranormal.

The paranormal experience questions were followed by the 10 questions of the Australian Sheep Goat Scale (Thalbourne, 1981). This was used in preference to the PBS in this study because it has fewer questions which are more specific to paranormal belief and experience.

2. *Measures of self consciousness and vividness of imagery*. The SCS was

presented next followed by the AIS and the VVIQ. Each of these was presented in discrete sections, partly because they used different response scales and partly because the imagery questions would have been difficult to incorporate among other question types as they required a slightly more participatory response in imagining the auditory and visual scenarios.

3. *Imagination and schizotypal measures* were incorporated in the next section with a number of scales all employing dichotomous responses. These included the magical ideation, absorption, and hallucination scales employed in the first psychometric study. The perceptual aberration scale (Chapman, Chapman, & Raulin, 1978) was also included here. The MAT-50 which was rather a large multi-factor scale which in the previous study had not offered any discriminable power in terms of the overall measure of ambiguity tolerance, nor in terms of its subfactors, was omitted from this study. This was replaced by the AT20 (McDonald, 1970), a shorter scale comprising a single factor measure of ambiguity tolerance.

Another new variable was introduced in this study, that of impulsivity. The Dickman impulsivity scale (Dickman, 1990) was included in order to assess the possibility that the bias characteristics of hallucinators which had been identified as ambiguity intolerance (in other studies such as Heilbrun and Blum, 1984) may actually be more akin to a fast response style more related to impulsivity.

Participants and Procedure

Participants were drawn from a range of psychology classes in 1st and 2nd year psychology courses at the University of Edinburgh as well as 1st year courses in introductory psychology at Napier University, Edinburgh. Some additional participants were drawn from the Koestler Chair's subject pool (these were all people who had at some time expressed a desire to take part in experiments related to parapsychology).

The participants included 60 females and 33 males, mean ages for females = 20.82 (SD = 4.59) and or males = 22.42 (SD = 6.22). A number of

the participants also took part in the experimental studies mentioned in the next section. Those that undertook the experimental tasks either completed the questionnaire prior to participation or they completed the booklet following their participation in the experiments. These experiments took place over an extended period of time during 1994 and 1995. The questionnaire provided information about relative levels of paranormal experience which was used for allocating the participants to comparison groups following the completion of the study.

The questionnaire measures were presented in a single A4 booklet and the respondents were asked to complete the booklet in private in one session or over two days. The booklets were returned when the participant arrived to take part in the experiment or afterwards at a time following the experiment. Following return of the booklets the respondents were debriefed (except for those respondents who completed the booklets prior to the experimental task, they were debriefed following their completion of the task). Debriefing included a general description of the aims of the task and some clarification of the nature of the questionnaire measures.

Analysis and Results

Some changes were made to scoring experiences since in study 1 a number of participants did not indicate the number of experiences they had had. In this study the question specifically required the respondent to answer a multiple choice format question ranging from 0, 1, 2-5, 6-10, and 11 or more. This firstly took the emphasis off the respondent having to pick a number 'out of the air' and secondly forced them to consider their experiences within a specific range. This range provided a reasonable set of comparison categories for univariate analysis. The last category of 11 or more experiences was so poorly represented that it was combined with those who reported 6-10 experiences. These four categories were then used in univariate comparisons.

Those that reported no such experience formed the first group ($n = 32$),

those reporting a single experience formed the second (n = 17), those reporting medium levels of experience (between 2-5 experiences) (n = 27) made up the next group and finally those reporting the highest levels of experience (ranging above 5 experiences) formed the last group (n = 15). A fourfold grouping of the PE variable was undertaken in order to maximise the possibility of identifying possible differences between participants who report a high number of experiences and those who report fewer or none at all.

Descriptive data for the various personality measures and paranormal belief and experience are displayed in Table 6 along with values for univariate ANOVA comparisons of four different levels of paranormal experience.

Table 6 showing univariate comparisons of personality variables across four levels of paranormal experience

	High PE (15)	Medium PE (27)	Low PE (17)	No PE (32)	F	(df)	p <
Asgs	13.13 (3.07) a	10.77 (3.30) b	8.59 (3.84) c	5.90 (3.68) d	17.25	(3.85)	.001
Scsa	26.53 (5.49) a	25.33 (6.36) a	21.35 (5.65) b	22.13 (4.70) b	3.97	(3.87)	.011
Scsb	17.27 (4.27)	17.81 (5.60)	19.47 (4.99) a	16.13 (4.58) b	1.77	(3.87)	.157
Scsc	13.40 (4.08)	12.19 (5.26)	13.65 (3.62)	12.50 (4.46)	.49	(3.87)	.68
Ais	23.60 (3.46)	23.41 (3.05)	24.88 (2.98) a	21.81 (4.14) b	3.02	(3.87)	.03
Vviq	61.40 (6.83)	59.48 (8.77)	58.94 (9.71)	57.19 (8.62)	.88	(3.87)	.45
LShs	4.50 (2.41)	4.92 (2.45)	4.00 (2.03)	3.41 (1.97)	2.38	(3.83)	.075
Mgl	12.71 (6.29) a	10.77 (5.52) a	6.25 (3.91) b	6.22 (3.93) b	8.87	(3.84)	.001
PAb	11.84 (6.43)	10.00 (6.30)	6.60 (6.54)	3.88 (3.75)	9.05	(3.81)	.001
AT20	9.64 (1.60)	9.96 (2.66)	9.75 (2.84)	9.94 (3.37)	.05	(3.83)	.983
Tas	25.71 (4.89) a	21.36 (4.86) b	19.69 (6.90) c	14.97 (7.19) d	11.12	(3.83)	.001
ImpF	5.00 (2.86)	6.08 (3.03)	4.56 (2.56)	4.50 (3.01)	1.59	(3.84)	.198
ImpD	6.14 (3.28)	5.00 (3.60)	4.37 (3.76)	3.91 (2.91)	1.59	(3.84)	.198

Note: Different letters indicate values which are significantly ($p < .05$) different from each other using post hoc comparisons (Duncan test).

As expected pronounced differences were noted between the four groups on paranormal belief as measured by the ASGS ($F = 17.25, p < .001$). The comparisons yielded a similar pattern of findings to those found in study 1. Strong differences were found between the groups on absorption ($F = 11.12, p < .001$), magical ideation ($F = 8.87, p < .001$) and a less pronounced difference between the groups on private self consciousness (Scsa) ($F = 3.97, p < .011$). The newly introduced perceptual aberration scale yielded stronger differences across the four groups ($F = 9.05, p < .001$) than the magi-

cal ideation scale. Scores on each of these scales increased along with increased levels of reported paranormal experience.

Supporting the findings of the previous study it was found that ambiguity intolerance did not discriminate between different levels of paranormal experience. Although once again the lowest levels for intolerance of ambiguity were exhibited by the high PE group, these differences were negligible. Significant differences in scoring were found between groups in relation to AIS. All of the paranormal experience groups scored more highly than the no-experience group. A similar but non-significant trend was observed for the VVIQ (see Table 6). Non-significant trends for higher levels of both kinds of impulsivity being related to higher levels of PE were found. The trend was more pronounced in the case of dysfunctional impulsivity.

In order to highlight possible individual relationships between different kinds of PE and the personality variables Pearson correlation coefficients were calculated and are displayed in Table 7

Table 7 Pearson correlation coefficients between ratings of paranormal experiences and different personality measures.

	Tel	Clair	Precog	PK	Vision	Appar	OBE	Total
ASGS	.60	.44	.62	.44	.41	.40	.35	.60
SCSA	.14	.30	.27	.20	.27	.25	.27	.30
SCSB	.09	.05	.12	.04	.07	.14	.08	.09
SCSC	-.01	.08	.14	.11	-.07	-.00	.06	.03
AIS	-.03	.05	-.01	.27	.03	.06	.14	.15
VVIQ	.17	.13	.17	.10	.04	.05	.11	.15
LSHS	.14	.19	.29	.13	.27	.20	.20	.24
MGI	.39	.30	.41	.28	.36	.38	.45	.45
PAB	.33	.32	.40	.16	.27	.21	.41	.48
A120	.04	-.02	.15	.09	.09	-.01	-.03	-.02
TAS	.41	.31	.32	.24	.30	.38	.45	.51
IMPF	-.08	.02	-.02	.07	.08	.15	.19	.13
IMPD	.20	-.06	.01	-.10	.04	-.06	.08	.19

Note: correlations are based upon variable means substituted for missing values. Values of r exceeding .20 are significant at p=.05.

As in the Anova comparisons it is apparent that pronounced relation-

ships exist between the schizotypy measures, imaginative absorption and various paranormal experiences. Absorption, along with magical ideation, showed the highest degree of relationship with the different types of paranormal experiences, r ranging between .24 and .45. Magical ideation was the most strongly related of the schizotypy variables with values of r ranging between .28 and .45. Values of r for perceptual aberration and the different paranormal experiences ranged between .16 and .41. As in study 1 private self consciousness (SCSA) seemed to show a consistent relationship with different types of paranormal experiences (values of r ranging between .14 and .30), while the other two subscales of the self consciousness scales yielded smaller relationships (for Scsb values of r ranged between .04 and .14 and for social anxiety (SCSC) r ranged between -.01 and .14).

Imagery vividness as measured by the VVIQ and the AIS show low relationships with reports of vision experiences ($r = .04$ and $r = .03$), supporting the findings so far that imagery vividness does not seem to play a significant role in the experience of visual paranormal phenomena (similar small relationships were observed with apparitions).

The out of body experience was most strongly related to schizotypy as measured by the magical ideation ($r = .45$) and perceptual aberration ($r = .41$) scales, although reports of precognitive experiences came a close second (magical ideation, $r = .41$; perceptual aberration, $r = .40$ and hallucinations scale, $r = .29$).

For each of the types of PE in turn it can be seen that absorption, magical ideation and perceptual aberration tended to exhibit the strongest relationships.

In order to further explore the factorial structure of these variables as examined in study 1 another exploratory factor analysis was carried out.

A principal components analysis was undertaken using the root curve extraction criterion. Four factors which account for 54% of the variance are displayed below as an oblique solution in Table 8. The eigenvalues for these

four factors were 6.042, 2.303, 1.576 and 1.393 and the respective proportions of variance explained are 29%, 11%, 7.5% and 6.6%.

Most of the paranormal experience measures loaded positively upon the first factor although higher loadings were obtained for PK and OBE on other factors. It is also noticeable that unlike in the previous factor analysis the schizotypy variables showed only small loadings on factor 1.

Factor 2 shows high positive loadings from public self consciousness and the social anxiety scales of the self consciousness scale. Negative loadings were also found for the vividness of imagery variables and functional impulsivity, indicating that low scores on these measures are associated with high levels of social anxiety.

The third factor relates to positive symptomatology, with high loadings from unusual perceptual and ideational experiences as measured by the schizotypy measures PAb, MgI and LShs. Absorption and private self consciousness also load highest on this factor.

The last factor has positive loadings from PK and from OBE, dysfunctional impulsivity loads negatively here as well.

Table 8 Factor loadings for paranormal experiences and psychological variables (highest loadings for variables are shown in bold figures).

	Factor 1	Factor 2	Factor 3	Factor 4
Telepathy	.664	-.002	-.124	-.175
Clairvoyance	.571	-.001	-.137	.150
Precognition	.529	.149	.022	-.102
PK	.238	-.046	-.020	.601
Visions	.554	-.039	-.112	.087
Apparition	.499	-.065	-.105	.321
OBE	.209	-.098	.188	.367
Total	.585	-.077	.034	-.062
ASGS	.596	.045	.042	.025
SCSA (private)	-.116	.339	.533	.272
SCSB (public)	-.272	.651	.560	.059
SCSC (social anx)	-.043	.708	.029	.298
AIS	-.215	-.425	.319	.401
VVIQ	-.008	-.446	.243	.003
LSHS	-.015	-.075	.523	-.162
MGI	.215	-.012	.464	-.068
PAB	.066	-.076	.598	-.176
TAS	.058	-.087	.574	.113
AT20	.026	.562	.079	.017
ImpulsFunc	-.034	-.636	.081	.212
ImpulsDys	.012	-.130	.249	-.571

In this analysis, the various kinds of paranormal experiences load on a separate factor from the other personality variables except in the case of OBE and PK. It is particularly apparent that these PE measures loaded on their own factor as did the imaginative experience/schizotypy variables (TAS, MGI, PAB). This must partly be attributed to the number of variables included in this study; increasing the number of both PE variables and schizotypy variables made it possible to differentiate these two aspects of experience from each other, whereas in the previous analysis they shared a common factor.

The factors are still interpretable to some extent in terms of the structure of the analysis in study 1. Factors 1 and 3 represent unusual perceptual and ideational experiences. Factor 2 is related to social anxiety and cognitive disorganisation, with high loadings from variables such as the social anxiety scale of the self consciousness scale and ambiguity intolerance. It is also noticeable that functional impulsivity loads reasonably highly and neg-

atively on this factor suggesting an inability to make fast accurate decisions. Factor 4 is unusual in that it is loaded most highly by PK and negatively by dysfunctional impulsivity. This negative loading of dysfunctional impulsivity suggests a tendency to avoid fast inaccurate judgements.

Discussion

This study largely supports the findings from study 1. It indicates dominant roles for imaginative factors (identified here by TAS and MgI) compared to a negligible role played by bias variables such as ambiguity intolerance or impulsivity. Neither of these variables show reliable association with paranormal experience.

Admittedly there is a degree of content overlap between the MgI and TAS scales and the kinds of measures used to determine paranormal experience and this will artificially raise the size of the association. Thalbourne (1985, 1994) found that the size of the relationship was reduced slightly when a modified version of the magical ideation scale was used which omitted the items which had some bearing on paranormal experience. It is noticeable that the PAb scale, which has far fewer (if any) items which might be considered to overlap with paranormal experience, showed slightly reduced levels of association but remained worthy of notice in terms of the relationships with most of the paranormal experience measures.

Correlational study 3

In order to broaden the scope of the research further and also to consolidate the findings so far, a final survey was undertaken which incorporated many of the variables used in the two previous studies.

A final correlational study was carried out using some of the same measures from study 2 but once again refining the choice by excluding the AT20 in favour of another shorter measure (Geller et al., 1993). A more comprehensive assessment of schizotypal traits was included (Venables and Bailes, 1994), which expanded to include negative symptoms as well as the cognitive disorganisation and social anxiety aspects of the symptomatology along with positive symptoms which had already been included in studies 1 and 2. In addition a more extensive measure of paranormal experience (Longhurst & Morgan, 1995) was included which focused on a range of experiences from the usual ESP and PK through to more novel items including contact with nonhuman entities.

Participants and procedure

Questionnaire booklets were distributed during first year psychology methodology classes. One hundred and forty completed booklets were returned.

One hundred and five females took part (mean age 22.11 years, SD = 6.60) and thirty four males (mean age 25.00 years, SD = 9.53). The participants were all undergraduate students at Liverpool Hope University College. The booklets were either completed at the end of a methodological class and collected by the individual tutor taking the session or they were taken home by the students and completed and returned the next week.

Materials

A range of personality measures were included in the questionnaire booklets; these were completely randomised (in an effort to reduce the like-

likelihood of response bias) except for two measures which had markedly different response scales (cognitive failure Broadbent, 1985 and the Paranormal experience measure APEX, Longhurst and Morgan, 1995) which were administered at the end of the booklet.

Included among the personality measures were the Tellegen absorption scale, Dickman's functional and dysfunctional impulsivity scales (Dickman, 1990), a measure of hypomania (Eckblad & Chapman, 1986), a measure of different schizotypy factors (Venables & Bailes, 1994) and finally a short measure of ambiguity tolerance (Geller et al., 1993). All of the scales except for the cognitive failure questionnaire and the paranormal experience scale required dichotomous true-false answers. The cognitive failures questionnaire employed a six point scale and the APEX measure of paranormal experience employed a three point scale for each of three subquestions following a general probe concerning whether or not the respondent had had that particular experience. For example, the respondent is asked to answer a question such as "I have experienced moving or affecting a physical object by the influence of my mind alone" with a *yes* or a *no*. If the answer was positive then the respondent is asked "how certain are you that this happened? *very sure, fairly sure or not very sure*" The respondent was similarly asked how often this experience had happened: *very often, fairly often, or rarely*. Finally the respondent was asked whether or not they thought this experience could be explained by normal science. These three questions are multiplied together to obtain a total score for each experience—this provides a weighting value depending upon the relative levels of certainty and frequency of the experience and to what degree these can be addressed by normal science. In this study the data from the last question was omitted and the certainty and frequency scores were multiplied to provide an experience score.

Coding and analysis

Instead of addressing differences between high, low and no paranor-

mal experiences a completely correlational approach was taken in this study. Since a number of findings were consistent from study 1 to study 2 (for instance, the high relationships between positive symptoms, imagination and paranormal experiences and the low relationships between paranormal experience and ambiguity tolerance) the structure of paranormal experience was explored in more depth by employing a wider measure (Longhurst and Morgan, 1995). In addition, the use of factor and cluster analysis permitted some tentative propositions regarding different phenomenological forms of experience with different associations.

The questionnaires were coded and Pearson correlations between all personality measures were calculated (see Table 9).

As in studies 1 and 2, of all the psychological measures absorption seemed to show the highest level of relationship with the various items measuring paranormal experience (followed by positive symptomatology and hypomania). Absorption was most highly correlated with the measures of fate ($r = .39, p < .001$) and OBE ($r = .35, p < .001$). The other relationships between absorption and the paranormal experience items ranged between $r = .07$ for precognition and $r = .24$ for clairvoyance.

No substantial relationships were recorded between ambiguity intolerance and the paranormal experience measures, except perhaps for a small correlation between AT and PK ($r = -.19, p < .03$). The measures of impulsivity performed marginally better in this respect, with a number of small sized correlations reaching .15 in the case of dysfunctional impulsivity and healing and .26 in the case of functional impulsivity and premonitions.

Hypomania and positive symptomatology showed a similar pattern of relationships with the paranormal experience measures showing values of r ranging between $-.01$ and $.36$. These two measures did differ somewhat in relation to the association with PK ($r = .03$, for positive symptoms and a much stronger $.20$ for hypomania).

The cognitive failure measure showed the strongest relationship with

experiences related to fate ($r = .26$).

Table 9 Pearson correlations between types of reported paranormal experience and psychological variables.

	AT	TAS	ImpDys	ImpF	HoP	Pos	SocAnx	Ph.An	Soc.An	CogFail
Premon	-.12	.21	.18	.26	.36	.18	-.10	.14	-.07	.04
Precog	-.03	.07	.10	.16	.18	.14	-.06	.18	.08	.18
Telepathy	-.05	.19	-.01	.10	.24	.22	-.06	-.01	-.03	.18
Clairvoyance	-.10	.24	-.08	.07	.17	.12	-.14	.25	.15	.15
Reincarnation	.01	.12	.01	.04	.10	.08	-.11	.16	.11	.24
Luck	.01	.06	.03	-.11	-.01	.35	-.01	.07	.05	.18
Heal	.10	.20	.15	-.02	.25	.27	.14	.07	-.02	.12
PK	-.19	.25	.09	.08	.20	.03	-.26	-.03	-.04	.13
Superstition	.09	.09	.16	.07	.13	.24	.05	.10	-.20	.19
Ghost	-.06	.21	.11	.12	.13	.17	-.01	-.05	-.09	.14
Divination	-.04	.18	-.04	.04	.12	.21	-.13	-.03	-.12	.04
NonHuman	-.07	.13	-.03	.11	.10	.09	-.18	.07	.11	.11
OBE	-.00	.35	.16	-.05	.14	.18	.10	.04	.20	.23
Fate	-.03	.39	.14	-.06	.33	.27	.06	-.07	-.03	.26
PG	-.02	.12	.05	-.04	.16	.01	-.04	.16	-.00	.21

Note: values of r greater than .16 are significant at $p = .05$

The APEX measure of paranormal experience addresses a wide range of paranormal experiences, employing a broader definition of the paranormal than usual. The provides the advantage of a wider assessment than was possible in studies 1 and 2 and explores how these other kinds of experiences under a broader definition of the paranormal might be related to schizotypal experience. It became apparent in studies 1 and 2 that even when provided with definitions of certain phenomena the respondents tend to construe the experience in an idiosyncratic way (for instance in at least one case the respondent considered dowsing to be fundamentally similar to PK and both can be seen as a psychic response based on physical responses and movement). In order to examine the structure of these experiences the data were submitted to a principal components analysis with oblique rotation on *Statview for Macintosh*. Four factors were obtained using the root curve method of extraction. The values for the four eigenvalues were 3.583, 1.702, 1.302 and 1.168. These four factors explained 51.7% of the total variance. The factor loadings are displayed in Table 10.

The first factor explained 23.9% of the variance and was highly posi-

tively loaded by both PK and poltergeist items which strongly suggests a physical psi factor. This factor also has a number of medium-sized loadings from other variables such as the premonition, clairvoyance, ghost and divination items; this suggests that this factor could be designated as relating to experiences which are commonly conceived of as sharing a kind of *force* which may be physical (in the case of PK) or more informational (in the case of clairvoyance).

Factor 2 explained 11.3% of the total variance and was highly positively loaded by items referring to experiences which might be interpreted as reincarnation memories and also by meetings with non-human entities. This suggests an *otherness* factor which is both related to other entities and distinctly different states of consciousness in the individual. It also worth noting that the OBE item which loaded most on this of all the factors as did luck, again this suggests a state of otherliness. This encounter with otherliness is likely to occur in relation to chance or to arise involuntarily in some other form.

The third factor explained 8.7% of the total variance and was characterised by high loadings from superstition and telepathy items which seems to suggest a *rule or pattern finding* factor which characterises a strong interpretative sense in relation to identifying unusual causes. This would also probably be related to magical thinking.

The final factor accounted for 7.8% of the total variance. Two items loaded strongly on this factor, one related experience of unusual healings and the other was related to the influence of fate. This was labelled as an *external influence* factor as it suggested influences outside of the self and beyond one's control. This would seem to indicate a lack of personal control over circumstances and a reliance on outside influences but ones which in contrast to factor 2 are ordered or intended.

Any factor analysis is of course dependent upon the kinds of variables included in it. This rather unusual pattern is no doubt a result of the range

of unusual experiences which make up the APEX. It was considered important however that an extended number of experiences be included here because these provide a fuller indication of the patterns that may exist in terms of unusual experience. Some of these may be considered outside of normal parapsychological concerns but may resemble or be related to certain paranormal experiences. For instance, the item relating to meetings with nonhuman entities is curiously more related to OBE's and reincarnation memories than to apparitional experiences.

In the previous analyses the paranormal experience variables tended to load on the same factor and in some instances load on the same factor as unusual perceptual experiences associated with schizotypy (see study 1 and Thalbourne and Delin, 1994). This factor structure perhaps provides some indication of the underlying experiential phenomenology of unusual experiences which could only be achieved through examining a wide range of such experiences.

These factors bear a resemblance in some cases to the metaphors and schemas considered in chapter 8. For instance, factor 1 labelled as 'force' here is similar to the transmission metaphor and perhaps there is a certain similarity between factor 2 'otherness' and intrusions.

Table 10 Factor pattern matrix for paranormal experiences

	Factor 1 'Force'	Factor 2 'Otherness'	Factor 3 'Patterns & rules'	Factor 4 'External influence'
Premonition	.51	-.09	.39	.14
Precognition	-.13	.20	.42	.29
Telepathy	.15	.09	.65	.08
Clairvoyance	.52	.48	-.04	.11
Reincarnation	-.07	.74	-.01	-.06
Luck	-.11	.42	.31	.00
Healing	-.00	-.06	-.10	.82
PK	.71	.01	-.05	.04
Superstition	.31	-.23	.76	-.16
Ghost	.39	.29	.25	-.17
Divination	.49	.29	.01	.10
NonHuman	.08	.73	.01	.03
OBE	.23	.61	-.10	.02
Fate	.16	.03	.20	.68
Poltergeist	.71	-.10	.33	-.05

The fourth factor in the factor analysis showed reasonable loadings from only two items; while this verges on marginal evidence for a discrete factor (Kline, 1994). It has been retained in this analysis because it shows the only real loadings of two of the paranormal experience items 'healing' and 'fate'. This means however that the fourth factor which has been tentatively named 'external influence' while possessing high loadings from these two variables must be interpreted cautiously. This factor is interesting since it is the focus for different patterns of scoring in the following cluster analyses and gives the possibility of identifying the more pathological types of paranormal experience. However this analysis is maintained only for heuristic purposes and it remains for further replicative work to provide more definite interpretations.

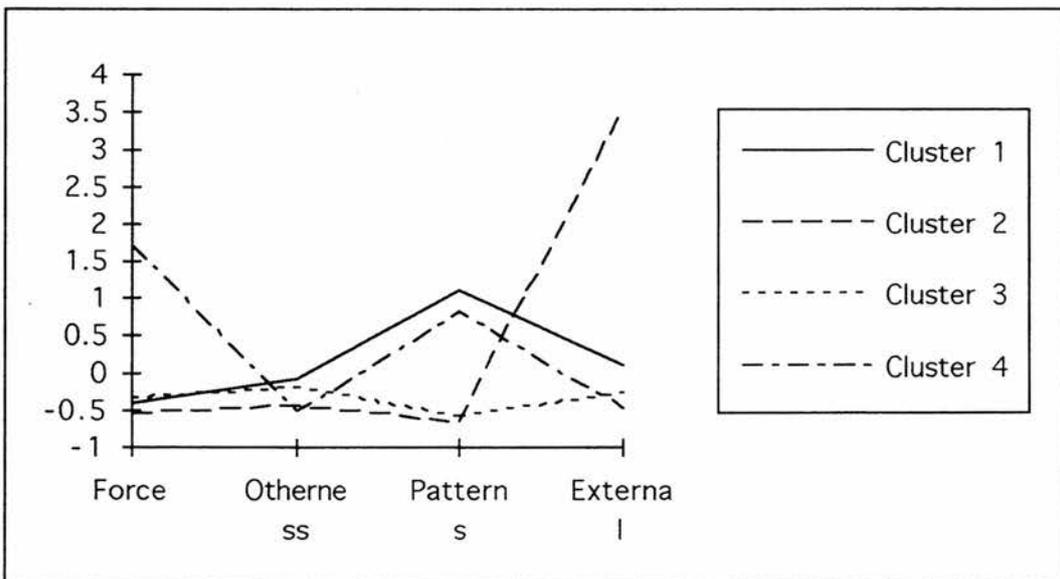
To further explore the relationship between the other psychological variables and the paranormal experience factors a k-means cluster analysis was carried out on *Statistica for Macintosh*. The clusters were calculated using the factor scores from the previous factor analysis. In order to assess the role of the schizotypy variables, 2, 3, 4 and 5 cluster solutions were

examined in order to identify the cluster solutions which suggested high levels of schizotypal experience.

The role of the schizotypy variables, particularly the hypomania and positive symptoms measures, were pronounced in the four cluster solution. A mean plot for four clusters is presented in figure 1.

Cluster 1 with 28 members shows a slightly higher mean score for the patterns and rules factor and relatively similar mean scores for the other factors. Cluster 2 had 7 members and shows low levels of scoring for the first three factors but a pronounced pattern of high scoring on the external influence factor. Cluster 3 with 82 members shows a relatively low level of scoring on all four factors with the lowest level of scoring found on the patterns and rules factor. Finally cluster 4 with 23 members shows a pronounced higher level of scoring on the force factor with scores on the other three variables remaining lower, with a slight elevation for the patterns and rules factor.

Figure 1 Mean plots for four clusters



These clusters were compared in univariate analyses of variance and the results are presented in Table 11. Significant differences were found on three schizotypy variables; hypomania ($F = 5.90, p < .001$), unusual experiences or positive symptoms ($F = 4.83, p < .003$) and social anxiety / cognitive disorganisation ($F = 3.40, p < .02$).

From the mean scores of the four clusters on the four factors it is obvious that cluster 2 shows the highest scores on each of these schizotypy variables. Cluster 2 showed a pronounced elevation on the external influence factor and this provides some tentative evidence for the possibility of paranormal experience in this category being most related to psychopathological variables, at least those concerned with the schizotypal personality.

Table 11 Four cluster solution univariate comparisons of psychological variables

	Cluster 1	Cluster 2	Cluster 3	Cluster 4	F (3,136)	p-level
AT	5.04	6.86	5.24	4.71	2.08	.11
TAS	19.63	21.68	17.59	20.92	2.28	.08
ImpulsDys	7.04	7.86	6.23	6.67	1.14	.34
ImpulsFunc	5.68	4.14	5.10	6.50	1.81	.15
HoP	23.66	27.29a	19.67b	25.77a	5.90	.001
PosSymp	4.75	5.14a	3.80b	4.65	4.83	.003
CogDisorg	4.44a	4.71a	4.28	3.43b	3.40	.02
PhysAnhed	1.39	2.29	1.74	1.78	.94	.42
SocAnhed	.39	.86	.68	.52	.75	.52
CogFailure	80.49	77.29	77.03	80.55	.65	.58

Note: Different letters indicates values which are significantly ($p < .05$) different from each other using post hoc comparisons (Duncan test).

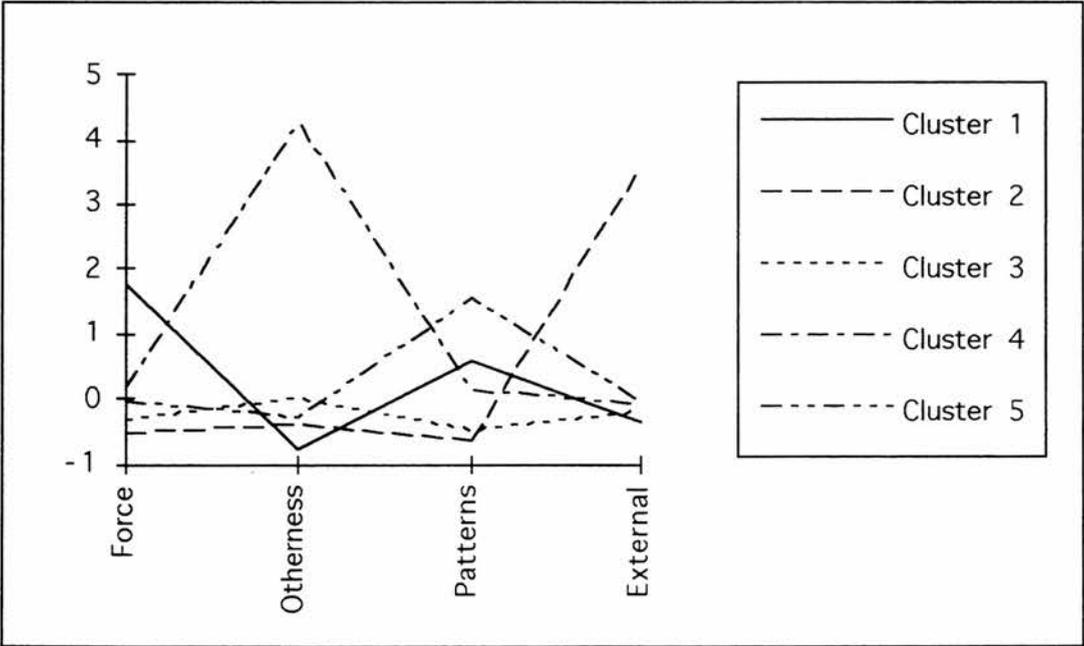
Duncan test post hoc comparisons were undertaken to determine significant differences between means. For hypomania it was apparent that the mean scores for cluster 2 and cluster 4 differed significantly from cluster 3 but not from each other or cluster 1. Examining the means plot in figure 1, it suggests that higher mean scores on the force factor and the external influence factor may relate to higher levels of schizotypal experience.

It is also noticeable that the comparison of these clusters on the absorption measure showed a trend towards significance; a further 5 cluster k-

means analysis was undertaken to explore this pattern further. The mean scores on the four paranormal experience factors are displayed in figure 2.

The five clusters obtained were similar to the four cluster solution although membership did alter for some of these clusters. Cluster 1 had 18 members, cluster 2 retained 7 members, cluster 3 had 88 members, the new cluster (cluster 4) had 5 members and shows a distinctive elevated score on the otherness factor; finally cluster 5 had 22 members. Univariate analysis of variance comparisons were undertaken and are displayed in Table 12. In this analysis the most significant difference was found for absorption ($F = 5.13, p < .001$) followed by slightly reduced sized differences between the clusters on the schizotypy variables. Hypomania again featured prominently ($F = 4.54, p < .002$), followed by positive symptoms ($F = 3.99, p = .004$) and cognitive organisation ($F = 2.99, p = .002$).

Figure 2 Mean plots for five clusters



This analysis also suggested a trend for higher levels of intolerance of ambiguity ($F = 2.10, p = .084$) particularly associated with cluster 2.

Table 12 Five cluster solution univariate comparisons of psychological variables

	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	F (4,136)	p-level
AT	4.69	6.86	5.26	3.80	5.14	2.10	.084
TAS	20.85b	21.68b	17.24b	28.40a	19.91b	5.13	.001
ImpulsDys	6.83	7.86	6.23	6.72	7.32	1.03	.397
ImpulsFunc	6.13	4.14	5.06	7.40	6.05	1.68	.159
HoP	24.60	27.29a	19.76b	24.94	25.53	4.54	.002
PosSympt	4.39	5.14	3.83	5.00	5.00	3.99	.004
CogDisorg	3.39	4.71	4.33	3.24	4.36	2.99	.021
PhysAnhed	2.17	2.29	1.70	1.60	1.18	1.65	.165
SocAnhed	.61	.86	.65	1.00	.22	1.13	.344
CogFail	79.07	77.29	76.40	83.52	84.47	1.69	.156

Note: Different letters indicate values which are significantly ($p < .05$) different from each other using post hoc comparisons (Duncan test).

Post hoc comparisons of specific mean differences using Duncan's test revealed a significant difference for absorption between cluster 4 and the other four clusters. For hypomania there was a significant difference between cluster 2 and cluster 3 but not between the other three clusters. Although a significant value of F was obtained between the clusters when compared on positive symptoms and cognitive disorganisation, this did not provide specific significant mean differences through the use of more conservative post hoc comparisons.

Generally, these findings serve to indicate that raised levels of paranormal experience are related to higher levels of schizotypal experience, confirming the findings in the previous studies. Furthermore, there seems to be a slight tendency for particular types of experience to show a stronger association with such personality traits, specifically hypomania and unusual perceptual and ideational experiences. In this case, in both cluster analyses a small cluster of seven individuals showed a marked elevated score on the external influence factor which was characterised by high loadings from the fate and healing items. This may be taken as a tentative indication that some experiences may be more related than others to psychotic states. It seems intuitively plausible that those experiences which arise from without,

are seen as alien and more characteristic of psychotic experience. Certainly, there seems to be some evidence for this interpretation in the work of Williams & Irwin (1994) and in the suggestions of Parker (1995).

A marked pattern was identified in the five cluster analysis for high levels of absorption. High levels of absorption were associated exclusively with cluster 4 which was characterised by an elevated score on the otherliness factor. This factor was marked by experiences which related to encounters with other entities or experiencing oneself as an other (for instance in the case of memories or experiences which suggested past lives). This finding holds well with the description of absorption in the literature — which suggests that highly absorbed individuals lose themselves in a marked restructuring of phenomenal reality.

Summary

These three psychometric studies have provided evidence for the contention that an imaginative involved cognitive style seems to underlie both paranormal experience and schizotypy. Much weaker and inconclusive findings were obtained in relation to decision bias variables such as ambiguity intolerance and impulsivity.

Consistent small to medium sized relationships were found between absorption, schizotypal positive symptoms such as magical ideation, perceptual aberration and hypomania. These relationships tend to appear in the factor analyses with these variables loading on the same factor in study 1. If more variables are included they may separate, with paranormal experience appearing on one factor and the schizotypy variables on another correlated factor as in study 2.

A broad range of paranormal and unusual experience items were incorporated into study 3 where factor and cluster analyses were employed. These analyses suggest that particular kinds of unusual experience may be related to schizotypy. Specifically, experiences which seemed to impinge on the individual from an external source such as healing or fate, possibly

where the individual feels little control, seem to be most related to schizotypy factors.

Chapter 4

An experimental decision task

Introduction

In the previous chapter three psychometric studies were reported which attempted to identify relationships between a range of variables which constitute the tendencies towards biased or imaginative styles discussed in chapter 2. In this chapter three experimental studies are reported which represent an attempt to formulate and implement a decision task which taps similar traits to those measured in the psychometric studies. This task employs a paradigm which requires the participant to identify stimuli under ambiguous conditions as well as note any perceptual or ideational responses to an ambiguous noise display.

Three versions of the task are reported here. The first is a direct comparison of individuals reporting high levels of paranormal experiences or no such experiences on these tasks. The second is an attempt to replicate the results of the first study with more comparison groups ranging beyond a simple high low split. The third also aims to do this but in addition includes an arousal inducing stressor which was hypothesised to increase the size of the effect. All of these studies use rather small samples (an inherent problem in these studies considering the time it takes to execute one trial) and so the findings tend towards non-significance. The first study had the most robust findings. This is partially a result of the nature of the sample which was composed of selected participants from the top and bottom end of the paranormal experience distribution. The results in both the subsequent studies were less robust (although some indications can be seen in the descriptive statistics) and can be viewed as a result of a combination of factors including the nonselected participants and small sample sizes.

A number of attempts have been made to assess the judgement style of individuals in relation to ambiguous stimuli. Probably the earliest attempt to develop such a task is described by Frenkel-Brunswik (1949). Her investi-

gation of prejudiced children (these experiments were largely concerned with the identification of personality and cognitive correlates of the authoritarian personality — Adorno, Frenkel Brunswik, Levinson & Sanford, 1949) indicated that judgement focussed on the maintenance of an early decision even in the light of new disconfirming evidence. Eventually once the judgement became untenable the pattern of judgement would change to incorporate random guessing. These studies involved a visual task consisting of gradually changing images.

In a study carried out by Levitt (1953) this kind of paradigm was developed into a decision location task. This involved participants being presented with slides upon which an image was gradually built up of accumulating lines. The participants (children) were given deliberately ambiguous instructions which Levitt presumed would be interpreted by the children who were intolerant of ambiguity as 'guess as soon, and as much as possible' (p.264). Intolerance was scored by summing the number of responses other than 'don't know' prior to the point of clear perception (a succession of correct responses). Levitt found positive correlations between the decision location task scores and a measure of ethnocentrism and a misconceptions scale (another measure of ambiguity intolerance).

In a study which is particularly relevant, Draguns (1963) examined the perceptual reactions of chronic, acute schizophrenics and nonschizophrenics to ambiguous and sparse stimuli. One technique used was the presentation of realistic drawings of objects or scenes which were blurred to different degrees. Each individual was asked to respond when he thought that he could identify the picture. The chronic group tended to make their judgements at a significantly earlier point in time than the nonschizophrenics and made more perceptual recognition errors as well. The acute schizophrenics performed at an intermediate level between the performance levels of the chronics and nonschizophrenics.

Heilbrun & Blum (1984) found that reactive patients were less tolerant

of ambiguity on an auditory task where they were asked to identify words hidden by noise (in this case this was created by having two other voices reading a passage at the same time). The word set consisted of 14 polysyllabic words such as 'commerce', 'graceful'. Each of the stimulus words was presented 9 times at the same volume before the next word was presented. The masking noise was initially presented at the same volume as the word itself but was reduced by one decibel with each presentation of the same word thereby increasing the likelihood of recognition. The participants were asked to guess the word as soon as they were 'reasonably sure' of it. They were permitted to repeat that guess or change their guess after the next presentation of the word but they received no feedback regarding their accuracy. If the subject correctly identified any word three times before the final presentation of that word the tape would move on without any explanation and a warning given that the next presentation would be a new word.

The ambiguity tolerance score was derived from the total number of word presentations on which a subject withheld a guess. Higher scores indicated a greater tolerance of ambiguity. As intolerance implies rapid, inaccurate judgements the authors noted that they had to take into account rapid correct identifications of words which would seem to indicate a tendency towards low tolerance of ambiguity (but would also be rapid correct identifications). To compensate for this error scores were also taken into account as an index of a tolerance of ambiguity. A significant main effect was found for premorbid status with reactives scoring lower than process schizophrenics. The lowest value was for the hallucinating reactives but this was not significant. Analysis of the error scores revealed again a main effect of premorbid status with reactives making more errors than process schizophrenics. In this analysis a significant interaction effect confirmed that reactive hallucinators made more mistakes than any of the other groups. This would seem to suggest that a more appropriate measure of tol-

erance of ambiguity in these kinds of masking task might be the error score rather than the overall raw (occasions of withholding a guess) score.

Reactive schizophrenic hallucinators showed a cognitive impairment in their ability to delay attribution of meaning to the ambiguous stimuli presented (and also in the availability of alternative meanings).

Chadwick (1988; 1992) carried out a visual analogue of this task where participants were previously deluded psychotics, high and low neurotics. Each volunteer was shown seven slides, each of these starting at a very unfocussed state at first and gradually over six further stages becoming focussed. Volunteers were asked to make a guess as to the nature of the slide at each of the 7 focusing positions. In addition, the volunteers wrote down their guess at each focusing position and reported their level of confidence in their hypothesis about the slide (ranging from 0 — 'pure guess' through to 5 — 'certain').

Chadwick proposed that psychotics would be less responsive to stimulus factors than ideational factors and would identify the slides later (nearer to the focused position). This was found to be the case for all of the slides except one. Although psychotics did correctly identify the slides later than the other group this was not a significant effect.

Assessing perceptual sensitivity Chadwick found that psychotics performed significantly less well than high N and low N groups on the slide viewing task. The paranoid psychotics were slightly higher in sensitivity than the non-paranoids but not more sensitive than the non-psychotics as measured by perceptual sensitivity Δm . In terms of decision making the paranoids made the riskiest decisions as measured by judgement bias B and the non-paranoids were the most cautious, although overall these differences were very small. The confidence level of each volunteer was recorded at each focussing position. Chadwick found that the psychotics were more confident than the non-psychotics in the low focus stages of the presentation.

An imagery task

In addition to the decision task the empirical investigation also incorporated an ambiguous visual display based on that developed by Jakes and Hemsley (1986). They exposed subjects to a visual display with a changing random pattern of dots and informed them that patterns had been programmed to appear in the dots. Although no such pattern generation process existed, the subjects reported both simple and complex visual sensations.

The term 'reported visual sensation' was used by Zuckerman and Cohen (1964) in preference to 'hallucination' or 'image'. It would seem reasonable to assume that these reported visual sensations would be related to mental imagery when they arise in situations of unpatterned sensory stimulation and would be related to predisposition to some kinds of paranormal experiences. It was found that the number of complex visual sensation reports (but not simple visual sensation reports) correlated significantly with both the N and P scales of the EPQ (Eysenck & Eysenck, 1975) and with Launay and Slade's hallucination scale (Launay & Slade, 1981).

Feelgood & Rantzen (1994) examined the prevalence of hallucinatory tendencies in a university undergraduate population using a paradigm closely resembling that of Jakes and Hemsley as well as an auditory adaptation of the task. The number of simple and complex reports were recorded (with some additional categorisation of different kinds of complex reports). It was found that high scorers on the Launay Slade hallucination scale differed significantly from those scoring low on the scale in terms of their frequency of both types (simple and complex — scored according to Zuckerman & Cohen's criteria) of visual reports.

Another example of such a task was employed by Blackmore & Moore (1994) in order to assess if tendencies to see things were associated with paranormal belief. They used pictures of everyday objects embedded in visual noise and presented via a tachistoscope (25ms) at 4 decreasing levels

of noise. All of the 12 pictures used were presented at each level of noise beginning with the most noise before proceeding to the next lower level of noise. They found that non-believers in the paranormal tended to evidence more accuracy on the task as a whole. At high and intermediate levels of noise the believers were more likely to offer identifications than were non-believers.

It is hypothesised in this study that those participants reporting higher levels of paranormal experience should make early and frequent guesses with higher error levels. Assuming that ambiguity intolerance plays a role in attribution of paranormal experiences in a similar way to how it has been proposed to influence hallucinatory experiences in clinical research it is likely that the performance of experiencers will not be as pronounced as the clinical hallucinators. The experiencers should also make more errors although this is only likely to be a marginal difference compared with the clinical hallucinators.

In relation to the imagery/visual sensation task it is hypothesised that those participants reporting paranormal experiences should report more visual sensation reports and particularly those of a complex nature. These participants should also report these sensations earlier than the non-experiencers.

An exploratory study

Design

Two groups of students reporting high and low levels of paranormal experience were compared on both the picture identification task (proposed to measure ambiguity intolerance) and imagery/visual sensation tasks. These tasks were based on tasks used by Heilbrun and colleagues (1972, 1984) in the case of the former and Jakes and Hemsley (1986) the latter. Three dependent measures were focussed upon in the ambiguity intolerance task: 1) total number of guesses, 2) total number of incorrect guesses, 3) the number of errors (misidentified pictures - one picture makes up one series);

in addition the number of different incorrect guesses was recorded. The dependent measures 1 & 2 were used in Heilbrun's studies. In the imagery task, the number of reports of both simple and complex visual sensations (the reports of patterns, images, etc. seen in the unpatterned visual noise), and latency to first reports were employed as dependent measures. The number of different reports for each type of reported visual sensations was also recorded.

Subjects

Two groups of students were compared. The high experience group numbering 15 students had reported between 2 and 20 experiences. The no experience group (13 students) reported having no such experiences. Subjects were invited to take part following their completion of a survey (see chapter 3). The high experience group was drawn from the upper third of the distribution of reported experiences and the no experience group from the lower third. Twenty four females and 6 males took part in the study; the high experience group consisted of 11 females and 4 males and the no experience group of 12 females and 1 male. Mean age was 20.57 years.

Apparatus/materials

The picture identification task was presented using HyperCard and run on an Apple Macintosh Colour Classic with the monitor set to monochrome. Each picture used in the experiment was part of a series of 25 presented in an order which ranged from very noisy to completely clear. The noise was administered in 24 regular steps to each picture using Adobe Photoshop. The noise consisted of randomly located dots (black pixels) which served to decrease the quality of the scanned image. The 12 pictures used were obtained from a HyperCard stack of monochrome scanned images which included, amongst others, a face, leaves, a jug, a space shuttle, a dog.

The imagery/ visual sensation task employed 30 frames of random visual noise created in Adobe Photoshop. The noise had the same visual effect as in the ambiguity intolerance task, it consisted of dots this time against a white background. These 30 frames were animated in a loop presented at 13 frames per second using the animation program Macromind VideoWorks. Each of the frames had an equal level of noise but with a different random distribution of that noise. This presentation speed provided the illusion of a continually changing display.

A measure of belief in the paranormal (Australian sheep goat scale, Thalbourne, 1981) was administered by computer prior to the main tasks. These participants had all completed the booklet of psychological measures approximately 12 weeks prior to testing. A number of psychological measures were administered; these included amongst others: the VVIQ, measuring vividness of visual imagery (Marks, 1973); and the MAT-50, a measure of ambiguity tolerance (Norton, 1975). Respondents were also asked to provide estimates of the number of paranormal experiences they had had and of what kind they were. The questions on experiences required respondents to answer on 7 point scale (7= Yes, 4= Uncertain, 1= No) whether or not they had had experience of telepathy, clairvoyance, apparitions etc. They were also asked to indicate how many experiences they may have had in total (see psychometrics studies in chapter 3 for full details).

Procedure

Participants were informed that this study was following up on the questionnaire booklet that they had completed but they were only given information about task requirements and were not led to believe that it was a task involving psi performance. Prior to testing each participant was given an outline of the task. Each participant undertook the test alone in a cubicle. Participants observed the display at a comfortable distance (usually 70cm) and following instruction they were were left alone to complete the task. Testing involved participants first completing a computerised measure

of paranormal belief (ASGS). This was followed by brief instructions on how to complete the task. They were told to try to identify each picture, moving through each series beginning at the noisiest picture and mentioning aloud any thoughts they might entertain as to what the image might be. Once they were "reasonably sure" that they could identify the picture they were instructed to move on to the next one beginning again at the highest level of noise.

The participant responded by clicking in the upper half of the screen to continue in the same series and in the bottom half of the screen in order to progress to the next picture series. They also made audible identifications of the pictures which were recorded on audio cassette.

The instruction to finish a series when the participant was 'reasonably sure' was intended to be open to interpretation by the subjects. Participants decided themselves when to move to the next picture, this meant that it was relatively rare that a subject would view all 25 presentations (most pictures were identifiable by the 20th presentation). Following the completion of this task the participant recalled the experimenter to reveal what the pictures were and to introduce the imagery task. Participants completed 2 practice trials before scoring was commenced in order to adapt to the task requirements.

The imagery task employed a visual noise presentation which the subjects were told had images and patterns programmed to appear in it. Participants were asked to identify aloud any patterns or images they thought they could see. In fact, the noise animation did not include any pre-programmed patterns or images and the suggestion that it did was intended to provide the subject with a suitable context for reporting any visual sensations. This part of the task ran for 10 minutes after which the subject was debriefed.

Results

Since the two groups had been selected on the basis of the number of

paranormal experiences they reported, and paranormal belief often follows paranormal experience (Glicksohn, 1990), it was highly likely that the two groups would be differentiated in terms of their paranormal belief.

Accordingly, it was found that the high experience group showed a higher mean score on the ASGS: 11.33 (SD = 3.24) as opposed to a mean of 5.54 (SD = 2.60) in the no experience group (Mann-Whitney U-test comparison, $z = 3.84$, $p < .001$). The majority of task indices were not normally distributed and possessed kurtosis values in excess of 0, precluding parametric assessment.

Table 13 Mean scores and total scores on the picture identification task measures across 9 pictures (SD in parentheses).

	High exper	No exper	U	adjusted z	p =
Tot Correct	14.53 (3.02)	11.46 (2.57)	43.50	2.50	.01
Tot Incorrect	12.20 (11.22)	6.31 (7.30)	56.50	1.89	.06
Last Guess	18.63 (3.52)	20.22 (1.31)	72.00	-1.18	.24
Trial Error	1.00 (.85)	.92 (.95)	90.00	.37	.71
Tot RVSA	7.53 (7.41)	7.23 (8.06)	88.50	.42	.68
Tot RVSB	12.67 (15.39)	4.23 (4.17)	57.50	1.85	.07
RVSADiff	5.07 (3.91)	3.92 (2.72)	64.00	1.56	.12
RSBDiff	9.13 (9.40)	3.38 (3.69)	51.50	2.13	.03
TimeToA	88.93 (139.43)	181.17 (155.42)	42.50	-2.13	.03
TimeToB	154.50 (176.23)	187.80 (183.75)	53.00	-1.00	.32

Due to errors in the automatic recording of the data the results from three pictures were omitted from the analysis. The results in table 13 show the mean and total number of guesses and errors across the 9 remaining pictures for each group. The high experience group completed fewer trials (mean = 165.93, SD = 24.48) than the no-experience group (mean = 181.92, SD = 13.31), i.e. they made their decisions earlier on average but not significantly so ($z = 1.55$, $p = .12$).

The performance of the two groups differed on the identification task (see table 13). As predicted, high experience subjects scored more highly than the low experience group on all the measures related to guess production and took fewer trials to make guesses. Mann-Whitney U test compar-

isons between groups yielded a significant difference for the number of total correct guesses ($z = 2.50, p = .01$). Comparisons of the groups on incorrect guesses ($z = 1.89, p = .06$) were in the predicted direction but fell just short of significance. Just over 45% of the total guesses of the experience group were incorrect guesses compared with 35% for the no experience group. As can be seen from table 13, both groups made very few complete misidentifications of pictures; as such, comparison of errors between groups was non-significant ($z = .37, p = .71$).

The experience group also showed a higher frequency of reported visual sensations (both simple and complex) than the no experience group on the visual noise presentation. A slight difference was noted for simple visual sensations ($z = .42, p = .68$) and a more marked difference for complex visual sensations ($z = 1.85, p = .07$). The time taken to report a first image was noticeably different between the two groups for the total number of simple visual sensations, with the subjects in the experience group reporting simple visual sensations sooner than those in the no-experience group ($z = -2.13, p = .03$).

Times were somewhat more comparable in the case of complex visual sensations, with the experience group reporting a few seconds earlier on average than the no experience group ($-1.00, p = .32$).

The criteria for coding reports of visual sensations was based on Zuckerman & Cohen (1964). Simple sensations (RVSA) were coded if the response was simple shape such as circle or line, they were also recorded for general observations of movement. Complex visual sensations were recorded when more animated and recognisable objects were reported e.g., faces humans, animals, plants. Correlation coefficients calculated for inter-observer reliability on assessing simple and complex visual sensations were high with values of $r_s = .97$ and $.99$.

Relationships between paranormal belief and the various indices of the two tasks are displayed in Table 14. Moderate to large correlations were

found between paranormal experience and the total of correct ($r_s = .53, p = .004$) and incorrect guesses ($r_s = .42, p = .024$) on the decision task.

Paranormal experience was also significantly related to the number of reported visual sensations: total complex reports ($r_s = .48, p = .01$) and even more so to different complex reports ($r_s = .53, p = .004$). The frequency of trial error identifications (that is, the failure to completely identify a picture which makes up one series) were marginally related to paranormal belief ($r_s = .21, p = .29$) and to reports of different simple visual sensations ($r_s = .18, p = .37$). These correlations between guess production in the decision task and the frequency of reported complex visual sensations suggest that these indices are measuring similar responses.

Paranormal belief as measured by the ASGS showed moderate positive correlations with most of the indices on the two tasks. The strongest association was between ASGS and the total number of guesses on the decision task ($r_s = .46$).

Table 14 Spearman rank order correlation coefficients between decision task and imagery task indices

	Exp	ASGS	TotCorr	TotIncorr	TotGuess	LastPic	Trial Error
Exp	1.00	.76	.53	.42	.54	-.12	.00
ASGS	.76	1.00	.28	.45	.46	-.15	.21
TotRVSA	.14	.06	-.15	-.00	-.05	-.08	.10
TotRVSB	.48	.20	.44	.51	.56	.18	.11
RVSADiff	.37	.24	-.03	.17	.13	-.14	.18
RVSBDiff	.53	.26	.48	.49	.55	.13	.01

In order to explore the relationships of the different indices of task performance an exploratory principal components analysis was undertaken. The analysis, employing root curve selection criterion, resulted in three factors which accounted for 72.4% of the total variance. The individual factors explained 31.7%, 23.4 and 17.3% of the variance respectively. The factor loadings of the task indices are represented in Table 15.

Table 15 Factorial pattern matrix for picture identification and imagery tasks.

	Factor 1	Factor 2	Factor 3
TotCor	.07	.01	-.86
TotIncor	.55	.13	-.29
Trial Error	.10	.17	.80
LastPic	.52	-.12	.49
TotRVSA	-.17	.93	.20
TotRVSB	.88	.06	-.02
RVSAdiff	-.01	.93	.14
RSBdiff	.88	.02	-.00
TimeToA	.02	-.68	.20
TimeToB	-.64	.30	-.24

The first factor with high positive loadings from the frequency of reports of type of visual sensations clearly relates to a tendency to the production of complex images in response to ambiguous stimulation. It is noticeable that as well as the complex visual sensations reported in the imagery task two indices from the decision task also loaded highest on this factor — total number of incorrect guesses as well as the last picture viewed. Overall this suggests that this factor relates to an easy production of complex imagery but often incorrect responses in the face of ambiguous presentations. This is reminiscent of the confirmation bias discussed by Chadwick (1992).

Strong loadings from both total number and different reports of simple visual sensations characterised factor 2. All the other variables exhibited low loadings. This factor is interpretable in terms of reports of simple visual sensations. This seems to indicate that simple visual sensations are qualitatively different from the complex sensations.

The third factor relates to errors with a high loading from the measure of the number of trials which were not identified. Also a strong negative loading was observed for the total correct guesses; this suggests an overall error factor somewhat distinct from that of factor 1. This is likely to be more related to a complete failure to produce an identification, which may arise for different reasons than those which incur a high frequency of incorrect

guesses. It is noticeable that number of trials which were incorrectly identified (trial error) correlated moderately with VVIQ scores ($r_s = .37, p = .05$). This suggests a conscious voluntary and possible vivid image producing capacity which may provide partial solutions which hinder accurate identification.

The factor analysis presented here relies on a very small sample. This severely limits the interpretation or generalisation of the results, it is used here simply as a heuristic device for exploring the structure and common factors underlying performance on the computer based task.

Finally, correlations were calculated for a number of questionnaire measures and the task indices: these are displayed in Table 16.

Table 16 Spearman rank order correlation coefficients between paranormal experience estimates, different task measures and questionnaire measures

	Exp	ASGS	TotCorr	TotIncorr	MAT-50	VVIQ	AIS	TAS	MGI	LSHS
Exp	1.00	.76	.53	.42	.19	.26	.11	.80	.79	.69
ASGS	.76	1.00	.28	.45	.13	.22	.00	.66	.66	.54
TotCorr	.53	.28	1.00	.44	.00	.02	.23	.50	.59	.38
TotIncorr	.42	.45	.44	1.00	.00	.11	.16	.30	.43	.16
TotRVSA	.14	.06	-.15	-.00	-.07	.28	.07	.06	-.03	.15
TotRVSB	.48	.20	.44	.51	.21	.01	-.17	.41	.43	.41
RVSADiff	.37	.24	-.03	.17	-.00	.43	.13	.28	.13	.30
RVSBDiff	.53	.26	.48	.49	.27	-.10	-.06	.45	.49	.38
LastPic	-.12	-.15	.01	.16	.00	-.33	-.27	-.11	.08	.10
Errors	.00	.21	-.42	.29	.16	.37	-.07	.05	-.06	.14

The lack of relationship between complex visual sensations and the VVIQ was quite noticeable ($r_s = .01, p < .98$). By contrast, simple visual sensations do not seem to be related to the picture identification task measures but were more strongly related to the VVIQ ($r_s = .28, p < .15$). These results bear out the differences suggested by the factor analysis and suggest that there is a difference between reports of complex and simple visual sensations, with the former being more closely related to the processes which promote frequent guessing on the picture identification task, while the latter are

more closely related to imagery vividness.

Surprisingly, no evidence was found of substantial relationships between any of the measures for the picture identification task and the total tolerance score of the MAT-50 measure of ambiguity tolerance except in the case of total reports of complex visual sensations where the measure was slightly related ($r_s = .21, p < .27$) and slightly stronger in the different reports ($r_s = .27, p < .16$). The failure to find a relationship between a general measure of ambiguity intolerance and the other performance measures of the picture identification task throws some doubt on the validity of this task as an indicator of ambiguity tolerance.

What is of interest here is the overall level of relationship between the task indices and the measures of imaginative involvement and schizotypy. Absorption was reasonably highly correlated with a number of indices of the picture identification task and with the number of visual sensations reported in the imagery task. Absorption showed a pronounced relationship to the total number of correct guesses in the picture identification task ($r_s = .50, p < .007$) and also to the number of complex visual sensations reported ($r_s = .41, p < .03$). The strength of relationship between this variable and the indices of the two experimental tasks suggests that they tap imaginative involvement to a significant degree and provide evidence that it is this rather than ambiguity intolerance which defines performance on tasks such as this.

The magical ideation and the hallucinations scales both showed a similar pattern to absorption, although in the case of magical ideation the relationships were in some cases more pronounced. For instance, magical ideation and the number of correct identifications that were made were positively correlated ($r_s = .59, p < .002$). There was also a similar sized relationship between magical ideation and the total number of incorrect guesses ($r_s = .43, p < .03$). A similar pattern was found in relation to the number of complex but not simple visual sensations ($r_s = .43, p < .03$; $r_s = -.03, p < .88$).

The Launay-Slade hallucination scale correlated positively and significantly with the total number of correct guesses ($r_s = .38, p < .05$); with the the total number of incorrect guess to a much lesser extent ($r_s = .16, p < .42$) and also with reports of simple and complex visual sensations ($r_s = .15, p < .44$; $r_s = .41, p < .03$).

It seems therefore, that the experimental task in both modes (picture identification and visual sensation reporting) taps imaginative traits like absorption as well as the related measures of schizotypal cognitions such as magical ideation and hallucinatory experiences. In combination with the finding that the measure of ambiguity intolerance was not widely related to the measures but showed a singular relationship with frequency of complex visual sensations, this finding casts some doubt on the role ambiguity intolerance plays in the generation of these kinds of experiences.

Discussion

Generally, the predictions made with regard to performance measures on the picture identification task and perceived imagery task seem to be supported by the results. These show an interesting and suggestive pattern of responses by the two groups, however, these findings are treated with some caution due to the manner in which participants were selected by prior completion of a battery of measures, including paranormal belief measures which may have inclined them to respond according to their expectations of how a sheep or goat would respond.

No significant relationship was found between the proposed measure of ambiguity intolerance and the MAT-50. This provokes a reinterpretation of the factors underlying such decision tasks. The work of Heilbrun (1972) and Heilbrun & Blum (1984) on ambiguity tolerance used the number of trials on which guesses were withheld as well as the number of trials on which errors were made (equivalent to the total of incorrect guesses in the present study) as the indicator of ambiguity tolerance. Fewer guesses and fewer errors would be expected of those subjects who were more tolerant of ambi-

guity and more guesses and errors expected of those who are more intolerant. This is somewhat problematic, in that this pattern of results may also be interpreted in the same spirit as a creativity test, where more guesses and incorrect guesses or different interpretations, would indicate a higher level of creativity. It would be expected that creativity would be positively correlated with ambiguity tolerance (Tegano 1990). However, in this case, the weak correlations between the number of guesses, the number of incorrect guesses and the MAT-50 do not provide clear support for the view that the identification task is measuring creativity.

This interpretation of the results questions whether or not Heilbrun and colleagues were themselves measuring ambiguity tolerance in their studies. The definition of ambiguity tolerance that has generally been accepted since the work of Frenkel-Brunswik (1949), is that a person with low tolerance of ambiguity will react to an ambiguous situation by premature categorisation and avoidance of that ambiguity. On the other hand, a person who is more tolerant will not react so defensively to an ambiguous stimulus or situation and some people may enjoy and even seek to sustain ambiguity. In the present study, the subjects in the high experience group tended to make their final identification of a picture somewhat earlier on average (but not significantly so) than those in the low experience group.

Two main approaches to measuring ambiguity tolerance in a non-verbal task have been explored in the literature. Following Frenkel-Brunswik's early work, one method examined the tendency to hold onto a premature guess in spite of evidence to the contrary. In other studies such as that by Levitt (1953) frequent and early guesses were considered as indicative of intolerance. In the Heilbrun & Blum (1984) study, the number of errors (equivalent to the number of incorrect guesses in the present study) and the "withholding" of guesses (the opposite of frequent guesses when measuring intolerance) was taken to measure ambiguity tolerance.

These two approaches to non-verbal testing of ambiguity intolerance

suggest two seemingly incompatible views of an ambiguity intolerant response. One would suggest a low number of guesses, the other a larger number. However, Frenkel-Brunswik (1949) did mention that intolerant people following early selection and a period of perseveration may also show haphazard guessing. Patterns of frequent and early guessing as well as perseveration need to be further investigated and clarified in order to discern the best possible response measures of ambiguity intolerance in a non-verbal task.

The performance of subjects on the visual sensation/imagery task supported the findings of Jakes and Hemsley (1986). Reports of complex visual sensations but not simple sensations correlated with paranormal experience. Jakes and Hemsley found that only complex visual sensations correlated positively with scores on a measure of predisposition to hallucinations. In the present study, complex perceived imagery was also found to be quite strongly related to the performance measures on the picture identification task. Those subjects showing more complex perceived imagery also made more incorrect guesses on the picture identification task. This suggests a common underlying response factor which was also indicated in the factor analysis of the task indices.

Interestingly, complex visual sensations, unlike simple visual sensations, did not show any association with vividness of imagery as measured by the VVIQ. This distinction between simple and complex visual sensations requires further examination. Most reports of hallucinatory or paranormal experiences have a degree of complexity; it makes sense to assume that only if an internal experience is complex will it begin to share characteristics (and possibly be confused) with external experience. More puzzling is the indication that the simple but not complex forms of visual sensations are related to vividness of imagery. It would seem reasonable to assume that the visual sensations arising from these kinds of tasks would be closely related to vividness of visual imagery; however, this relationship looks

doubtful, particularly with regard to complex visual sensations which are perhaps more associated with involuntarily produced images/representations which are qualitatively more numinous than visually vivid. This seems to be a valid interpretation when we consider that VVIQ performance, although related to imagery vividness, obviously requires a reasonable degree of control as well.

An additional obstacle to accepting these results at face value is the possibility that participants were 'primed' to respond in line with their level of belief and reported experience of the paranormal. Prior to the task, participants had completed a number of measures related to belief in the paranormal, vividness of imagery, etc. It might be considered that the completion of these measures 'primed' participants to a particular mode of response in the task itself. Participants may have tried to generate responses which would validate their prior admission of high/low level of paranormal experience and belief. This is possible if their assumption was to regard the task as favouring a paranormal interpretation, however, if the participant interpreted the task as being more skeptical in nature (which seems equally likely) it might be thought that participants reporting paranormal experience (sheep) might aim to make their responses more conservative. In the following studies steps were taken to avoid this possible effect.

Despite possible problems with this study, it is proposed that there is a basis for a biased response style among experiencers of the paranormal compared to non-experiencers, although this was characterised more by imaginative processes and characterised by variables such as absorption and magical ideation than by ambiguity intolerance.

Experiment 2

In order to replicate the findings from study 1 a second study with increased sample size was carried out. Study 1 could be criticised on the grounds of a possible order effect which may have influenced the performance on the decision and visual noise tasks. Participants were selected on the basis of their reports of paranormal experiences. It is possible that when they undertook the experimental task some weeks later they could have estimated what the appropriate response would be like and acted in accordance with this. This information could have been gleaned from the content of the questionnaire booklet which contained measures of schizotypy as well as paranormal experience, belief and other personality measures.

It seems somewhat unlikely that this would be case because it requires participants who report higher levels of paranormal experience to respond to a largely skeptical experimental design. If the participants had wanted to act in accord with their previous indication of paranormal experience, they would probably want to demonstrate that this ability was in fact real and would be less likely to act in such a way as to suggest that the experiences relate to imaginative and schizotypal experience and performance. This interpretation has to be given as much credit as the one which entails the participants responding in such a way as to behave like sheep but actually discredit their beliefs.

In addition, some changes are made to the introduction of participants to the study. In study 1 loss of data had occurred which was a result of inaccurate participant responses. Participants were given extra instructions with emphasis placed upon the response zones on the monitor as this had been one of the main reasons for lost data.

Participants and Procedure

Forty participants (12 males and 22 females) were drawn from undergraduate classes at the University of Edinburgh. The participants were either in their first or second year which means that if they were taking psy-

chology as one of their subjects they were unlikely to be theoretically familiar with the kind of experimental paradigm used here.

Some of the participants were recruited from those who had originally returned questionnaires in psychometric study 1, the rest were recruited from psychology classes at the University of Edinburgh. The first group had already completed a questionnaire, so in order to counter the argument that the results may have arisen from a response bias the additional participants completed questionnaires after taking part in the experimental study. Some of the newly recruited participants also completed the questionnaire prior to the task in order to maintain equal numbers of participants who had completed the questionnaire before and after the task.

The same procedure was used as in study 1. Participants carried out the task in small experimental cubicles. They observed at a comfortable distance from the computer screen (usually 70cm) and following instruction they were left alone to complete the task. Once again the participants completed two trials to provide practice; these trials were not scored.

Each subject was presented with 12 pictures, each in a series of 25 presentations, typically decisions were made before the 25th presentation was reached except on occasions where the participant found the picture difficult to identify). As in the previous study they controlled the speed of their progression through the pictures themselves; they dictated this by clicking the mouse in the upper segment of the screen to move forward in the same series and in the lower segment to end that series and begin the next.

Results

On the basis of their reported levels of paranormal experience the participants were later allocated to four groups for comparison. Four groups were chosen in order to maximise possible differences between the groups in relation to paranormal experience.

As with experiment 1 a good number of the task indices were not normally distributed with kurtosis values markedly in excess of 0, therefore

nonparametric assessments were undertaken. Comparisons of four groups related to different levels of paranormal experience are presented in table 17.

It can be seen that generally the high experience group produced more correct and incorrect guesses than the other three groups but the magnitude of these differences is rather small and they do not achieve significance. In general scores were similar to those in study 1, with participants who reported high levels of PE demonstrating more correct guesses than participants reporting fewer experiences or no such experiences. The high PE participants also generated twice as many guesses as the non-experients. The stage at which final guesses occurred later for experients than for non-experients the opposite trend to that found in study 1.

Similar patterns of scoring to those produced in study 1 were found for the imagery task with high PE participants producing more simple and complex visual sensations than no- PE participants. Once again these comparisons were not statistically significant.

Summarising these findings descriptively, it seems that compared to the other groups the high experience group produced more guesses in total, and took longer to make their decisions; with mean last viewing position of 21.20 compared to means of 19 and 18 for the other groups. The high experience group seemed to produce a longer interval between first guess and last guess than the other groups, although the low experience group produced an almost equivalent interval length.

With respect to both complex and simple visual sensations there were much clearer differences between the groups (although they were not statistically significant) with the high experience group reporting more complex and simple visual sensations in excess of the other three groups.

Table 17 showing means and standard deviations on task indices for different levels of paranormal experience.

	High (N= 5)	Medium (N= 17)	Low (N= 6)	No exp (N= 8)	H (3,36)	p <
Correct	18.60 (4.22)	13.18 (3.47)	13.66 (6.19)	16.38 (4.87)	6.75	.09
Incorrect	8.00 (6.04)	5.35 (5.99)	4.00 (2.19)	4.00 (3.38)	1.39	.71
Total	26.38 (6.69)	18.53 (8.54)	17.67 (7.99)	20.38 (6.72)	4.37	.22
Error Id's	.80 (1.30)	1.00 (1.12)	1.83 (3.13)	.50 (.76)	1.50	.68
First	13.20 (1.79)	14.15 (3.56)	12.75 (3.63)	13.75 (2.33)	.53	.91
Last	21.20 (3.24)	18.76 (2.96)	19.08 (3.37)	18.56 (3.42)	2.80	.42
Interval	8.00 (2.31)	4.62 (4.33)	7.33 (2.34)	4.81 (4.52)	4.10	.25
RVSA	19.00 (15.12)	6.06 (6.96)	5.67 (4.23)	10.88 (18.73)	3.27	.35
RVSB	12.20 (9.47)	5.41 (7.33)	3.67 (3.88)	5.25 (5.92)	3.33	.34

These results do not clearly show a difference between the groups reporting different levels of paranormal experience. A number of reasons can be offered for the lack of significance in these comparisons. Firstly, these results are not as pronounced as those in the first study; part of the reason for this must lie in the inevitability of not being able to select participants with higher levels of experience prior to the study. These participants were allocated to groups dependent upon their level of experience following the execution of the study. There were fewer participants reporting high levels of experience compared to study one. Both of these studies and the following one inevitably use small samples because of the extensive time required in running these studies.

It is likely that the processes which are important for the demonstration of these differences will be diluted by the artificiality of the experimental situation. Certainly if imaginative ability is involved in generating these kinds of results, which was suggested by the findings in study 1, it would seem that factors such as these would be curtailed somewhat within the requirements of an experimental situation. It is difficult to bring these kinds of processes validly into the experimental situation and maintain their range and magnitude of responses in the face of the demand characteristics of the situation. In this particular paradigm very few participants actually

guessed the reasoning behind the actual design of the study and it is likely that they maintained a more deliberate control over their cognitive functions than would be normal in a more naturalistic situation.

In spite of these weak differences in performance which generally follow predictions, it does seem apparent that there are distinct if small differences demonstrated between the groups reporting different levels of paranormal experience.

The relationships between the task indices and the different types of experiences reported indicated some relevant associations. Both reports of telepathy ($r_s = .21, p < .22$) and clairvoyance ($r_s = .32, p < .06$) show small positive relationships with the number of incorrect guesses on the decision task. Precognition was most related to the last guess index ($r_s = .34, p < .05$). Apparitional experiences showed a small positive relationship with last guess ($r_s = .21, p < .23$) and a small negative relationship with the number of reports of complex visual sensations ($r_s = -.24, p < .16$). Out of body experiences was positively related to both the number of correct guesses ($r_s = .29, p < .09$) and also to last guess ($r_s = .24, p < .16$). The total number of experience reported by the participant showed the strongest relationship with the number of misidentified pictures (trail error) ($r_s = .31, p < .08$) and showed no relationship with the number of reports of complex visual sensations ($r_s = -.01, p < .94$).

Table 18 Spearman correlation coefficients between ratings of different experiences and task indices

	Telepathy	Clair	Precog	Appar	OBE	Total PE
Correct	.06	-.11	-.06	.04	.29	.05
Incorrect	.21	.32	.07	-.06	.03	.28
Trial Error	.12	.16	.12	-.00	.10	.31
First	-.22	-.09	.14	.15	.10	-.03
Last	-.04	-.08	.34	.21	.24	.22
Interval	.20	-.02	.14	.11	.03	.22
RVSA	.02	.21	-.01	-.16	.17	.12
RVSB	-.02	-.03	.09	-.24	.02	-.01
Asgs	.34	.36	.62	.39	-.04	.68

Generally, a number of reversals in terms of results appear in the findings of this study. For instance, total paranormal experience does not show the same kind of relationships noted in the analysis of study 1. Instead of showing medium sized positive relationships between PE and complex visual sensations there is no evidence of relationship ($r_s = -.01, p < .94$). This may be due to the relatively high levels of reports of visual sensations of both kinds reported by the non-experient group. Table 17 shows a decrease in the reports of visual sensations across the groups as paranormal experience decreases and a rise again in the no experience group. Small sized positive though not significant relationships were found between total PE and incorrect guesses ($r_s = .28, p < .11$), trial error ($r_s = .31, p < .08$) and last guess ($r_s = .22, p < .19$).

In this analysis it appears that some relationships noted between paranormal experience and task indices are altered or reduced in magnitude. Also the relationship between complex visual sensations and PE noted as one of the more robust findings in study one disappeared completely in study 2. However, the pattern of differences in scoring between groups remain similar with high PE groups guessing more.

While the findings of this study show similar trends to those found in study one it must be acknowledged that these are much weaker. There are two reasons why this is likely to be the case; firstly, the sample did not contain participants who reported exceedingly high levels of paranormal experience (it is these participants who provide the pattern of scoring which constitutes much of the experimental effect in the study) and the sample size was smaller than that required to adequately demonstrate these effects at traditional levels of significance.

Experiment 3

Introductory comments

The third study examined the same variables as studies 1 and 2. It differed mainly in that it introduced an arousing variable in the form of white noise which was administered using a clinical audiometer over headphones. Slade (1976) describes how increased internal arousal (perhaps incurred through some stressing event) is an important factor in triggering hallucinatory experiences. White noise has been employed in a wide range of experiments exploring arousal (Eysenck, 1981) where high levels of noise approaching 70 -100db have a tendency to increase physiological arousal. Bentall and Slade (1994) have suggested that higher levels of arousal will lead to a more superficial information processing style focused on concrete rather than semantic information and as a consequence increase the likelihood of reality discrimination errors.

White noise has been used at various levels in studies of hallucinations with interesting effects. In a study by Margo, Hemsley, and Slade (1981) hallucinating patients were given an auditory stimulus which varied from silence through a voice reading to irregular blips and continuous white noise. It was found that the complexity or meaningfulness of the signal had a fundamental effect on duration, loudness and clarity of the hallucinations experienced by the patients. The more complex the signal the less enduring, loud and clear were the hallucinations and vice versa. These findings support those of Alpert (1985) who also obtained increased levels of hallucinatory experience along with the introduction of white noise as a stimulus; he does however report that increased hallucinations are likely to be reported with moderate rather than high or low levels of white noise.

Within the parapsychological field white noise has been employed as part of a partial sensory deprivation state called the 'ganzfeld'. Typically most people left to adjust their own white noise levels adopt a relatively low level of noise which is comfortable for the 30 or minutes they spend in the

state. In these studies the white noise provides an auditory equivalent of the homogenous visual field of red light which is cast over the participant's eyes during the session. This homogeneity of both auditory and visual input is remarkably similar in function to the vague background noise reported by hallucinators and by those who have experienced real life sensory deprivation. Where there is no figure but simply ground in perceptual experience there is a tendency towards the creation of figure.

Primarily in this study the noise was used as a mild stressor which was hypothesised to increase the power of the experimental effect. It was hypothesised that the three levels of noise would increment the arousal level experienced by the participant. Although descriptions of the level of arousal differed from individual to individual, following discussion after their participation there was general agreement that they found the increased levels of noise more stressing and distracting than the lower levels.

Design

A mixed design was employed with one between subjects factor — experience of the paranormal (high, low and no experience) and one within subjects factor — level of arousal (white noise presented at three levels: 25, 40 and 60db).

Participants

A total of 38 students took part in the study. Due to a corruption of coding data held on computer which would have permitted their allocation to groups, only 20 participants are presented in the analysed data. This severely limits the possible interpretation of the findings; as a result these findings are discussed tentatively and descriptively. These participants all volunteered for the study and most were recruited from psychology classes in the Business School at Napier University, Edinburgh. A small number were also recruited from the Koestler parapsychology unit subject pool and

the first year psychology course at the University of Edinburgh. In all, 9 females ranging from 18 - 29 years in age (mean = 22.77) took part and 11 males ranging from 18 -31 (mean = 22.27). The participants were later categorised into three groups for comparison: those reporting no experiences (N=4); those reporting up to 5 experiences (N=11); and those reporting more than 5 experiences (N=5).

Materials & Apparatus

In order to facilitate clear recordings of the participants' responses a cassette recorder and clip microphone was secured on to the upper part of the respondent's body. A clinical audiometer was employed to administer the white noise (this was borrowed from the Audiology Unit at the Royal Edinburgh hospital). The audiometer provided a range of possible signals at different amplitudes. The unit was set to white noise, to both ears, at levels of 25, 40 and 60 decibels. The noise was delivered directly to the ears of the participant using Telephonics TDH-39P headphones with ear cushions.

Procedure

Each subject was introduced to the picture identification task as outlined in previous sections. Subjects were informed that they would be administered white noise at different amplitudes over headphones. The three levels of white noise were demonstrated prior to the task. Once the subject had been given the outline of the task procedure measurement began. The first three of the twelve trials were designated trials to provide the participant with practice and to accustom them to the white noise levels. During these first three trials the white noise was also presented in the same order for all participants. For the first trial the noise was set at 25db, for the second at 40db and for the third at 60db. Each of the following nine trials during which results were recorded had been randomly allocated a noise level of 25, 40, or 60db. As in studies 1 and 2, the respondents verbalised any guesses they had during each trial. They controlled the progression of

the program and presentation of pictures, taking as much or as little time as they needed to reach a decision on identifying the picture.

Results and Discussion

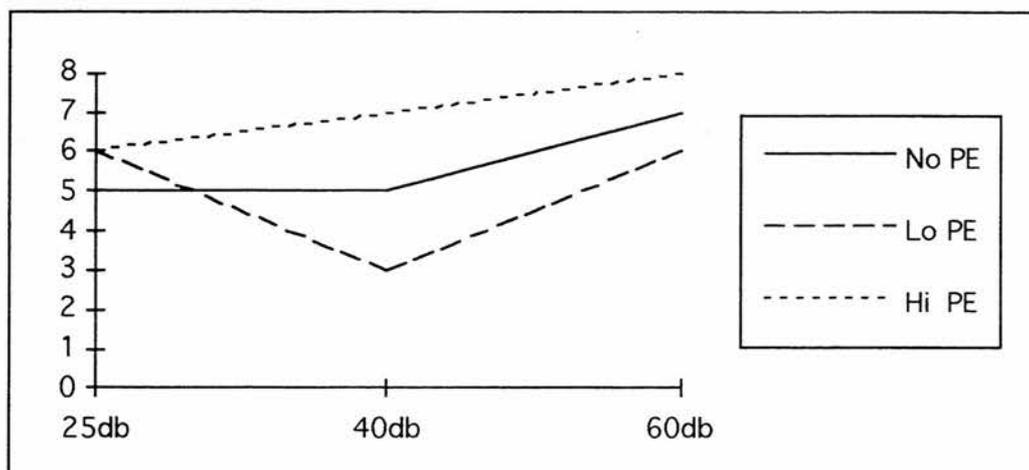
The participants were allocated to groups for analysis based on the number of experiences they reported. In experiment two the subjects had been divided into four groups consisting of high, medium, low and no experience groups. This split is more sensitive to possible differences along the dimension of paranormal experience. A four way split in experiment 2 and a three way split in experiment 3 (where the sample size was smaller) permitted the possibility of detecting differences between individuals with different levels of experience rather than a simple split in terms of high and low experience where the more extreme differences between high and no-experience individuals may be diluted. It was projected that substantive differences would be more evident between the extreme scorers on paranormal experience and those reporting different degrees of experience. The increased numbers of comparison groups is not without its costs; while it is possible to see distinct differences in terms of means between the groups of different variables these rarely achieve significance.

Due to the small number of usable data sets from 20 participants as well as the under representation of non- and high-experients the data only provides a very tentative description of the role of arousal in the decision-making process. The data from the task (as with all of the other studies) was markedly skewed on a number of the measures precluding the use of parametric ANOVA. The data was submitted to appropriate non-parametric one-way ANOVA (Kruskal-Wallis for between-group comparisons and the Friedman test for within-group comparisons).

Kruskal Wallis tests were carried out for comparisons of the three levels of reported paranormal experience and Friedman tests for different levels of white noise. The medians and test values are presented for all comparisons in tables 19, 20, and 21. Table 19 shows the relevant values for the

total number of guesses made.

Figure 3 Group medians for total guesses across three noise levels

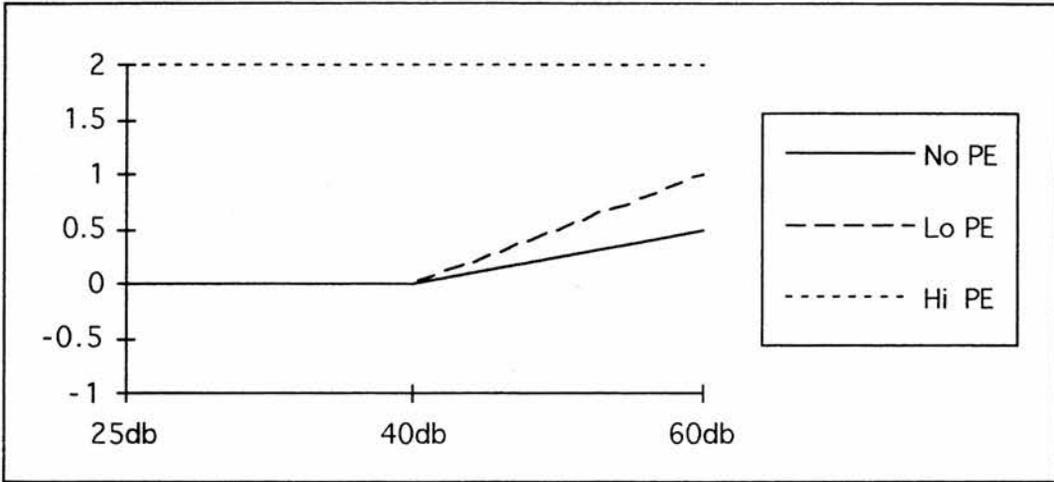


No significant differences were found between the number of guesses between the three groups or between the three noise conditions, although there is a suggestive increase in the number of guesses incurred in the high experience group as the noise increases. The number of incorrect guesses did not discriminate between the three groups nor did the three noise conditions. There were however slightly more incorrect guesses made by the high PE group.

Table 19 showing median scores and results of Kruskal-Wallis and Friedman tests on total number of guesses and incorrect guesses across the three levels of experience.

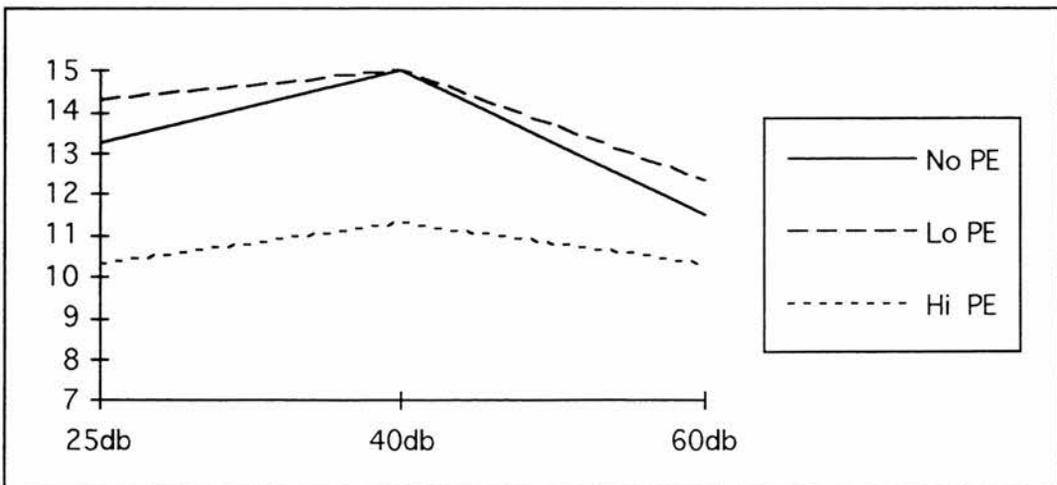
Group	Total guess			Incorrect Guesses						
	25db	40db	60db	Fr	p=	25db	40db	60db	Fr	p=
No Exp	5.00	5.00	7.00	.93	.63	0.00	0.00	0.50	.28	.86
Low	6.00	3.00	6.00	2.38	.30	0.00	0.00	1.00	4.20	.12
High	6.00	7.00	8.00	2.28	.32	2.00	2.00	2.00	1.85	.39
H	.083	.085	.85			.71	1.44	1.52		
p=	.96	.95	.65			.69	.48	.46		

Figure 4 Group medians of number of incorrect guesses across three levels of noise



The position at which first guess was made was compared and the results are presented in table 20 along with the position at which guessing was terminated. No significant comparisons were obtained but a slight pattern seemed evident that earlier guesses were made by the high group compared to the low and non-experient groups. In addition, there is a slight pattern for earlier guesses across all groups during higher levels of noise.

Figure 5 Group medians of first guesses across three levels of noise



The last position before moving on to the next trial is also compared across groups and noise levels. Two significant results are shown in table 20, for the low experience group across the three noise levels ($Fr = 6.84, p < .03$) and for the high noise condition (60db) across the three levels of experience ($H = 7.75, p = .02$). There is a suggestion here again of earlier termination of a trial by the high experience group compared to low and no-experience groups. It seems possible to tentatively identify a trend for earlier guesses and decisions by the high PE compared to medium and low PE groups.

Figure 6 Group medians of number of last guesses across levels of noise

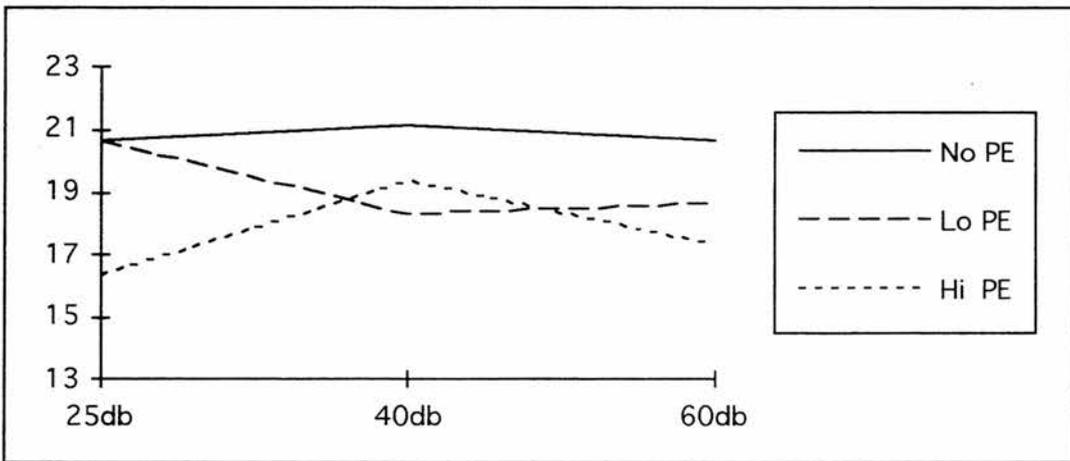
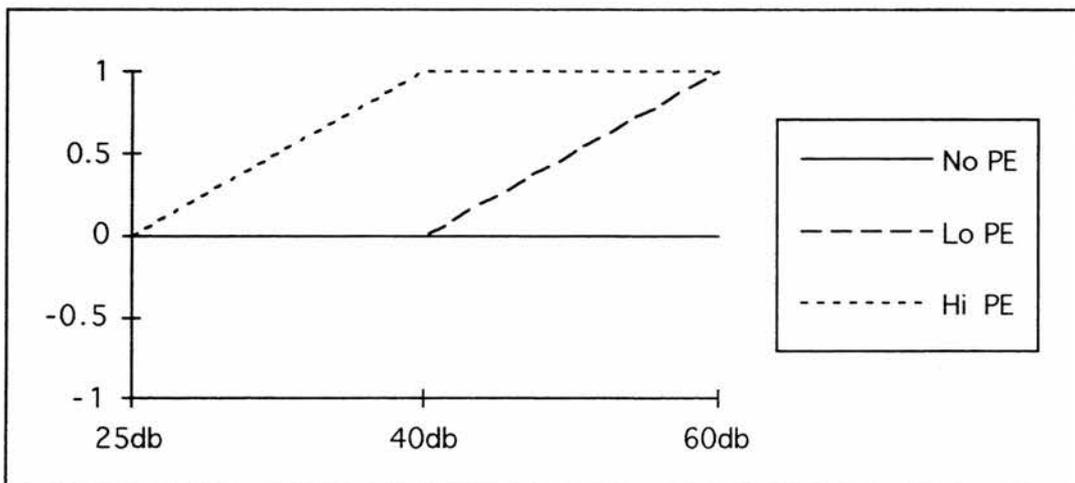


Table 20 showing median scores and results of Kruskal-Wallis and Friedman tests on first and last guesses across the three levels of experience.

Group	First Guess				Last Guess					
	25db	40db	60db	Fr	p=	25db	40db	60db	Fr	p=
No Exp	13.25	15.00	11.50	1.73	.42	20.65	21.16	20.66	1.08	.58
Low	14.33	15.00	12.33	2.18	.34	20.67	18.33	18.66	6.84	.03
High	10.33	11.33	10.33	3.60	.17	16.33	19.33	17.33	1.2	.55
H	4.16	.73	1.99			2.30	1.91	7.75		
p=	.13	.69	.37			.32	.39	.02		

Finally the number of complete misidentifications or errors were recorded and compared, as well as the time taken to view pictures in seconds. Very few errors were found across any of the conditions which is largely in keeping with the previous studies and is perfectly understandable under the experimental circumstances. This is especially the case in this particular version of the task since the experimenter occupied the cubicle with the participant, which was likely to cause some inhibition and perhaps an increase in task effort and accuracy. However it is the high PE group which made marginally more errors than the other two groups.

Figure 7 Group medians of errors across three levels of noise



The time taken to observe individual pictures was recorded and yielded a significant comparison in low experience group across the three noise conditions ($F_r = 7.09, p < .02$). Further slight trends are noticeable between the three levels of experience with an increment in time taken in line with the level of reported paranormal experience.

Figure 8 Group medians of time (secs) taken across three levels of noise

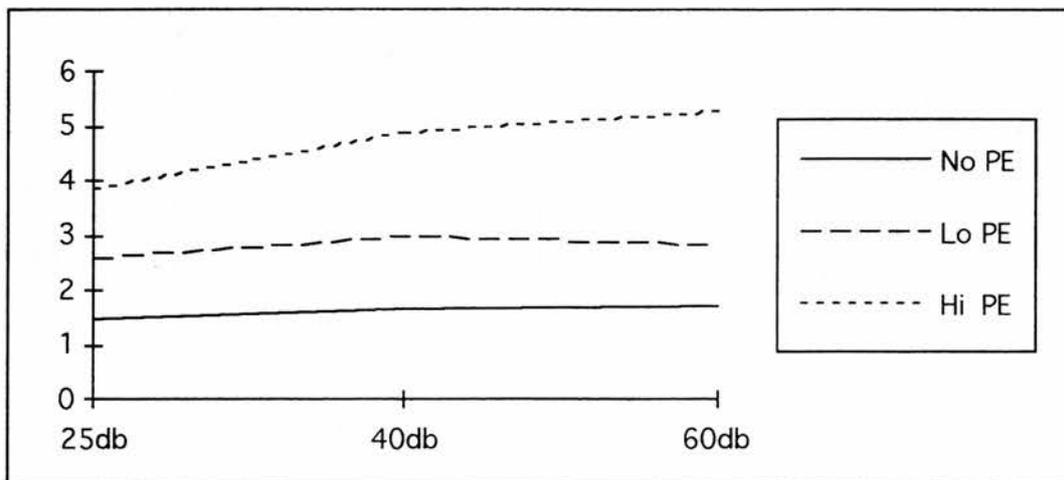


Table 21 showing median scores and results of Kruskal-Wallis and Friedman tests on number of errors (completely misidentified pictures) and time taken to view a picture (secs) across the three levels of experience.

Group	Error			Fr	p=	Time taken			Fr	p<
	25db	40db	60db			25db	40db	60db		
No Exp	0.00	0.00	0.00	.00	1	1.49	1.69	1.72	.50	.78
Low	0.00	0.00	1.00	.86	.65	2.59	3.01	2.83	7.09	.02
High	1.00	1.00	1.00	.00	1	3.87	4.87	5.29	.31	.85
H	.38	.98	1.23			1.56	2.32	2.28		
p=	.83	.61	.54			.46	.31	.32		

The frequency of reported visual sensations of both simple and complex kinds were also compared across experience and noise levels, the findings are reported in Table 22. Once more no distinctly obvious differences were noted although one reasonably significant value was obtained in the Friedman comparison of the low experience group across the three levels of noise for complex sensations (Fr = 8.67, p < .01).

Figure 9 Group medians of RVSA responses across three levels of noise

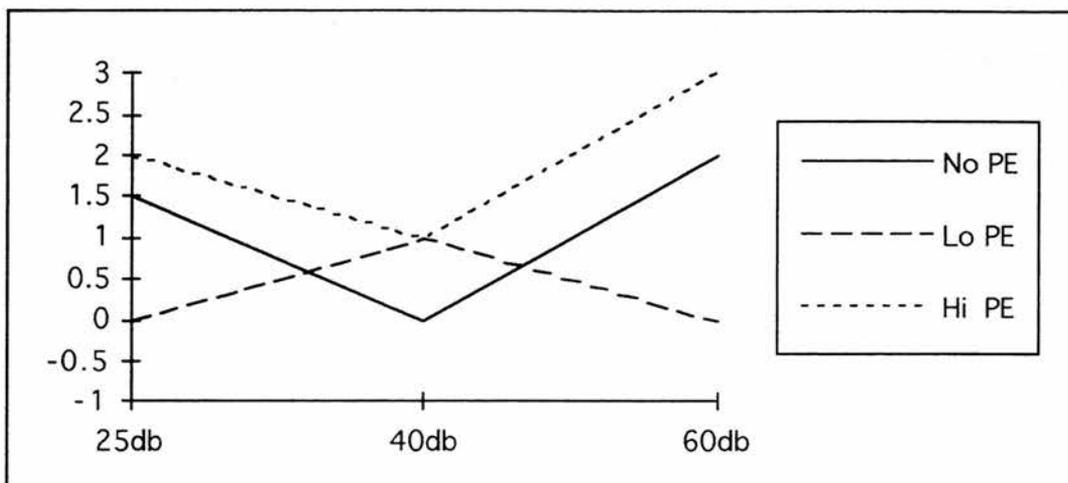


Figure 10 Group medians of RVSB responses across three levels of noise

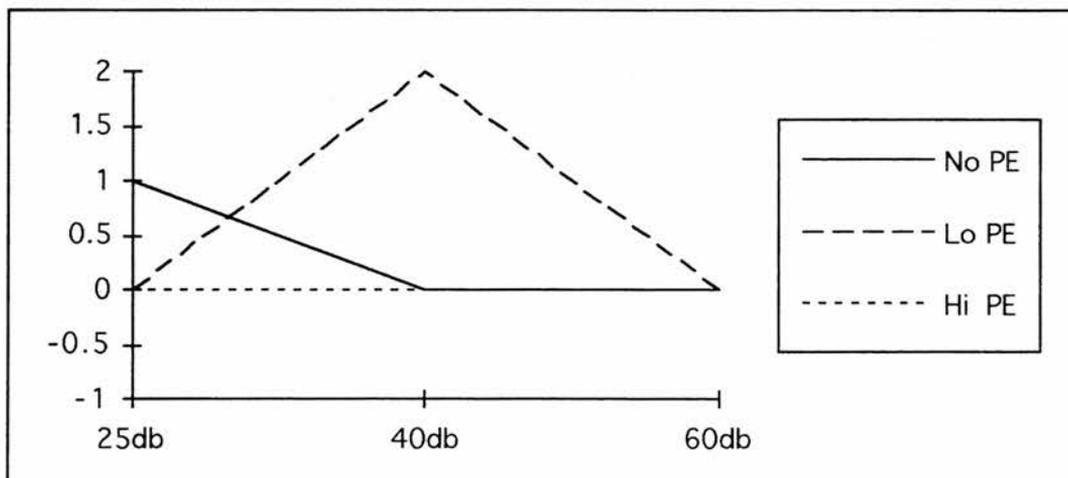


Table 22 showing median scores and results of Kruskal-Wallis and Friedman tests on number of RVSA (simple visual sensations) and RVSB (complex sensations) across the three levels of experience.

Group	RVSA					RVSB				
	25db	40db	60db	Fr	p<	25db	40db	60db	Fr	p<
No Exp	1.50	0.00	2.00	.18	.91	1.00	0.00	0.00	1.40	.50
Low	0.00	1.00	0.00	4.59	.10	0.00	2.00	0.00	8.67	.01
High	2.00	1.00	3.00	2.00	.37	0.00	0.00	0.00	1.6	.44
H	.52	.66	.48			.64	1.53	.23		
p=	.77	.72	.79			.73	.46	.89		

Overall the results do not provide indications of definite patterns in the various task variables in relation to reported level of experience or noise level. Some suggestive trends may be considered to exist on the basis of median values. This is not surprising with the small sample and already established weak effect in relation to task performance. Even the few significant results obtained (when viewed in the light of the number of comparisons carried out and the likelihood of family-wise error) should be treated with caution.

Although there are similar tendencies in scoring patterns between this final study and the two previous studies it is obvious that the effect is weakened here. Once more, the non selected participants did represent the higher end of the dimension of paranormal experience that took part in the first study. This weakened the effect. In addition, although auditory noise was added as it was hypothesised that an arouser such as this would increase the size of the effect, it also inevitably meant that the increased complexity of design would reduce the number of participants in each comparison condition. In the final instance this makes analysis of this study rather difficult and perhaps more useful information is to be gained by treating the results descriptively.

Summary

These three studies do not provide strong or consistent findings. However, it is noticeable that there are some small but replicable effects. The participants characterised by higher levels of paranormal experiences tend to produce more guesses (both correct and incorrect) suggesting a facility for generating responses in the face of ambiguous stimuli. The high PE participants tend to begin guessing earlier and reach a judgement earlier than do the low or no PE participants (although study 2 deviates slightly from this, producing less clearcut results). And in study 3 it was obvious that the high paranormal experiences were taking more time but fewer presentations to make a decision. This suggests that high paranormal experi-

ents prefer their own contribution to a decision rather than actively checking to verify by quickly reaching the clearer presentations.

In study 1 a clear difference was identified between experiencers and non-experiencers on the basis of the relative reporting of complex visual sensations. Experiencers reported many more such sensations than non-experiencers; this appeared as a similar effect in study 2 but was not observed at all in study 3. The reporting of complex visual sensations appeared to be related to the production of guesses in study 1 and 2. It may be that the small numbers included in the analysis of the final study made this effect less detectable. It is also feasible that the introduction of the noise variable may have had some influence.

These studies do not show any dramatic effects, but they do provide some tentative indications of certain tendencies of paranormal experiencers which are less pronounced in non-experiencers or experiencers reporting fewer experiences. Experiencers are more active in generating guesses, which turn out to be both correct and incorrect. This suggests that they may be able to produce more identifications, or construe more in response to an ambiguous environment. The measures of imaginative ability showed a much stronger relationship with these performance measures than did ambiguity intolerance, suggesting that this slight tendency to produce more guesses is related to absorption states. The high paranormal experiencers take longer to identify pictures but with fewer presentations. This suggests that they prefer to contribute to the final judgement themselves rather than determine the identity by moving quickly to the clearer pictures.

In the next section a different tack is taken with an examination of the phenomenology of unusual and paranormal experiences. These experiences provide real life examples of changes towards imaginative attention states which may have been responsible for the consistent if small effects seen in these three experimental studies.

Chapter 5

A phenomenology of paranormal experience

Chapters 3 and 4 reported both correlational and experimental studies which provided suggestive evidence for an imaginative or experiential style of cognition characterised by prominent and replicable relationships between paranormal experience and absorption, magical ideation, perceptual aberration but not between the bias variables such as ambiguity intolerance and impulsivity. These findings are followed up further in an exploration of phenomenology of paranormal experience. This leads the investigation from a predominantly empirical mode to an interpretative one. Here participants provide accounts of unusual, anomalous experiences but not all of these are interpreted by the participant as paranormal. These permit the addition of personal interpretations and indications of processes, contexts and attributions to the findings in the empirical chapters.

This chapter focuses on the phenomenological aspects of paranormal experience. A number of aspects of experience are considered here through an examination and interpretation of a small number of narratives recounting personal experiences. These narratives of experience are important in a number of ways:

- 1) They provide good first hand accounts of anomalous experiences of various kinds, from small personal coincidences to more impressive consensual visual phenomena. As with any experiential accounts they may inform experimental and other empirical testing procedures.

- 2) They provide insights into current lay theories and models related to unusual experiences.

- 3) They indicate phenomenological accounts of corresponding cognitive states and permit comparisons with the findings of experimental and correlational studies.

- 4) In line with the ideas which are presented in chapter 7 they may be

suggestive of the imaginative structures, schemas and metaphors underlying and organising these experiences.

The accounts were provided by participants who had taken part in the decision/imagery task studies 2 and 3. Following the experiments (or in some cases at a later date) the participants were interviewed briefly about any experiences that they had had which they considered might be paranormal. They ranged in age from 18 to 32 years of age. They were predominantly undergraduate social science students studying at Napier University Edinburgh or psychology students at the University of Edinburgh. Each of these participants had been privately interviewed at a convenient time in the psychology department at the University of Edinburgh.

These interviews differed considerably in length from a matter of 5 minutes to an hour depending entirely upon the wishes of the participant. They took place in the privacy of experimental cubicles at a time which was convenient for the respondent. These interviews arose as a preparatory discussion prior to asking three questions which were the basis for the investigation reported in chapter 8.

The accounts are unedited except where small sections of irrelevant material have been removed. This complete account provides as far as possible a full description of the phenomenological aspects of the experience. Events such as gestures or sounds are communicated in normal parentheses; edited comments in square brackets; empty normal parentheses indicate a word which could not be transcribed due to lack of clarity.

These accounts have been organised into broad and sometimes overlapping categories which address kinds of experience as well as the phenomenology of that experience.

Unusual experiences in relaxed and absorbed states

Relaxation and passive attentional states have been indicated as associated with paranormal experiences. Irwin (1989) for example, reports that over 90% of respondents in a survey reported being engaged in minimal

activities such as sleeping, sitting or standing when they had experiences. The next few accounts suggest that relaxed and absorbed attentional states do seem to precede paranormal experiences. In the first account the respondent indicates that she experienced a mental image of her friend's name whom she felt was contacting her. She found later that this seemed to correspond with a time at which her friend had indeed been thinking about her.

R4: a friend of mine we used to we used to be quite good friends. And erm I used to sometimes, cos we had certain restraints on the phone at home so I used to sometimes try get him to phone me right, and it would usually work (clears throat) and I told him about this and he was very very skeptical about it and he was going 'yeh right I don't believe you at all' and erm and his proof of this was that one Sunday night he tried to it the other way round and I hadn't phoned him what he didn't know about when he told me that was that Sunday evening I'd been erm y'know cos my dad's a vicar and we went to this church, sort of visiting a church that evening and it was a point where there was sort of a prayer section in the service and erm we just sort of we were just everyone was silent and at almost exactly the same time that he said that he thought that I had a very very strong sort of it sounds a but funny but sort of (coughs) I had a visual image of his name on a white sheet

Her reaction to this experience indicates that she recognised at the time that this was a significant event. In addition she clearly recognises that her 'mind wandering' may have contributed to the experience.

...I wondered where it erm where it had materialised from if you see what I mean because although I was quite a a relaxed state of mind and my mind was probably wandering quite a lot it (cough) it was quite er it's not the kind of thing I would usually imagine if you see what I mean.

In elaborating further she also indicates that this image was unusual and not the kind of thing she would normally imagine but that she does actively create imagery in response to music. In comparison to this kind of experience her ostensible paranormal experience was involuntary. It has been noted earlier that this is one of the sources of feedback that is probably used to denote external sources of influence.

I mean there's been things with with erm vision but it's more I think that's created more than just listening to music and imagining

shapes sort of thing but I think that's more consciously trying to imagine the shapes rather than it just being there sort of thing.

Another account describes another meaningful coincidence which occurred in a state of reverie although the experient is not entirely sure what state.

R7: it was a dream like well it wasn't really a dream it was just a feeling that I'd, it wasn't, it was kind of deja vu like but not necessarily. It was the day before I bought my guitar 2 Christmases before. I could visualise what guitar I was going to get and there was no way I could have known because I bought it in Glasgow ... it's difficult to say cos I never really thought until afterwards and I don't know whether I did imagine it when I was awake or asleep.

This respondent seems to link this failure to identify the state with dissociation and goes on to indicate that he frequently experiences minor dissociative states.

Just sometimes when I'm walking along I feel as though I'm distanced from my body just thinking and then you realise that you are at the end of the road and you've not even realised that you've walked so far...or just lying in my bed thinking and just feel distanced from my body and that.

The next experient reports a vivid experience which at first he describes as a dream and later reports that it occurred in a state of relaxation during meditation:

R20: Yeh er. Well there was a er (laughs) this sounds quite stupid but anyway. I kind of er saw the er (....). You remember that huge fire in Sydney in 1994. I had er I would describe it as a er a vivid dream about something like that beforehand and it was the day before.

Again this is a loose definition of a dream but not necessarily a dream associated with sleep. Instead, it was more associated with a meditative state.

no it wasn't it was in a erm in a. I kind of like do sometimes do a bit of meditating something like that. And it was in a when I was when I was trying to relax myself and get myself. You know the err the relaxation thing when you erm make your body go to stone and then transfer it to sand and then make the sand blow away. It

was a relaxation thing and it was a a period of time in my life when I wasn't particularly happy with myself personally and I kind of envisaged fire and it got very intense. It was out of control for a while and then the next day I saw fire. I immediately connected the two but then again it's very subjective how you feel about how you feel whether that was a precognition or not. But other times it's quite un- unsettling.

The final line of this description suggests a premonition and there is a sense of a magical interpretation, with the visualisation of fire preceding the actual fire the next day.

Ross and Joshi (1992) found that dissociation is strongly related to paranormal experience, this seems to be supported by the mild dissociative cases reported above. More pronounced dissociative states associated with paranormal experience are described later in this section.

Seeing things

The following cases report on instances of seeing or sensing entities. Even in this brief summary of accounts there are a variety of experiences, some which are similar to descriptions of traditional apparitions and others which are more unusual in form and which are more difficult to relate to particular cognitive and state characteristics.

The first, related by a young woman, gives an account of an entity in the form of a black shadow. This account arises in the context of a state of reverie and relaxation as the respondent was absorbed in a TV program and it was a short while before she noticed the oddity of her experience.

R5: we just thought it was haunted cos I mean I saw somebody walk past and there was nobody else in the flat saw like a black shadow and then somebody else saw something when I was there with them... I saw someone walk into the bathroom out of the corner of my eye and then about 2 minutes later I realised that I was the only person in the flat

At a later time her flat mate observed something similar. Again her description seems to imply some form of detached (staring) state (which she interprets as possibly being asthmatic).

I didn't see it she was just sort of staring like this and I was like "are

you alright?" cos she's asthmatic and I thought she had one coming on and after it had gone she said "oh my god you're right"

Another account of a brief appearance of an entity provides a feeling of tension. In the account the experient (a woman in her early thirties) describes a curious event for her, one which seemed to have quite a powerful influence on her and one which indirectly contributed to changes in her life.

R12: I saw something once which I couldn't really explain it was I was going to move into a house —I'll cut this very short— I was going to move into a house with a boy when I was about 22 something like that and we were all out there working on the house getting it ready for me to move in and we're standing beside a grassy area and I was in the boot of my dad's car getting some stuff out and my boyfriend was there at the same time and I heard somebody behind me at the same time. This was an area where he lived he had lived ten years before I had never been there it was a small village in Fife and there was a big grassy area and there was nobody around at all there was just two houses where we were and we were in the boot of the car and I heard something behind me and I turned round and I saw a man standing and I presumed he was watching us and I presumed that Barry would know who it was because he'd come from this tiny wee village thing so I looked behind me looked at Barry he was looking in the same direction I looked back and the person was gone and it was I was quite upset though. I didn't actually move into the house for whatever reasons and I was quite unhappy and sort of at the time.

She describes that she was somewhat unhappy before this experience and the experience compounded this unhappiness.

I was unhappy to the experience with the experience I was exceptionally unhappy and it didn't really help because we could of sort of said y'know what I mean "God did you see that" and he's like "yeh" and the guy had a wee black jacket thing on and black trousers.

The experience was not subjective in that she ascertained that her boyfriend had also observed the figure but that he did not want to discuss it.

The appearance and disappearance of the figure took place very quickly. This together with the vividness and consensuality of the experience

convinced the experient that this was a real experience.

yeh but but it wasn't that it was so fast I mean I literally had my head in the boot and we're only talking between here and where the wall is outside (approximately 2-3 m) and I went like that (turns head around relatively quickly) I mean it was just a matter of perhaps one and a half seconds.

She attempted to check her perceptions by asking her boyfriend if he had seen the figure, and determining exactly what he saw.

yes well probably a part of the problem was that he wasn't a very reliable or trustworthy person and I asked him at the time, I mean I thought well y'know it's probably just my imagination I've probably just made it up to myself and I asked him whether whether what if he had seen something and he said yes and I said well what do you think they were wearing because I thought it was in my head, I thought it was just a err flick of the light or a change of light or whatever and he sort of described a sort of similar similar kind of idea but we never really spoke about it I really wasn't that keen I didn't think it was a very nice nice thing.

She goes on to explain that she finds apparitional experiences like this somewhat distasteful, she had worked previously as a nurse and having had contact with the dead she did not relish the idea of such visitations.

I don't like I've never really liked the thought of anything any ghostly things and I don't actually believe in it which makes it makes it harder for reason- I've always found it interesting but I don't really like it and I don't like the thought of of sort of dead people coming back to visit me and things like that — oh no it's horrible I've seen lots of dead people and that doesn't help.

This particular account is interesting in that it again possibly describes a relatively involved and absorbed state of mind (and in this case one which was somewhat stressed and negative) at the time of the event. The consensual nature of the apparition and subsequent minimal discussion of the event by the woman and her boyfriend are unusual. The event seemed to symbolise the poor state of relationship for her "he wasn't a very reliable or trustworthy person".

Two experiences reported by a man in his early thirties are more curious in their content. The first seems to be a veridical experience in that he

reports that his travel companion observed the same event.

R26: Yeh we were driving along a road in the middle of erm middle of the night in Fife some years ago me and another fella. And erm this thing crossed the road in front of us and it was erm the effect was exactly as if a very large er panther - like animal was crossing road casting a shadow without the animal just the shadow. And the car closed on this shadow and it was in motion as it went across the road.

... the car was just going at about it was er an open er dual carriage way I think so going pretty fast maybe 50 mph. And it was quite dark and just the headlights and suddenly saw this thing going across the road in front of it. And we were closing in on it so it and there so we had plenty of time to see if there was a cat of some kind between us and this thing and there wasn't. We just closed up on this thing and it erm sort of turned it's head and looked exactly as if a shadow was being cast by an invisible panther. In fact I looked up in a cat book later on the silhouette was perfect erm perfect erm puma I think it was. And erm. I saw this thing and he put the brakes on because he thought he was going to drive over it.

It was just because we were going quite fast and it all took a few seconds it was very clear. I mean I saw it for er oh about 60 yards or something. Pete put the brakes on as soon as we reacted to this thing and we sort of looked at each other and said "did you see it?" "yeh" and we sort of thought about it and got out the car and erm we're thinking we must have run over a cat in some complicated manner and we're looking for the cat and there's obviously nothing and we're standing there feeling non-plussed and we suddenly looked at each other and we were both thinking er we're standing on a lonely road in the middle of the night and there's nobody here but us and whatever that was and we got back in the car and left at about 90 miles an hour.

What is curious about this is the observation that it was not simply a puma (an admission which is somewhat contentious itself) but that it seemed to be a shadow of an invisible puma. As they were travelling at night there would, no doubt, have been ample opportunities for misperception. However the respondent mentions that his view was clear, also both experients checked each other's view of what they had seen and reached an agreement on their experience. The next report by the same respondent is somewhat more difficult to explain.

The other one was just me so I could have conceivably of erm hallucinated that one. But it was along vaguely similar lines I was up on Arthur's seat in fact. I was going for a late night walk and erm I

saw this dark thing moving about in the distance and it being pretty dark I erm I thought because it was dark and upright and going a reasonable rate and about the size of a vertical human being I could hardly see I thought "oh it'll be somebody on a bicycle" and erm I knew there was a path there. And then it began to move across some rough ground towards me and erm it was still going about the same speed and I thought I was still trying to interpret this as something you would meet at night.

Yeh about that sort of speed (the speed of someone running). The speed you might expect from someone going reasonably fast on a bicycle. And it started moving across and I thought erm "that's not a bicycle because there's a marsh there which I know about I can see that in the daylight. It must be a oh God it must be huge dog or something." Because that would be about the right size I was still trying to figure out what it would be so I thought "I'll just stay still and be casual there's a large unattended dog coming to have a look at me hooray. And as this thing got closer I was thinking it's not a bicycle and it's not a dog because it's going at the right speed and its the right size but it's vertical what the hell is that? And it eventually got within about within about 20 feet of me and it was just a 5 foot spindle shaped ovoid with no distinguishing features at all. And it just kind of stopped and had a look at me and I had a look at it and thought "Shit!" And so we just stood like that for about 10 or 15 seconds and then it erm zoomed off at extremely high speed and vanished somewhere.

There is no indication in the respondent's account of a relaxed frame of mind although it may be speculated that this was likely. In the second case, the respondent was actually very active, cognitively attempting to describe and understand the experience. It seems that these two experiences are more difficult to explain as hallucinatory experiences.

These few accounts give some indication of the kinds of apparitional experience. In a few cases it seems that absorbed and mildly dissociated states are a common feature. Some of these experiences are more difficult to explain in these terms and alternative explanations would have to be sought.

Sensing and feeling experiences

Many experiences seem to take place at a much less visual or conceptual level. The terms 'sense' or 'feel' are often used and these seem to relate to experiences which are more somatic or emotional in form than intellectual or perceptual. Irwin (1994), categorises paranormal experiences similar to

these kinds of experience; he calls them *intuitive impressions* which are usually devoid of imagery and conscious thought processes leading to the impression. The information leading to the event is minimised or absent and with a strong unexpected underlying emotion. Irwin goes on to note that it is this feeling of conviction that often gives emphasis to an experience being meaningful or compelling. In this first example, the respondent a man in his mid-twenties reports a sense of presence which he had been experiencing.

R32: Yeh just like I just see something that wouldn't be y'know that's not there don't know it's just been a few times when especially if I'm driving I think I've seen something at the side of the road but there won't actually be y'know when I double take it's not there

just figures sort of running or just y'know it could just be a shadow or something that I that just catches my eye in the corner of my eye especially when I'm driving errm nothing's actually ever come up and appeared in front of me or anything like that it's just it's always out of the corner of my eye or whatever and when I'm on my own somewhere as well y'know I'll make myself think that there's somebody there or something there you just get the jitters or whatever and as soon as the light is on everything's ok but it's just I always feel that there is something here (twists and gestures behind) well just sort of ... not directly behind me just to the sides ... just sort of behind my ears if I'm somewhere where I don't know where I am that's where I always look I don't ever look behind me.

The account becomes more understandable when the respondent begins to realise that the sense seems to be functional and is protective of his shoulder which he injured some time ago playing rugby.

it's a sort of insecurity that someone's coming up the side of your shoulders I'm not I mean I'm not bothered if anything is beside me I mean if someone is walking up to me and I can hear footsteps I won't be bothered but it's from the sides I don't know what that is it might stem from rugby or something I haven't got a clue ... well I did my shoulder in it's only been recently that I've ever thought about it really someone hit me from the side and dislocated my shoulder and it may be from that but I can't see that's just a thought as I've been sitting here what it was.

This suggests a sense of presence may arise out of a preconceptual sense or concern, in this particular case an injury to the shoulder.

Another example, this time a woman in her early twenties, concerns a similar sense of presence which seems to be attached to certain locations and which the experient attributes to the death of her pet dog and possibly to the death of her grandfather.

R35: and I sometimes feel that there are (laughs) things there that shouldn't be there it's like if I'm in a room it's probably me just being completely paranoid but errm I sometimes feel that there are just things that I don't know what but there are things maybe people that are there that just shouldn't be there but I don't know who they are I don't know what they are they don't frighten me unduly

it tends to be actually in my hall I detest being in the hall errm night or day you go in our front door and you've got the rooms coming off it and I just I don't like being in the hall I do not know why I have no idea why.

sometimes if I'm on my own at night usually errm but it's mainly I don't like being in the hall for some unknown reason I don't even like passing through it ... probably errm it's probably something to do with the fact that I used to have a dog and we had to get the dog put down he had cancer and he always lay in the hall it's probably connected with that but in the old house we used to live in I didn't like it was my bedroom I didn't like being in and I don't know why that was errm but I was really small and I can't remember much about that but I just felt very uncomfortable with it.

I usually feel it's it's not an intimidating thing but I get a very strong sense that there's somebody there with me and occasionally and I'll turn around and think it's my mum walked in and I'll turn round and I'll speak to somebody and go ok there's nobody here (laughs) errm it doesn't frighten me except the hall that that frightens me a bit but if it happens it's usually in my house somewhere in my house either my bedroom or the living room if I had to say that I would probably think it was my grandad who I don't know why because I never met him errm but it doesn't frighten me it doesn't intimidate me if there is something there I know it's not going to hurt me it's like a kinda he's protecting me kind of thing so I would say if I had to say it was anybody it would probably be him for some reason.

Persinger and Makerec (1987) have reported on a wide range of neurological characteristics of paranormal believers; they have suggested that a sense of presence is common amongst these and may be related to temporal lobe epileptic-like signs.

It is interesting how this general sense of presence at first seemed to be limited to a single place and entity but then becomes associated with other

locations and entities.

Sometimes these 'feelings' have a definite locus and focus on a certain person and event, it is however always possible to assume that the feeling was rather general and became associated with a person only after the fact. It is noticeable that often the respondents are open to alternative explanations such as coincidence.

R17: Just things erh that you have bad feeling about things or good feelings about things and then something really good or bad happens. Where you erm like err I don't know I knew I knew that my boyfriend had been in a road accident and he had. And nobody would believe me I was running around the house going "Dad! Dad! Something's happened to Andrew" and he was saying "don't be stupid" and half an hour later he phones up y'know had a car crash. Err things like that and I mean a lot of them could be coincidence you don't know I mean like you'd walking down the road and you could suddenly think of somebody and they'll walk around the corner. That kind of thing.

Sometimes these experiences are more explicitly connected with family or places (this metaphor of connection is dealt with more fully in chapter 8).

R20: And the link between my mother and I is very strong. Errm I've had other experiences more premonition-wise.

R15: I think the most strange one was erm my dad went down to London on business when I was about 9 or 10 like he'd gone before heaps of times and it didn't really bother me much but then the day he went I woke up and he'd already gone but I was in right state all day I mean I was like actually throwing up I was so worried about him I just had a really bad feeling that something horrible was going to happen and I kept crying and my mum's going "look it's going to be fine it's going to be fine he'll be back about 8 o'clock" and I was just like I was thinking about plane crashes or taxi's bumping into each other and stuff like that it was quite vague when he got home and I sure was relieved to see him and I started crying and he said "what's all the fuss about?" and then when he put on the telly at 9 o'clock it had been the day of the Hungerford murders you know that guy had gone nuts in London and my dad had actually passed through Hungerford about a block away and he'd actually seen the fire in the car mirror and he'd thought "oh there must be a hell of fire over there" and not thought anything of it (laughs) and I said I'd been in a state all day and that had happened and my parents were going "that's a bit strange isn't it" it's quite because I'd felt uneasy all day y'know it wasn't like just the moment that it was taken place it had been all day so I don't know but that was about.

The respondent indicates that the feelings did not suggest specific details.

yeh but I was way off the ball I didn't think of anybody with a gun or anything I just thought of him dying basically which was pretty horrible but my mum had said something at the time that y'know "Gillian quite often gets feelings like that" but I can't remember anything before that.

The next respondent provides a good account of how the recognition aspect at the root of these feelings becomes more sensitive to events in an 'additive' way.

R20: I mean nothing I could definitely define. As that. I mean I've just had it's one of those ones where like err it goes out of your head completely and then something will happen and then suddenly you remember oh it's happened before and you build on images and stuff. I mean I personally believe that er it's a kind of er additive thing where you think something and then something else happens and then you just make a connection more quicker and some things are quite some things you make connections with and associate with being paranormal are completely irrelevant and wrong. It's just that you're hoping that it may be true and then (drawing) things become unsure about it. So I really wouldn't know about other things. I've had there was I mean there was one other one that was occurred but I wasn't sure about that either and that was just last summer. And that was to do with err I just got a bit depressed and lost it for a while. But I had a really bad gut feeling about something and yeh I got the same one before er 1992 I think and it was a recurring gut feeling that I got and I didn't like it at all. So I thought some thing bad was going to happen so I didn't tell anyone about it because I thought I'd sound like an idiot (laughs).

Errm I can't remember in the first one I got a really bad I mean it kind of like sets in when you get depressed. And I got depressed and it was er suddenly got this this gut feeling that something was going to happen and this was before the war in the gulf and then err. But I mean it wasn't something I didn't perceive a war in it foretell a war or anything like that. I felt bad about something and felt something really bad was going to happen just as I feel that everything is winding up to a close now in our real time and feeling feeling that some. that some things hold more truth than others. Something like that I get gut feelings about other things that's generally it I mean that's the scope of it I don't have anything more defined than that.

The sense of feeling is often considered to have a bodily basis. Everyday idioms refer to feeling the onset of an event in bones, guts and even the body's water!

I feel it in my bones

I have a gut feeling

I feel it in my water

Something of this schema of paranormal knowing is communicated here. There are also similarities to be drawn between this feeling experience and the numinous feelings often ascribed to paranoid psychotic experiences. Sass (1992) cites Conrad's use of the German term 'das trema' — 'stage-fright' to describe a generalised feeling of anticipation.

Fantasy versus reality

The next description shows the difficulties involved in trying to separate fantasy from hallucinations which seemed to have a veridical basis. The respondent here, a female in her early twenties, had a range of experiences and this was partly explained by her in terms of psychic abilities that she may have inherited from her grandmother. In the first instance she describes an apparition of her grandfather accompanied by another person who was identified as a friend of the grandfather.

well I don't he was just at the bottom of my bed (laughs) and that particular situation he was with he was dressed as though he would go to the football which in theory I could know what that was like but I was only 7 when he - no 9 when he died but this was about 2 years later and then but I hadn't seen him for 2 years and errm but I hadn't seen him for two years so I hadn't really seen him since I was 7 I could have possibly have seen him but anyway he was with this bloke who I don't necessarily remember and I described him and I described him in vivid detail to my mum when I was 20 I might add not when we were talking about such things I said "oh I thought I saw y'now grandad" sort of thing and she said "ooh yeh who was he with and what was he doing?" and I said "he just came over and sat down and was chatting away to me" and but he was with this this guy and she said "oh who was he?" and I said I don't know who it was" and she said "well describe

him" and they were dressed exactly the same and one was taller than the other one was sort of thing and it turned out erm he always used to go to the football with this particular friend who had died before.

Her claim that she had never met this friend of her grandfather's adds weight to the likelihood of this experience being veridical. It seemed that from the account that the encounter was likely to lead to communication but at that point the respondent hid under the covers.

no I think he was just he was coming over and he was in the room and I was just sort of like watching as if to say "this isn't really happening" and then he sat on the bed and then he just sort of tried to talk to me to tell me that it was ok and everything but he was there but at that point I went under the covers (laughs)... and then I stayed under there for a while and then I came out and he'd gone so but erm I mean now I wouldn't do that so.

The respondent remarks that this seemed to her to be a real event although there was some debate in the family since she had often reported reasonably vivid experiences which her family thought might be dreams but which she contested actually happened:

it was I mean at the time I thought it was definitely real it wasn't a dream because I mean I've been dreaming vividly for years ever since I was sort of my mum used to tel- talk about the dreams I had but this wasn't a dream as far as I was concerned erm but it wasn't something I could tell my mum or dad about in je- I would tell them that I'd seen pink elephants walking around the room and things like that.

The small experiences

The majority of experiences reported as being paranormal are relatively unimportant and have less impact, they seem to be reported by the experiencers more as curiosities and often they consist of relatively unimportant small coincidences. It is likely that these relatively unimportant experiences are remembered and reconstructed in such a way as to inflate their significance. These experiences may take a number of forms: visual images, feelings and relaxed or dream state images. Also included are the relatively fre-

quently reported phone call scenarios where one close friend seems to predict an incoming phone call from another.

R8: But I've had a lot of dreams which just wee things nothing like predicting winners of the national or something like that. It's just been things like the way someone else has made a cup of coffee the next day or something like that the next couple of days.

Two cases report unusual coincidences regarding relatively unimportant issues which seemed to have been predicted in dreams. These provide a good example of occasional coincidences which are relatively striking and which suggest a level of connectedness and sense of significance — the hallmark of magical thinking.

just things like dreams the stupid thing is I had a dream about er a bird the other night and when I woke up I had this dream about a bird in the garden y'know and then that day I was out and I found an injured pigeon in the middle of the road and took him home (laughs) looked after him and got the RSPB but this is stupid probably coincidence and trying to think of others y'know if I've done erm peoples cards before quite often I've been able to tell them more specific things like erm I don't know like one couple I met who I hadn't known at all y'know I could see that they were going to have a divorce and have to sell their house and things and that happened and things like that I mean that's one example.

R16: it wasn't that long ago erm they had my mum's a teacher at the local high school and we got some gerbils back from the school and then at night I dreamt that they'd had babies because it was a male and female couple y'know two gerbils and erm I woke up in the morning and just went through and there was a just a litter that had just been born in the morning she was just giving birth to them then.

R14: erm well you'll think I'm a complete looney now well erm (laughs) there's a few things I mean I do tarot cards and things anyway and so I do believe in a lot of the sixth sense and erm and things like that erm there's things like ermm I don't know if this is relevant but things like sometimes I think I do affect things around me like in our house erm light bulbs constantly go and we've had electricians in and there's no reason for it y'know and er quite often if I'm really strung up or in a mood y'know a light bulb will go next to me (laughs) probably crackers.

R27: sometimes I well my only thing that I would have is probably dreams I dream a lot and sometimes they could be interpreted that way I suppose but erm probably the latest one was that we were going off on we went on holiday in May we were going to off to

we were going down the Grand Canyon which is really hot and sunny and it was like desert basically and for some reason out of the blue I dreamt that we weren't allowed to go on the raft because of this huge thunder and lightening storm and rain and I mean just something you wouldn't have got and the rain for the first year in 20 years was the worst ever and there was a thunder and lightening storm which makes you sort of think "oh my God!" which but y'know things like that occasionally but nothing I mean I wouldn't necessarily say (laughs) and maybe that can be interpreted in other ways.

The prescience of phone contact features a good deal in accounts of small paranormal experiences. Typically these are phone calls or contact between close friends or family members.

R27: y'know two people communicating from the other side of the country knowing that the other person is phoning oh I've had a few of them I would say that that's probably again it usually involves dreaming I would actually dream y'know dream about someone that you haven't seen for well it could be months years whatever you're not expecting them to call or anything but then the very next day you get a letter or a postcard or a phone call from them completely out of the blue I mean that happens a lot and or y'know you're sitting there thinking about I've got a really good friend in Clacton and y'know we will invariably pick up the phone on exactly the same day and phone and y'know quite often I've left a message on her machine and she's left on mine but we've phoned from different places so and we find out that we phoned at exactly the same time and in fact the same friend was once in when we were at school we were at school together and we dialled the same number at exactly the same time so I picked up the phone and dialled and she was on the other end of the phone never rang cos she'd done exactly the same at exactly the same time it hadn't even y'know we thought that was pretty spooky at the time.

These connections seem to remain even when people do not live in the same abode.

R32: my mum I can if my mum's upset I know to phone her straight away and she's the same with me ... I haven't lived with my mother for 8 no yeh 8 or 9 years but I can if she's upset or something has happened I get a feeling as well but that's I wouldn't say that was paranormal or anything like that it's just not telepathic but I mean I can get a gut feeling and when I've broken my arm or done my shoulder or something she feels something is wrong or whatever even though she doesn't know it's happened.

The respondent below is quite aware that there are a number of rea-

sons why people may make seemingly coincidental and significant phone calls.

There's been a lot of things with phone calls but I don't know whether they're erm I tend to use the phone to talk a lot to a lot of my friends and erm often I mean a lot of people would probably say this when I've been about to phone them they've been about to phone me but that could just be because there's been a normal elapse of time before we'd get in touch with each other.

R9: When I was very good friends with (name of person) very frequently like 4 out of every 5 times if one of us phoned the other one. The other person would almost be next to the phone as the phone rang y'know they'd just pick it up and go "hello there". And that would happen a lot of the time. Errm. With my friend (name of person) (we actually carried out experiments things like that) it came to the point where we couldn't just pick up the colour of the aura sort of the emotion that was trying to be sent to one or the other we could actually pick up what the other person was thinking we could hear what they were saying. Let's think about pain or something like that. And then you would go erm yeh. Then you'd (feel them thinking about breaking their leg) and then.

In the last passage it is fairly obvious that there is a general acceptance of the everyday nature of such experiences. This account goes a littler further in stressing a level of confidence in these abilities and it may be considered a good example of what might be considered everyday magical thinking. This particular respondent was a 19 year old female who was undergoing chemotherapy for cancer — it could be argued that for this respondent magical ideation provided a way of controlling events that were essentially out of her control. This kind of experience was not uncommon for this respondent and she reported a number of cases of dissociation (which are included in the childhood experiences section below) which stretched back to her childhood and particularly to a time when her mother and father were involved in divorce proceedings.

R9: A lot of the time I'll have a dream about something a conversation or an image something happens y'know just sort of y'know I'll wake up and something will come up to my conscious. Y'know in the first minute certain things will go wa wa wa wa wa. And some of them seem to be giving me little messages and the other ones happen. Like just now mention a () being dropped from a

blue cup and it'll happen. Y'know or somebody's face said something things like that. And errm. Sometimes they just come to me as I'm doing things y'know just like it's not so much that I'm thinking I wonder if this would happen. It just goes blah de blah de blah the whole time and I'm so used to it that I don't think about it... its not like spoken words its just like a picture of the event or a glimpse of a little bit of conversation. Just a little marker y'know it's as if someone's just taking little snapshots of the next two days just one or two.

I just seem to know things without people really to speaking to me about things and just have a rough idea of what's going on. Or errm. I don't know its just how can you describe it I rated that quite highly more on feeling that that was a yes rather than I could explain just on situations. I can quite often use quite a great degree of mind power in influencing what happens to me during the day. And it's literally I'll just sit and think about it. And it'll become or happen whatever things like that.

This respondent indicates that these experiences just happen to her. As with an earlier respondent, they take the form of mental images. She expresses a good deal of confidence in her experiences even to the extent that she believes she can influence events.

Magical thinking

The same respondent provides an excellent example of what seems to be magical thinking with corresponding validating behaviour from the stranger who was involved. At 16 she noticed what seemed to be a stranger following her on a number of occasions (she reports that this was corroborated by a friend) and she describes how this stranger seemed to speak to her in her head.

R9: yeh it was as if you were doing it you could tune into it (and build up your head and your thoughts and feelings and pictures). And errm that's happened a lot. I had an experience with a complete stranger where he was following me about for a long time. Like literally following me about. It wasn't paranoia because I asked a (friend) and even she said "look this guy is definitely following you about". And before I realised that it was this guy. I was sitting on the bus and I felt as if someone talking in my head. And then saying "come with me" y'know "we've got this great group going, come and join us, you've obviously got something". And I was like what? y'know and I was sitting there on the bus and I noticed immediately this guy halfway across the bus at the back just looking out the win-

dow and it was just like (zzzjjjuuummmpppfff!!) you know what I mean it was definitely him.

he was looking out the window and I think that was quite deliberate. This guy followed me about y'know from one bus to another bus.

he would follow me from Morningside up to the West End and then down near my school. He would always get on the bus without me seeing him. Even though I made a point to watch and he would get off the bus and I wouldn't notice even if I tried to notice. And errm eventually it came to the point where he was walking behind me and he was still going on at me "join this group" sort of thing.

No. Just Y'know I could hear it I was I mean I errm very strongly as much as I could built up in my head (If you're ...fuck off!) Really really in my head so violently and I never ever saw that guy again. Never and that is absolute truth no bullshit about it.

I must have been sixteen I was still at () at the time. That was freaky. Because he was really getting into my head y'know. But I didn't see him again.

This is an account of a pronounced experience which almost seems to be more psychotic than paranormal and precisely the kind of significant coincidence which provides the basis and supporting evidence or delusional patterns of thinking.

R9: yeh you can change the mood of a group very very quickly by projecting an aura like me and Wendy have both tried various kind of little gimmicks errm I like doing it on the bus cause nobody is aware of it and if you get the bus and sit and you don't change your facial expression at all you set your face you just look out the window and if you project a very uncomfortable horrible feeling people will shuffle more than they would normally would I think it's got a lot to do with astrology I'm into astrology errm each person in astrology has a different ability for these things

The respondent readily draws on broader factors such as the stars and astrology to explain her experience of influence. This is something of a deep leap conceptually and shows a high degree of association and connectedness. Another respondent also made a number of comments which seemed to show a preference for magical over a scientific view of the world.

R8: I was out in the garden a wee while ago er a couple of weeks. And I was just sitting there and looking at the moon the moon was

out. And I was just thinking that like science can just put it down to oh just chance. But I think that the chance is that the moon happens to be. It's like the orbits of the moon, the sun, and the earth and the sizes should just be the right size that the moon is the same size as the disc of the sun. So you can get perfect it's like absolutely dead on total eclipses. I've never seen one but I'd love to because that to me sums up just like everything that is wonderful in the universe. Because I mean like it's just that they just happen to be the right size I think that there is more than just chance working there. It like introduces an element of design. And I don't know if that like suggests a designer. I don't know about that but just simply the fact that they fit it's like quite awe-inspiring.

The big experiences

These experiences have been termed 'big experiences' because they are considered more significant and often seem to suggest to the experient major changes in awareness. The first description here is of an ostensible OBE experience which was quite significant to the respondent since he seemed to obtain to a visual point of view that would have been impossible unless he did indeed have an out of the body experience.

R8: But I did get about stretch myself to about 8 feet 8 foot long and managed to raise myself about an inch but didn't totally clear my body. Other times I was doing some meditation and I filled the whole room and I was looking down and in fact the room was similar to this and because of squatting on the floor I couldn't have seen the ground outside because it was first a floor window but er I managed to see the cat running across the ground because I (was up by) the ceiling.

Yeh it looked the same. It was just that. In that example everything was as it should be except errm I saw our cat our pet cat running along across the garden and she came up the steps and that put a security light on. So that tied it in. So I saw the cat before I should have been able to I couldn't normally have sensed the cat being there until she'd put the light on but I saw her running across before she put the light on.

I just rose up. It was a sort of cross between remaining the same size and just like floating up so my head was like bouncing off the ceiling.

I could see. I can't remember whether my eyes were open or shut. Because it was y'know it was in like usual surroundings errm apart from the cat. (). But everything else was it always is.

It's like you're errm you're floating in this void and you're errm yer you feel totally like tiny and insignificant. Like you feel like an

atom in this void but at the same time you feel as if you totally fill the void at one and the same time. And it's just different perspectives and it's like (flipping) back and forth. It's almost a strobe effect that comes in then but like it's you feel like you're sensing both that you're extremely large and extremely small. And that quite often comes just as I'm falling off to sleep.

A young male respondent in his early twenties reports what seems to be a reasonably strong hallucinatory experience. What is particularly interesting about this report is that the respondent had been practising meditation and had developed an interest in ceremonial magical literature around the time that the experience happened.

R20: And then I had a very vivid experience after that which involved being blown around the room quite severely and me not wanting to do it which was quite fun.

Yeh it was erm I was er found myself being kind of like it was weird. Cos it was like it was so vivid. I was holding onto my bed like at the side of it and I just made the picture worse by thinking that the sheets were flying everywhere as well. But I literally felt that I was being sucked off the bed. Quite odd really. But that was at a point of time when I was trying to er get myself to er detach and stuff like that but it didn't work at all and I had that experience and it kind of stopped me for a while.

The respondent uses the term 'detach' to indicate an attempt to initiate an OBE. In response to my clarifying the point and asking if this happened in his mind's eye he gave an interesting response:

Oh well it happened. It think that's the point I can never distinguish between the two I don't think. Err. It couldn't have happened physically of course because erm everything it stopped and everything was normal again. But I still could feel like a presence or something but I don't know if that was my mind working overtime or something. And yeh I it stopped and I kind of looked around and stuff and everything was normal but not normal. Quite bizarre really.

He presents a position which is accepting of the event as real even though he knew it couldn't have been real and he also intimates that he experiences some difficulty in distinguishing reality from fantasy. He elaborated further upon his reading and practices at the time:

R20: Well like erm I mean I'm I'm very interested in the paranormal. Specifically I was in it was about two years ago or something and I had a lot of time on my hands to play about dabble and that

kind of stuff. And er I had er I was just being introduced to er Crowley and to Don Juan that kind of stuff Carlos Castaneda and stuff. So I was err experimenting and in like a different in certain kinds of things to do. And I managed to obtain these old err ESP books and how to develop it and stuff like that so I so I was getting maybe because I'd always believed in something like that anyway and felt that I'd had some kind of premonitions before. Cos I I reasoned that not everyone should feel that way so if you feel like me maybe that's the beginning and tried it out. And then er after that big voice thing it kind of died out a bit and I got a bit scared and decided not to do it anymore for a while and had a chat with my par-my mum about it because she's very very psychic I believe anyway. And it kind of died down because of university basically because I just haven't got any time to do it. And it was also a point in time when I was single so I had a lot of time to myself to wonder about those things. And when you're not single and you're are like sleeping with someone then you really can't get on down with those things because it takes a lot of dedication and concentration and if you're lying in bed you don't want to be doing all your exercises and stuff the other people are gonna be wondering what you're doing because it's more something you do by yourself. So that's that generally.

The same respondent indicated that he also had an auditory experience which seems to bear considerable resemblance to the hearing voices experiences discussed in the next chapter.

R20: Errm. I've heard I've had voices before but I don't know if I ca- it's one of those things where you hear voices and you think "well that could be just er something completely and utterly biological that could be something completely different". And it wasn't su- a voice as in I've heard ghost voices it was more of a central voice and it's more me speaking to myself and I've personified it out of myself and heard it. And er even though it was quite interesting to see what it was talking about it was more of a I don't know I think it was quite a bizarre experience and it wasn't something where it was like a y'know you have internal voices in your head and you can say you've been to a noisy party and you can go to bed and you can hear people chattering away and stuff. It was more of it was definitely directed to me and it definitely sounded highly ultra personal. It was directed straight to my ego. And it sounded probably maybe like my ego because it addressed me with a name that it addressed by my full name rather than what I usually go round thinking of myself as. It was like a parent to son kind of thing.

It was errm to do with er it was nothing specific. It was er more of a kind of it was a err my name was addressed and something about leaving or something to go with them or something. But I perceived it as a male voice which is quite important.

The experience was a single occurrence and it seems that the voice

may have been the result of a particular set of events related to 'magical' or self development practices. Interestingly he felt that the voice was parental or authoritative and specifically targeted at him. This shares characteristics with the hearing voices experiences (see Romme and Escher, 1993; Hamilton, 1985; and Jaynes, 1976)

that was was a one off I think. I mean I kind of know that I'll probably hear it again but erm not until another point of time when it's I don't know it's time for that voice I suppose. But it's quite I do I do expect to hear it again. And I don't think I mean it's er I feel that sometimes it's up to me whether I hear it or not I mean I could think "right I could provoke that voice again by doing by going through the same motions again". But erm takes a lot more because I'm a bit tired these days you have to get quite passionate into it and once you've got well into it after a couple of days it starts happening.

Confusing categories

On occasions some of the respondents seemed to show some conceptual confusion over categories of experience. For instance in this first case dowsing and PK are considered as related.

R4: A friend of mine had er y'know crystal dowsing and stuff I don't know is that the same thing as PK? sort of moving an object by well she did it with it on a piece of string on a table without actually touching it and got it to swing and yes and no and things and I was really quite sort of y'know unconvinced she also said that she'd asked a question that right her friend had had the crystal downstairs and she'd been up at the top of the house she'd asked it a question and got the friend to get the answer from it and the friend said what was the question and it was something her friend would have expected the answer to be yes to but in fact the answer was no to because it was an unusual set up or something and she did it a couple of times with just her hand but I'm a bit - vibrations and stuff is just a bit erm

This shows how such phenomena are categorised by lay people in a similar kind of way and would provide an indication how two such phenomena could be strongly associated in correlation studies or factor analyses (this may rely on certain conceptual or imaginative schemas).

The next respondent is a young female who gives a good indication of

a confusion between non-verbal communication and ESP.

R9: I think that erm sounds that people give off and visual is an incredibly small percentage of what you pick up from someone erm they do play a big part I would say that body language and visual play a lot bigger part than actual verbal but I think there is another massive chunk that people take for granted and have [not looked at] looked at deeply enough

The communication schema is expanded upon and lends form to the specific processes in lay theories of ESP. This is a very good example of a metaphorical image which is applied to radio transmissions and body language and possibly extrasensory communication.

to explain how it works erm I think that the same as with the other forms of communication some people are more adept at it than others erm I think everybody has their own aura and their own either very strong or very weak depending the person kind of signals that they give out erm either in I don't know you talk about people being on the same wavelength I think it's not so much waves or anything like that its erm some form that hasn't really been researched enough yet but it really does transmit for instance with very close friends you have a far quicker ability to tune in to that what particular level of that form they're on I've had a lot of experiences of I've needed to get in touch with somebody so I've just sat and meditated and thought out my message and they've got it no problem so I'm pretty much y'know 95% I believe in that erm because there have been so many times when coincidence couldn't have explained it.

She offers another explanation, this time of auras, in which there is a clear indication of metaphorical cross-mappings between personality (extraversion) and aura intensity.

R9: it's the idea of territory but in a kind of more a spiritual or aura sense the places you go to like say your bedroom you would have a stronger projection of yourself in the room than you would do in a group of strangers where I think it would become inhibited depending upon whether your extravert or introvert as well I think erm extraverts I think are people who can give off this kind of glow almost very strongly regardless whereas introverts are less good take it in more.

Early childhood experiences

A number of respondents reported quite intense dissociative experiences, some of which have been included above. Here are two further experiences which took place in childhood. The first is one by the young female who was mentioned above who has been diagnosed as having cancer. This set of experiences indicate a pronounced dissociative experience. The respondent states that she no control over the experience. The first episode may have occurred during sleep but the second occurred during a waking state.

Errm. Coming up for my tenth birthday I think it must have been around then. I really didn't know nobody ever managed to explain to me why this happened. Three times when I was in some situation. The first time I was in bed and it was quite late at night and I had gone to bed early. My mum and her boyfriend of the time were () next door. I was lying there. And I don't really know how asleep I was. I was lying there and I felt that there was all these chains around my arms and legs and I could not move. I was lying on a kind of slope and there was this kind of there was sea yeh it was definitely the sea right. () But it was this really weird sort of mustard yellow colour and I just knew that it would harm me. I got a pic- a sort of feeling in my head that it was hot oil. That didn't actually burn me but would just harm me in some way and it kept coming up and coming up and I absolutely just screamed and everyone came running and I just switched off but from the time it was happening I had no control over it.

The second time I was in the brownies guides or something and we had all gone down to the Kings Theatre. We were all waiting in a big queue. Standing by the gate. And we're all standing there and my pal wasn't there so I didn't really have anyone to talk to at the time I was quite new and I was just standing there. And it happened again and I got this feeling that this time I was actually in it and I was drowning. I couldn't get out and I couldn't get out I looked down on the scene and could see myself and at the same time I was in there and the waves just kept like coming and I just stood there and just couldn't do anything couldn't move and then the next thing I knew I had just come out of it again.

The third time I was at my dad's flat. [I was] The same age. I was between it was within the space of maybe six months so I must have been nine going on ten. I was in my dad's flat and I was sitting there and it started again while I was in there. This time there was an island there. Like a sort of paradise island with a palm tree on it. And I was drowning in it and my dad was in the flat at the time. And this time I could speak I was going "dad, dad" you know what I mean. And I started crying because I was really upset and I

think the time at the guides I almost started crying. I kept saying y'know "dad" and he came over and he looked a bit upset. But I couldn't see anything else. Just that. And I got the feeling that my dad was up there he was in some sort of flying/helicopter or something like that. And I kept trying to get him to help me to put down some sort of line or something and it didn't happen. And then I just became aware that I was looking at the marble fireplace again. Each one lasted maybe 10 minutes I just had no control over it.

My dad was sitting next to me I was just sitting there balling/ just crying. I've no idea whether I was staring or whether I was looking about the place. All I could see wherever I turned was this image. So he never actually said anything at the time. At the time my mum and dad were arguing a lot and I don't know whether that had any emotional influence on the situation. I think my dad just thought "oh she's upset" and because when I came out of it I immediately calmed down. It's just strange the fact that my dad was actually sitting right next to me and I was trying to ask him for help but it didn't work it was me that had to come out of it. It's never been explained. It frightened the shit out of me. It's never been explained. I think when I thought back to that and remembered it. When I thought back to that I remembered a similar situation when I was maybe about four or five. You know these mazes you get including hoops. This one had a witch in the bottom a horrible witch and you had to get the witch out of it. I was lying in bed and all I could see was this witch in the maze. The maze and the witch kept going like that (gesture) and separating and the witch would come closer and the like that. And it was all going like peculiar and I couldn't snap out of it and I was awake. And that time I was quite upset and that lasted a while.

The respondent prefers to view these experiences as having an important message bearing function.

I think that errm. In all situations I've got into so far in my life whether it's good or bad. Since I've been born there's always been certain things that have happened to me I've seen something or I've dreamed about something something quite out of the ordinary. That has given me what I would say is a definite message. And if I've gone along with that message everything's been ok. If I have gone against the message then things have gone like shit and if I'd just not bothered (then they've just trundled along). But it is very much like something will happen that's been totally out of my control I'll read into that something y'know me myself nothing to do with anybody else or any outside influence. I'll read into that and sort of just (diinnnggg!-makes sound of bell ringing) this little message'll come up and that seem to happen a lot of the time. I think the actual thing about the waves and that. It was a feeling that I was totally out of control. My parents were about to get divorced so it was very highly emotionally charged time of your life.

Perhaps these experiences also communicated a need or desire to be independent.

The last one with my dad being there being in the image and being next to me but couldn't help me. I just at the age of ten I just got this feeling you do have more control. Your mum and your dad cannot help you out of this situation it's up to you. I got this very, very, very big (feeling) it's up to you. I think it must have been a month later sometime like that. I ended up screaming at my mum screaming at my dad calling them bastards everything I could possibly think of saying to them go and speak to each other. Y'know "you're fucking ruining my life here". And they did and it worked. And it was like you know what I mean I was really really shocked. But that's what I interpreted the message to be from that last one.

The images which compose the experience are strongly suggestive of metaphors of *being at sea, marooned, in hot water, or drowning*. These are perhaps suggestive considering the events occurring at the time. In addition the experiences provided the experient with a certain message that she had to find her own way from now on.

The next account was provided by a male in his mid-twenties who was reasonably skeptical of paranormal experiences but he admitted to a couple of unusual early experiences — although he didn't label them as paranormal.

R25: I mean like that even I mean as a young child I thought I saw a witch or something coming out of my er wardrobe once y'know but that was just a 3 or 4 yr old or something like that yeh.

I thought I was awake yeh err but I could have just as easily been dreaming it but I thought I was awake at the time and I as I say I was only 3 or 4 at the time.

there was one time when I was on holiday oh I must have been about 12 or something like that and I was away on holiday with a friend and his family just mucking around we didn't have like a ouija board or anything like that we just sort of like y'know calling the spirits just like that and was like "knock the plate off the wall" and the plate did actually fall off the wall so whether or not that has got anything to do with it I don't know or a just a coincidence anyway we ran out of the house quickly enough.

Another respondent reports an apparitional experience which seems almost cartoon-like.

R28: once when I was a kid yes well I was asleep with my brother in my grandparents house and I was about 6 and I thought I saw a ghost and it was almost a cartoon ghost it was just a white blob and I moved and it moved it looked like someone with a sheet on yeh I thought it was errm I thought it was my brother initially I assumed it was him so I was petrified I turned on the light and of course there was nothing there I'm not really sure [I was] probably about 8

The following accounts represent a series of experiences by another respondent who figured strongly in this section, she was mentioned earlier as someone who had seen her grandfather and whose grandmother considered herself to be psychic. She reports a number of different classes of experience which happened when she was a child.

R37: errm I've had experiences and accidents would happen and I wouldn't travel and I've found out later that the car has crashed or there's something wrong with the plane and it can't take off or something ... errm once when I was very young errm I refused to get back on the plane and going back from holiday. I was 2 and a half and er the plane did a nose dive on the runway (laughs) and there was nobody was actually hurt but I refused to get on that particular plane I had complete tantrums and mum said "right ok she doesn't want to get on we're not getting on it".

I was just very very distressed and I said "I'm not getting on the plane there's something wrong with the plane I don't want to get on the plane we shouldn't get on the plane".

[on another occasion] a friend was travelling and errm I said "oh I don't think you should travel now I don't think you should go now wait until later on" errm they went anyway and the car crashed [they were] slightly injured errm it's just a funny feeling that something is going to happen.

it was the same time I was on holiday I was two and a half mum had taken me into a museum and er we were looking in a sort of horse drawn carriages when we were inside the museum and I said to my mum "look at the lady with the funny hat on in the carriage" and she looked but there was nothing there and I can still remember what the lady looked like (laughs) she was very clear errm very sort of full hairstyle red hair.

Red and not red errm green and black stripy sort of 'satiny' dress and she was just looking at me and she was wearing a hat a big floppy hat.

The respondent reported the apparition as looking very life-like but her mother could not see it. According to the respondent her mother picked

her up and ran out of the museum. Seeing apparitions seemed to be something of speciality for this respondent, she reports upon seeing a crisis apparition of her grandfather at the time her grandmother was phoning to tell her mother that he had died.

Again when I was 2 my grandpa died and erm I was in the bedroom and the phone had rung and my mum had answered and it was my granny to saying my grandpa had died and mum went though to the lounge and started crying and I went through and I said "Mum you've not to cry because grandpa said he's alright now" and as far as I can remember I'd seen my grandpa in the bedroom and he'd said "tell your mum not to worry because I'm alright"

She also reported seeing people who have recently died. She interpreted this as serving a message bearing purpose.

I've seen people (laughs) again when they've supposedly died.

when I was very young I don't know if there's any sort of explanation for it erm I guess people who have been close to me and they've died and I'm to go and give a message to somebody about them.

As a child, on one occasion, she involved herself in mediumistic activity.

R37: right erm once I was being very silly at school [I was] erm 16 I was sitting in my English class and I was very bored (laughs) and I thought I wonder if there is anything about this spiritual nonsense and err I started to sort of saying "well you know if there are any spirits out there" just into myself y'know "please show me that you exist" or whatever and err I felt like the room had suddenly it wasn't a room anymore it was tunnel and I was going backwards in the tunnel away from the light but I was watching myself doing it it was very weird and I immediately said to myself I don't like this I want to come back (laughs) that's the only time I've ever done it and it frightened me so much I wouldn't do it again (laughs).

they [her classmates] said I looked very unwell and they said I'd started to shake and had gone very white but I wasn't aware of that I felt very drained afterwards but I wasn't aware of.

This particular set of experiences are more impressive than most reports and provide a picture of possibly veridical childhood paranormal experience.

These experiential reports provide an insight into the kinds of experiences which seem to be relatively common in the general population. These are rich accounts which have more than hint of an acceptance of a magically charged world and a connected view of life. They are also useful because they offer insights into how personal theories are arrived at.

It was noticeable that the respondents did not simply relate their experiences but when given the opportunity they relate them in terms of tentative lay theories and often with a hint of underlying metaphorical projections and underlying schemas. It is with an eye for these instances and a view to understanding them that valuable information may be gathered about such unusual experiences. This will often require going beyond the simple objective descriptions which are often considered so desirable in spontaneous case research. In going beyond the blow by blow account in favour of the personal reflection we may lose some of the objectivity but gain a flavour of the constructive aspects of the experience itself. Since these experiences are fundamentally meaningful events it is likely that this recognition of meaning will offer a more comprehensive view of such experiences.

For instance, the accounts provided above are often accompanied by the experient's own meaningful explanation: for example, ESP and apparitions can be seen as message bearing.

Often important issues which are raised by these accounts include the situations and psychological states in which these experiences may occur. Relaxed and absorbed states seem to figure strongly as do childhood experiences. A number of cases showed overtones of magical thinking, all of these have been considered as conducive to anomalous experience and characteristics of low focus experiential thought.

In the next chapter the role of these paranormal interpretations of experiences are examined in relation to hearing voices experiences.

Chapter 6

A possible role for parapsychological explanations in the experience of hearing voices.

Direct reference and allusions to pathological disorders have been made in a number of sections of this investigation. Paranormal experience in a sense attains the same status as the symptoms of psychosis in our modern culture. It is seen as deviant or abnormal and perhaps outside the jurisdiction of everyday consciousness, obtaining tenuous claims to validity only when liminal or altered states of consciousness are invoked as explanations.

In the previous empirical studies reported in chapters 3 and 4 there are clear relationships between measures of positive symptoms in schizotypy and paranormal experience and belief. Some of the experiences reported in chapter 5 are reminiscent of hallucinatory and delusional experiences which are often considered to underpin diagnoses of schizophrenia.

In this chapter a survey was carried out on a sample of voice hearers from the national hearing voices network. This incorporated assessments of the phenomenology of the experiences as well as measures of paranormal belief and experience. The central motivation for this was to assess whether or not pronounced experiences such as auditory hallucinations reported by the members of the hearing voices network are alleviated in any way by a belief structure based around paranormal explanations.

J B. Rhine, often considered the founder of modern parapsychology, once noted that parapsychology is a historical derivative of psychiatry (Rhine, 1949). The early psychiatrist Janet (1899), proposed that, "The gift of mediumship must depend upon a peculiar pathological condition, from which hysteria and insanity could later develop." Similarities have often been drawn between the unusual experiences considered as paranormal and those experiences which have long been associated with psychopathology. Other proposals have been made, for instance, that paranormal experience

can lead to psychosis and vice versa, that psychosis can incur paranormal experiences.

There have been a few parapsychologists who have also had interests in psychiatry or abnormal psychology and who have attempted to examine the similarities between the two domains of experience. They have speculated on the relationship between these two domains of experience drawing on their experience of the therapeutic context. Ehrenwald (1948) for example, was of the opinion that paranormal experiences might underlie the kinds of phenomena characteristic of psychopathology, most notably psychosis. Taking what might be considered an extreme view he argued that psychotic experiences, especially paranoia, could be explained by the occurrence of telepathy. He viewed psi as an archaic, regressive or primitive faculty which overwhelms the psychotic when a hypothetical filter system breaks down. He also argues that the need for isolation exhibited by some psychotics is indicative of their being overwhelmed by heteropsychic input. Ehrenwald has been criticised by a number of other researchers with an interest in this area (West, 1948; Eisenbud, 1949; Ullman, 1948) mostly on the grounds of the paucity of empirical evidence for these claims.

Ullman (1977) concurred with Ehrenwald that in the therapeutic context patients do seem to make intuitive leaps which look like instances of ESP (these are those patients who are considered to be close enough to a psychotic episode to be aware of its possible imminence). He also suggested that psi effects are related to the vigilance needs of the organism. Psi messages perhaps have more of an alerting character than a clearly informational one (Ullman, 1977). Most of the examples that these 'parapsychologist-psychiatrists' describe arise in therapeutic situations and suggest that occasionally a client can access information that is personally relevant and occasionally embarrassing to the therapist.

As these accounts of paranormal experience in psychopathology are drawn from the therapeutic context they are usually considered to carry less

weight than experimental evidence. Experimental studies have also been undertaken to test the psi ability of psychotics. These were mostly forced choice tests using traditional ESP cards. Various results have been reported; some showing successful psi scoring at traditional levels of significance (Price, 1938; Urban & Kock, 1949; Humphrey, 1953). Other studies have failed to obtain such marked results (West, 1952; Zorab, 1957). It has been suggested by Ullman (1977) and Rogo (1982) with some justification, that these kinds of formal testing might be doomed to failure. Psychotic patients characteristically have poor levels of concentration which does not accommodate forced choice testing (this is likely to be exacerbated by the use of anti-psychotic drugs). In addition, these methods offer little ecological validity and they have little personal relevance to the participants themselves. An attempt was made by Greyson (1977) to overcome this problem by using a free-response ESP paradigm (one which permits open-ended answers rather than the fixed responses identified with ESP card experiments, e.g. stars, circles, crosses, etc.) with schizophrenics. Greyson found that anecdotal accounts of paranormal experiences and belief in psychic ability were more common among schizophrenic than non-schizophrenic patients. In spite of this, he found that their ESP performance did not exceed chance expectations. Rogo (1982) contends that there is strong evidence for schizophrenics showing quite striking ESP ability in everyday life. Certainly psychotics often report experiences which are psi-like and sometimes interpret these as paranormal.

Other evidence for links between psi and psychopathology

More recent investigations addressing similar questions have shown that paranormal belief and schizotypy seem to be related in correlational studies. Thalbourne (1985) found that scores on the magical ideation scale (Eckblad and Chapman, 1983) proposed to measure schizotypy — the predisposition to schizophrenia — correlated with those on a paranormal belief scale. He found that believers in the paranormal (sheep) scored significant-

ly higher on magical ideation than did non-believers (goats) — this would seem to indicate that sheep are possibly more predisposed to schizophrenia than goats. However, this result is not so surprising when we consider that a number of the items on the MGI scale seem to correspond quite closely to the kinds of items used as indicators of paranormal belief and experience:

e.g., I think I could learn to read others' minds if I wanted to.

In order to reassess the relationship in the light of this, Thalbourne reduced the MGI scale to three subscales, one which contained the eight items which seemed to measure paranormal occurrences, another which measured overtly psychotic symptomatology, and finally, a scale which contained the items which could not be fitted in the two other categories. In spite of this, Thalbourne found that there was a residual significant positive correlation between the paranormal belief scores and the psychotic subscale scores. People who have higher paranormal beliefs seem to be more predisposed to schizophrenia.

Williams and Irwin (1991) also examined the relationship between schizotypy and paranormal belief. They predicted that believers and schizotypes would resemble each other in terms of overall belief in the paranormal but differ with regard to specific facets of paranormal belief, and cognitive style. It was found that believers in the paranormal (members of an Australian parapsychological society) resembled schizotypes and schizophrenics in terms of overall level of paranormal belief but differed with regard to notions of causality. Believers displayed a causal cognitive style based on notions of personal responsibility and reincarnation, contrasted with schizotypes and schizophrenics who were more likely to emphasise the role of chance.

They propose that the belief in the paranormal expressed by the believers was adaptive and involved a personally charged and magical notion of

causality; they see this as a mature means to attain a metacognitive appreciation of the world. On the other hand, they argue that the endorsement of beliefs by schizotypes is an expression of impaired psychological functioning, involving cognitive, perceptual and affective distortions and emphasising the role of chance. Schizotypes were also reported as likely to display an overall information processing style characterised by an external frame of reference and involving lower levels of self consciousness. This work suggests that the role of structured belief systems, personal responsibility and control is important in dealing with unusual perceptual experiences. This corresponds with Schumaker's theory which proposed that paranormal belief might be beneficial to mental health (Schumaker, 1987).

Common ground?

In the ideas of both parapsychologists and psychiatrists there has been a concern with the role of changes in states of awareness in the generation of unusual perceptual and ideational experiences. This suggests a common ground for these kind of experiences.

Altered states of awareness have been scrutinised by parapsychologists and psychiatrists. Researchers in both fields have paid attention to reports and displays of dissociation, trances, multiple personality and associated phenomena. It can be argued that there are certain changes in the deployment of attention which seem to be related to both paranormal and psychopathological experience.

A strong facility for internal attention and imaginative involvement might be thought to bring about unusual experiences, paranormal or abnormal. Ingram (1990) argues that self-focused attention (characterised by an awareness of self-referent, internally generated information) or more strongly, 'self-absorption'; characterises a number of types of pathology such as depression and schizophrenia. A number of studies in parapsychology (e.g. hypnosis and dreaming experiments) have indicated that internal attention states seem to play a role in successful psi functioning (Honorton, 1977).

Absorption, a measure of increased imaginative and sensory involvement, has also been shown to correlate positively with reports of paranormal experiences (Rhue & Lynn, 1987).

West (1962) proposed a seepage model of unusual experiences such as hallucinations. He compared hallucinations to the reflection of flames from a fire cast on a window. During the daylight, they are barely visible because of the strength of the light, however as the day wears on they become more and more apparent and the scene outside weakens until on looking through the window all that can be seen are the flames. Presuming that preconscious and unconscious contents "seep" into consciousness in such a way, they will take the forms of images which may be 'seen' or 'heard' "as if" real.

Frith (1979) suggested that hallucinations occur if there is a breakdown in filtering out the preconscious hypotheses generated in the act of perception. Frith and Done (1989) later rejected this theory in favour of one which involves a monitoring function. The notion of reality monitoring in relation to hallucinatory and delusionary experiences has been described by Slade and Bentall (1988), and Johnson et al. (1993). In short, it is suggested that internally generated events might occasionally be misattributed to external sources through a failure in a reality monitoring process (see chapter 1 for more details). It is possible that the ability to make decisions about the internal or external origin of experience may become unreliable when met by alterations in cognition such as these absorbed and altered states.

It would seem that characteristics such as a high need for absorption are indicators of people who have a tendency towards greater access to preconscious material, dissociation and marked idiosyncratic restructuring of perceptions. A group of people which seems to confirm this notion, are those described (rather negatively) as 'fantasy prone personalities' (FPP). These people have been reported as having a strong orientation toward inner experience and are reported as having difficulties in discriminating

between the objects of their imagination and the objects of the external world (Rhue & Lynn, 1987). Often this has been assumed to have origins in childhood adjustment to difficulties at home. Fantasy prone people tend to report higher levels of paranormal belief and experience.

Thalbourne and Delin (1994), interpreting a factor analysis of a number of variables consisting of manic depression, schizotypy, creativity, mystical experience and paranormal belief, suggest that a single factor of "transliminality", an "openness to crossing the threshold" is common to people scoring high on these variables. This might be interpreted as a cognitive style which promotes imagination and internal experience over concrete and external perception. A similar view is suggested by Parker (1993) who proposes that, 'schizophrenia is an enforced state of perceptual absorption in inner conflicts leading to perceptual aberrations which by the nature of the individual's defensiveness are interpreted as alien and become delusory'. This description seems to fit well with 'voice-lore' where it is suggested that it is the hearer's response to the voices that is important rather than the voices themselves.

Mavromatis, in his book *Hypnagogia* (1987), provides detail on the relaxed attention style which characterises this liminal state. He uncovers a mode of cognition which seems similar to the experience of both psi and schizophrenia. He recorded statements such as "I felt my body growing bigger", "I felt heaviness, and then parts of my body dissolving", "half my face disappeared" when interviewing mediums participating in development circles. These are not dissimilar to the comments made by schizophrenics.

Summarising these findings, the common ground seems to consist of particular changes in attention towards an sustained internal focus. Accompanying this change in attention are unusual and idiosyncratic tendencies to restructure cognition. Thought is more experiential than rational in this context, more metaphorical than literal or logical; it may be dissoci-

tive (and seem negative) or integrative and have a 'peak-experience-like' (positive) quality. People who express this kind of imaginative involvement as a personality trait tend to report more unusual perceptual and ideational experiences. They may also be more successful in psi experiments. Often, parapsychological experiments seek to employ techniques which will enhance these attentional states, for example, the partial sensory deprivation technique employed in the ganzfeld paradigm aims to do precisely this. It seems that these kinds of conditions are also conducive to the experience of hearing voices. Techniques advocated to avoid hearing voices have often involved some form of structured distraction, or busy activity, i.e. avoiding that tendency to focus on internal imaginative attention. It was interesting that at least one of the respondents in the previous chapter indicated that his experiences had declined since he had less free time to enter these states.

Testing and exploring parapsychological interpretations of hearing voices experiences.

It would seem that there is a good deal of evidence which suggests that pathological experiences, particularly hallucinations and delusions, and ostensible paranormal experiences may derive from a common ground, an experiential form of cognition which is seen most readily in alternate cognitive states. A characteristic of this common ground is the tendency to experience an extended sense of connection and causality (even where events seem unrelated) between the phenomenal self and the world. These experiences more often possess metaphorical as opposed to literal connotations. Indeed, ESP is itself unlikely to be clear-cut, with exact feature for feature correspondences between the experience and the target (this is the way it is often shown in fictional accounts); rather, it is probably symbolic, metaphorical and in need of interpretation.

Two approaches are possible. One would focus on validating the reality of the experience and would involve looking for confirmatory or disconfirmatory objective evidence which corresponds to the content of the experi-

ence. Another approach, which has only recently been proposed in parapsychology is more concerned with the experience itself, the effects it has on a person, its pattern and significance. This will be explored more fully here and will be related to the psychological traits already identified as connected to reports of paranormal experience. From this point of view, voices which seem to demonstrate ESP might be considered as subjective paranormal experiences. Thus an individual assumes that their personal experience seems paranormal but does not necessarily imply that any testing of the experience need take place. Instead, with this kind of approach we are more concerned with what the experience means to the individual and where it fits into their life.

In this approach to paranormal experience we should be more interested in a metaphorical rather than a literal version of accounts. This does not detract from the reality of the experience; it just offers a context for exploration of meaning primarily within psychological space rather than exclusively in the setting of everyday objective reality. Subjective paranormal experiences may be seen metaphorically as indicating patterns and contexts of meaning. The symbol, the message, the signal of something is of more importance in this approach than trying to ascertain the objective reality of ESP.

As Thalbourne (1991) noted there are strong arguments for links between mystical and psychotic experience. In both of these, the experient may feel that the world is ending; this is conveyed in the form of a metaphorical drama which may be taken literally and projected onto the objective world rather than interpreted as being relevant to understanding the self. Lukoff (1985) discusses a number of main themes which seem to arise, for example: cosmic conflict, death, sense of mission, encounters with spirits of the dead, paranormal powers, new identity, new society, divine union. In terms of their metaphorical nature, these themes seem to convey hope and resolution of the experience as well as doubts and fears about the

conflict and possible demise of the hearer. Interpreting ESP from this metaphorical perspective may indicate unusual forms of connection with reality, or perhaps it is an indication of a need for increased connection. If the voices seem to be other people who exert an influence on the hearer this may suggest a perception of lack of control by the hearer.

If the voices seem to have a paranormal nature then it may be fruitful to use this framework in responding to these experiences. An example of this is given in the book *Accepting Voices* (p.224), in which an individual found relief from the attention of voices/energies by 'closing his/her aura' (the energy field assumed to surround the human body). Imagining an energy field keeping out unwanted influences might be a suitable response in keeping with the paranormal metaphors representing the voice experiences (and one which communicates directly to the experiential level of mind). For hearers who are comfortable with a paranormal perspective on their voices, responses in line with this interpretation may be more effective than one taken from another perspective such as the medical model. Those who are more anxious or frightened about paranormal interpretations would probably prefer to adopt alternative explanations and means of control.

Encouraging unusual beliefs in relation to hearing voices experiences may be considered dangerous. This is inevitable from a perspective which views voices as a symptom of some form of psychopathology. An argument against this view is provided by Romme et al. (1992) who suggest that forcing a reality (the medical viewpoint) on the voice hearer can itself be counterproductive.

In general, the aim of psychiatric treatment is to bring the patient back into our reality with antipsychotic medication, social therapies, and sometimes psychodynamic therapy. Acceptance of patients' reality is avoided, as this might confuse them even further and increase their internal chaos. Thus, discussion of the subjective experiences of hearing voices is not encouraged, even though these auditory experiences sometimes represent a large part of the patient's daily life. (p.99)

Romme & Escher (1993) suggest that much of what the voices say is couched in metaphorical language. It would seem particularly useful to try and emphasise the metaphorical nature of these experiences. This is not to undermine their reality but to accept them and engage them on their own level. The voices may occasionally actually demonstrate ESP mediated information but it is more likely that they do not. As well as testing the validity of these ostensible ESP experiences a complementary process would involve becoming engaged in dealing with the voices, treating them on a personally relevant level as signifiers of personal issues and social tensions.

There are, however, arguments for encouraging this engagement in the use of paranormal metaphors. For instance, Schumaker (1987) proposed that paranormal beliefs might be beneficial to health; the differences in cognitive style noted between the paranormal believers and schizophrenics in Williams and Irwin's (1991) study would support this; this suggested that paranormal believers were healthier because they held beliefs which corresponded to a sense of personal control over these unusual and perhaps distressing experiences, as opposed to a sense of chance and lack of control in the comparison (schizophrenia) group. Parapsychological explanations may provide a valuable resource for understanding and living with these experiences. This is exactly what is currently being explored by the hearing voices groups.

In summary, the hearing voices experience seems to be commonly linked to paranormal phenomena and explanations. There are obvious but untested similarities between hearing voices and the kinds of phenomena seen in mediumship and spiritualism. It may be that voices experiences and some ostensible subjective and objective paranormal experiences may derive from a common ground which is characterised by an experiential mode of cognition. Testing the reliability of paranormal experiences is always difficult and no definite proof can be obtained even in strictly controlled parapsychological experiments. The relevance of hearing voices and paranormal

explanations can be addressed in two complementary ways. One which focuses on an objective assessment aiming for consensual agreement, and another which necessitates interpreting the meaning of the voices. It is suggested that the most appropriate assessment and interpretation of any ostensible experience will depend on the needs and concerns of the voice hearer.

The experience of hearing voices has been considered as one of the most reliable indicators of psychopathology. It is considered to be a sign of mental illness; it is particularly associated with schizophrenia although it is also seen in other disorders. Characteristically, in schizophrenia it is seen as a particularly tortuous experience of hearing insulting and derogatory comments; commentaries on one's actions and thoughts, as well as commands to adhere to these can naturally become an obstacle to normal functioning.

Typically, hearing voices (along with other symptoms) are responsive to anti-psychotic medication. However, in some cases voices do not respond to pharmacotherapy. It has been argued that medical treatment generally avoids discussion of these subjective experiences and that the medical approach aims to "bring the patient back into our reality with antipsychotic medication, social therapies, and sometimes psychodynamic therapy. Acceptance of the patients reality is avoided, as this might confuse them further and increase their internal chaos." (Romme et al. 1992).

During the past three decades research has gone a long way to normalising the hallucination concept, partly as a trend to investigate symptoms rather than syndromes in terms of psychopathology and also because of their intrinsic interest (Bentall, 1990). Instead of being considered simply as an indication of pathology, hallucinations have been looked at as alterations in normal processes such as mental imagery (Jakes and Hemsley, 1986; Barrett, 1993); judgement (Heilbrun, 1980; Bentall & Slade, 1985); or speech production (Hoffman, 1986).

In the past, large scale surveys of the general population have indicated reasonably high levels of infrequent hallucinatory experiences (Sidgwick,

1894; West, 1948). Many recent researchers have carried out studies employing student participants and have illustrated that hallucination-like experiences occur in normal populations. In one case at least 25% of college students were found to report auditory hallucinations (Barrett and Etheridge, 1994). Other have demonstrated that both auditory and visual hallucination-like experiences can be evoked in laboratory conditions in normal students (Feelgood and Rantzen, 1994). Of course, these experiences are different from clinical forms in that most of these normal participants will not accept the experiences as real, they are not as frequent, and consequently not likely to interfere with normal functioning.

Although there has been a good deal of research examining the mechanics of hallucinatory experiences less attention has been focussed on their possible meaning and implications. Not everyone who hears voices is distressed by the experience, in fact some people positively welcome them as friends, advisors and as company. Some of the main details about these experiences were presented by Romme et al. (1992) in their survey of the Netherlands group. They were able to explore differences between the reports of copers and non-copers in terms of their perception of the experience and also in terms of strategies adopted to deal with the voices. Four main categories of coping strategy were reported: distraction, ignoring, selective listening and setting limits.

Techniques advocated for coping with voices have commonly concentrated on trying to ignore the experiences, often employing tools to facilitate distraction such as headphones and personal cassette players. Haddock and Bentall (1993) suggest that instead of ignoring these experiences greater benefits may be had from engaging the voices in order to explore the meaning of the experiences. Chadwick and Birkwood (1994) discuss a cognitive approach to auditory hallucinations proposing that the omnipotence of these voices can be addressed by examining core beliefs about them.

The hearing voices movement has proved a fertile breeding ground for

alternative explanations. The book *Accepting Voices* (Romme & Escher, 1993) is a compendium of possible views on the phenomena which range from traditional psychiatric positions to those which are much more unusual, including mediumship and channelling. Although these alternative explanatory frameworks are considered likely to compound possible psychiatric problems such as delusions there may be reason to assume that they have something to offer the individual voice hearer. There are a number of reasons for this, and foremost among these might be the sense of control and increased sense of status that might be experienced by hearers who assume that the voices are the result of a special gift or ability.

From the perspective of most mental health professionals the belief that voices are due to ESP or spiritual entities would generally be considered delusionary. A fundamental difference in judgement of reality exists between the mental health professional and the 'magical-thinking' voice hearer. From the perspective of the former it is adaptive to orient towards consensual reality, from the perspective of the latter adopting these alternative theories may actually be adaptive as well. It has been proposed that positive illusions can foster mental health (Taylor and Brown, 1988).

It is quite common for individuals hearing voices to develop hypotheses regarding a possible paranormal origin of these kinds of experiences. This may be an example of an ongoing process of testing the anomaly. If the voice does not seem to be generated by the individual herself or originate from someone in the immediate vicinity then it must be being communicated by more unusual (not to mention controversial) means such as ESP. It may also be related to a reliance on experiential thinking where these kinds of assumptions tend to form the body and fabric of thought.

This study focussed on the conditions under which voices are heard, how these are conceptualised and how they are related to levels of paranormal beliefs.

Respondents

Sixty eight respondents returned completed questionnaires, of those that identified their sex 31 were males and 35 females (mean age = 43.70, SD = 14.14). The youngest respondent was 18 and the eldest 81 years old.

The survey measure

A questionnaire composed of items referring to the phenomenology of hearing voices (drawn from a measure used to assess hallucinations in a clinical situation — HALQ Bentall, 1990). These questions addressed the complexity of auditory experiences and voices, their frequency, additional questions regarding the voices and a paranormal belief scale (Thalbourne, 1984). See appendix for further details.

Procedure

The survey was carried out during August and September 1995. Two hundred questionnaires were posted to individuals subscribing to the *Hearing Voices Newsletter*. Sixty six (33%) completed questionnaires were returned. A small number of questionnaires were returned blank due to changes in address, because individuals were currently in hospital or because the individual was on the mailing list but was not a voice hearer. Although this was a relatively small return rate this is not surprising considering the nature of the population.

The sample was split into two groups depending upon the amount of control they reported over their voices. This issue of control permits a reasonable degree of assessment of the individual's ability to exert influence over the experience, and their ability to cope with the experience. It is recognised in the voices movement that those who cope with the experiences often have a stronger sense of their own role in determining their relationship with the voices (Romme & Escher, 1994). In this sense control was taken as a broad indication of ability to cope with the experiences, choosing to communicate with the experiences and maintain a sense of functional

superiority over the voices. It was hypothesised that a greater degree of control may be related to the degree of paranormal belief held. A higher level of paranormal belief may confer not only a relatively accepted cultural context for interpreting the experiences but also perhaps in some cases an increased sense of importance for the individual. A therapist (Koolbergen) and client (in Romme & Escher, 1994, p.220-227) describe a response based on paranormal interpretation of the voices where the client suggests that she is in touch with supernatural energies and at times she has had to learn (from a woman who was paranormally gifted) to close her aura or energy body and that this has the effect of helping with the voices experience.

Results

Of the sample of voice hearers 10 reported no contact with medical professionals about their experiences while all but 6 of the remaining 58 reported one or more diagnoses. These included schizophrenia 34 (58%), schizoaffective disorders 7 (12%), depression 4 (7%), manic depression 3 (5%), multiple diagnoses 2 (3%), post-natal depression 1 (2%), post traumatic stress disorder 1 (2%).

The sample was split into two groups depending upon the amount of control they reported over their voices. Thirty two respondents fell into the low control group and 30 into the high control group. A summary of the relative frequency of coping strategies employed by the two groups is displayed in table 23. It is noticeable that the two groups differ in terms of the degree to which they engage the voices (that is speak to the voices and limit their conversation); 46% in the high control group compared to 9% in the low control group.

Table 23 The reported coping strategies employed by voice hearers who report low and high levels of control over the experience.

Coping strategy	Low control (N= 32)	High control (N=30)
Ignoring voices	5 (16%)	3 (10%)
Distraction	6 (19%)	6 (20%)
Engaging the voices	3 (9%)	14 (46%)
Prayer	3 (9%)	0
Medication	3 (9%)	3 (10%)
Social support	1 (3%)	2 (7%)
Impossible to cope	5 (16%)	0
No need to cope	3 (9%)	1 (3%)
No answer	6 (19%)	5 (17%)
Others	4 (13%)	5 (16%)

Note: percentages add up to more than 100% because respondents may report more than one coping strategy.

The two groups of hearers reporting high and low control were also explored in terms of the explanations they offered for the voices (see table 24). It is interesting that relatively few hearers explain their experience as an illness while a much larger proportion explain their experience as a paranormal or spiritual activity.

Table 24 Summary of relative frequency of hearers explanations for the voices.

Explanation	Low control (N= 32)	High control (N=30)
Paranormal	4 (13%)	9 (30%)
Spiritual	7 (22%)	5 (17%)
Physiology	4 (13%)	3 (10%)
Stress	1 (3%)	4 (13%)
Psychological	2 (6%)	3 (10%)
Illness	3 (9%)	1 (3%)
Technological	1 (3%)	2 (7%)
Punishment	2 (6%)	0
Others	9 (28%)	4 (13%)
None	6 (19%)	2 (7%)

Note: percentages add up to more than 100% because respondents may report more than one explanation.

Paranormal explanations were reported more by the high control respondents (30%) compared to the low control respondents (13%). This suggests that paranormal explanations may have something useful to offer

the voice hearer in need of coping; perhaps once the hearer has evolved a paranormal explanation he feels more in control.

The level of paranormal belief was slightly higher among males (12.17) (11.04) than females.

Males and females did not differ on questions related to complexity of auditory hallucinations, frequency of occurrence, number of voices, perceived unpleasantness or hostility of the voices, or to the degree of control that they felt over the voices.

Spearman rank order correlation coefficients were calculated between scores on items of the questionnaire concerning age and features of voice experiences. The complexity of the voices ($r_s = .07$, ns), the frequency of accompanying experiences in other modalities ($r_s = -.04$, ns) and frequency of experiences ($r_s = .016$, ns) did not seem to be related to age but the number of voices heard seemed to be fewer for older than for younger respondents ($r_s = -.24$, $p < .05$).

It also seemed that there was a general but non-significant trend towards younger voice hearers reporting that the voices they heard were more unpleasant ($r_s = -.18$, ns), hostile ($r_s = -.21$, ns), upsetting ($r_s = -.12$, ns) and more difficult to control ($r_s = -.25$, ns).

Paranormal belief scores showed a small nonsignificant relationship to the complexity of the experience ($r_s = .13$, ns); and seemed unrelated to the number of voices heard ($r_s = -.01$, ns); or the frequency of experiences ($r_s = -.01$, ns); however the frequency of occurrence of accompanying experiences in other modalities did exhibit a small almost significant relationship to paranormal belief ($r_s = .26$, $p < .068$). When males and females were assessed separately it was apparent that this relationship was contributed by the females ($r_s = .28$, ns) whereas the males evidenced a smaller relationship ($r_s = .18$, ns).

The strongest relationships were evidenced between paranormal belief scores and levels of discomfort with the experience. For instance, level of

paranormal belief was negatively correlated with the degree to which the voices were perceived as unpleasant ($r_s = -.37, p < .01$); hostile ($r_s = -.39, p < .008$); upsetting ($r_s = -.39, p < .006$) but interestingly not the degree to which the hearers perceived having control ($r_s = -.009, ns$). Upon separate examination of males and female scores it is apparent that the males alone which contribute most to this pattern of results. The female values of r_s ranged between $-.02$ and $-.18$, none of these values were significant. For the males however the degree of perceived unpleasantness demonstrated a reasonably robust negative relationship to paranormal belief ($r_s = -.58, p < .003$); this was also the case for perceived hostility of the voices ($r_s = -.64, p < .002$); and for the reported upsettingness of the voices ($r_s = -.52, p < .007$). The degree of reported control over the voices was negatively related to paranormal belief ($r_s = -.27, p < .19$); the relationship between paranormal belief and reported control was much smaller for females ($r_s = .02, ns$).

This pattern of results indicate that males who report higher levels of belief in the paranormal also report fewer negative aspects of hearing voices but lower levels of control; and yet females who report higher levels of paranormal belief, like males report fewer negative aspects (not significant but suggestive) but tend to report more control over the voices.

Correlations between individual items of the paranormal belief scale and assessments of the negative aspects and control of the voices were calculated in order to isolate which components of paranormal belief show the strongest relationships with the negative and control aspects of the voices experience. Tables 25 and 26 display these relationships for males and females respectively.

Generally for males there were only small differences between the sizes of the relationships for most variables. The visions communicating information showed the strongest level of relationship for three of the variables (unpleasant $r_s = -.53$; hostile $r_s = -.66$; and control $r_s = -.35$) among male hearers.

Table 25 Spearman correlations between items of paranormal belief and negative aspects and control of voices (males)

	Unpleasant	Hostile	Upsetting	Control
ESP	-0.45	-0.58	-0.50	-0.26
Personal	-0.45	-0.39	-0.44	-0.14
Psychic	-0.48	-0.52	-0.52	-0.16
Hunch	-0.30	-0.46	-0.15	-0.32
Premonition	-0.47	-0.41	-0.20	-0.20
Dream	-0.21	-0.29	-0.19	-0.30
Vision	-0.53	-0.66	-0.43	-0.35
Afterlife	-0.40	-0.46	-0.48	-0.28
Spirits	-0.41	-0.47	-0.41	.06
Telepathy	-0.49	-0.62	-0.48	-0.22
Total PB	-0.58	-0.64	-0.52	-0.27

For female hearers, vision was related in a similar way to hostile ($r_s = -.40$) and the other largest relationships were between items relating to mental phenomena such as belief in being psychic and unpleasantness of the voice experience ($r_s = -.31, p < .08$) and personal experience of telepathy with control over the voices ($r_s = .31, p < .08$).

Table 26 Spearman correlations between items of paranormal belief and negative aspects and control of voices (females)

	Unpleasant	Hostile	Upsetting	Control
ESP	-0.27	-0.24	-0.23	.19
Personal	-0.11	-0.16	-0.05	.15
Psychic	-0.31	-0.29	-0.11	.06
Hunch	-0.23	-0.19	-0.09	.06
Premonition	-0.22	-0.18	-0.19	.23
Dream	-0.07	-0.05	-0.09	-0.05
Vision	-0.23	-0.40	-0.14	.07
Afterlife	.02	.14	-0.01	-.14
Spirits	.01	.06	-0.06	.05
Telepathy	-0.15	-0.07	-0.19	.31
Total PB	-0.18	-0.13	-0.08	.02

Overall these correlations suggest that most forms of paranormal belief provide the male voice hearers with a reduction in the negative aspects of the voices but slightly increased tendencies for this seem to occur in relation to visions, personal belief and experience of psi. It is this personal experience or belief in telepathy that also perhaps provides the females with an

increased sense of control over the experiences.

Characteristics, content and identity of voices.

Opportunities for open ended answers as well as restricted responses were included for most questions. The hearers reported a range of sounds, from whispers originating in noises like the wind and traffic sounds to specific voices of family members, famous people, demons and angels. When the voices are identified with entities they commonly 'speak' negatively to the hearer and are concerned with the hearer's actions and conduct. It is noticeable that a few hearers report more positive comments and encouragement.

Bangs, music, doors slamming, bells; like people talking in another room; saying non-sense things; went through a few years of hearing my dead sister telling me to kill myself.

Machine-like grating; whispering; strings of unconnected words; repetition of my own thoughts.

Like a deafening sensation in right ear as though sound is shut off only momentarily like now. I've got little tinkle of bells and lots of voices all at once like a gentle mass of people. Mother, friends, father, brothers, sister in law.

Voices from God, supposedly important people; dead relatives; people concerned with the security of the state even the world.

Descriptions of what the voices say were generally insulting or comments on behaviour; only a very small minority seemed more constructive and comforting.

[They] tell me I'm a coward and things about my family and that my doctor is talking rubbish. They make me think the TV knows about me.

Short sentences only. Remarking on what I have done during the day, or am doing now. Sometimes intelligible but nonsense.

Mostly nosey and are inquiring into my day to day living. Wanting to know what I am doing.

We've fixed your car you are going to have an accident. Kill yourself and let me in and we can live forever together.

Pejorative abusive things—sometimes the opposite about being lazy, scrounger, a prostitute, dirty, hippy, ugly, not bad looking, looking good, looking awful.

They may tell me whether or not to do something. They may give me information.

One voice said "you are going to have to do this by yourself" the other said "you are

going to have to be braver than you have ever been before".

Many of the voices were unidentifiable to the hearers but some were easily recognisable.

Spirits, my dead family and help.

1. the devil—a carping voice and fault finding character forever putting me down. 2. A female voice which attempts to placate me which I believe is my mother.

They do have identities but I do not know them personally.
They live in different parts of the world.

George Sanders & Tommy Steel.

The neighbours—friends, parents, people from school, people from college, from the therapy centre. They change with the environment depending upon where I am at the moment.

Those hearers scoring higher on the control item tended to report responses to the voices which involved engaging the voices, see table 27. They take time to respond to the voices and reason with them, although they do use distraction techniques and ignore them from time to time.

Table 27 Coping strategies employed by the highest ten scorers on the control item.

By asking who they are. I never get an answer or explanation when I ask them who they are. If I turn on some music I stop hearing them.

Talking to them. Asking their opinions and when I disagree with them, just ignoring them.

I say aloud to the voice 'I rebuke you Satan in the name of Jesus Christ.' When I say this the voices cry. If I think this in my mind, they weep.

As I control my speaking voice.

Try to keep mind on things and be with people. Yoga. Lithium.

I could stop the voices getting through by using what I call my computer brain. I simply solved mathematics, either in my head or on paper.

I accept what they have to say, I listen, relate myself and the situation to what they are expressing. Then I look logically at what they are expressing and acknowledge what is relevant.

I have found that the voices have become more controllable as I have increased my own self esteem, found an interesting job and that I have increased my social skills.

I talk to them as if I'd talk to you or any of my close friends or relatives just chat within myself of course, could say in thought.

Hearers scoring lower on the control item tended to report that they found it difficult to deal with the voices. The majority of responses here involved ignoring the voices or using distraction strategies such as playing loud music.

Table 28 Coping strategies employed by the lowest ten scorers on control.

I have on rare occasions been able to shut them out altogether.
The effect seems to last several days.

Alcohol, positive thought, prayer, meditation, ignoring [them].

By changing whatever I am doing; by loud music from a walk-
man; by praying.

No it's impossible.

By ignoring them.

Impossible.

Since having Clopixel injections the voices haven't bothered
me.

Speak to them, tell them to go away. Noise to mask voices
(TV, radio music) accept voices as part of illness looking to
understand them.

Can ask them to be quiet if they are disturbing our sleep and
they do.

I tell them its not necessary to be so hostile but they come
back with some other reply.

In terms of explanations for the voices the lowest scorers on the control item provided various answers involving physiological, spiritual and para-normal causes. These indicate an interpretation of the voices that has less negative and alienating consequences. In one case the hearer sees the voices as an indication of personal spiritual development.

Table 29 Explanations for the voices employed by the highest ten scorers on control.

It says in the bible, 'it's better to rebuke than (unknown word)'.

Imagination.

I think when I get too stressed out my mind cuts off into day dreams & loses reality as it is known.

Spiritualist.

Accepting it as an illness [and] not my fault.

Alteration of the brain, due to a brain haemorrhage I suffered 30 years ago.

I now believe in life after death & heaven & hell. My experience lasted only one month ten years ago. The first 2 weeks were hell & the last 2 weeks heaven. At the time I heard voices 4 of my neighbours told me their houses were haunted.

Spiritual, in the sense we all have an inner spirit which communicates through emotions.

The voices are to me a process of reaching that level of awareness.

I think that I must be either telepathic or extremely sensitive. I believe that because I was so ill the 'vibes' I was picking up were only very negative or maybe it was because of my own feelings about myself.

Well I have had rather a lot of anxiety and stress through my life, accidents and illness.

These explanations were offered by hearers who reported low levels of control of the experiences. They also provide a range of explanations and in at least one case although the hearer reports low levels of control they consider the experience as positive.

Table 30 Explanations for the voices employed by the lowest ten scorers on control.

I personally believe in ESP I have it sometimes.

My voices could be a reaction of loss of hearing. I believe some hearing impaired people became mildly psychotic because of the stress of their (unknown word) problems.

Through prayer and meditation it, has come to help me. I was a 'disturbed' person for 42yrs before I got voices. I have become a much better person since having them.

Result of being told that I am possessed by evil spirits and three failed deliverance attempts.

Like a transmitting and receiving radio.

Chemical imbalance in brain functioning.

I was told it was a voice, I was hearing at a voice hearing meeting.

Sometimes to do with ear/brain in terms of physiology. There may be a spiritual component ie good and/or evil angels may involved.

A reaction to an overload of stress and past abuse. Like post traumatic stress syndrome — a way of coping without being completely destroyed. Negative input and emotional abuse as well as other kinds has created the voices.

I haven't any explanation.

It is noticeable that a range of explanations were offered both in terms of illness and more spiritual explanations and in some cases a combination of the two. Also noticeable were a few comments regarding how the voices might be due to imagination and originate from traumatic events earlier in life.

Discussion

A distinct difference was apparent in that those reporting more control over the experiences reported using more interactive control techniques such as engaging the voices. This is after all, a strategy which is actively promoted in the publications and meetings of the hearing voices network and it would be expected that voice hearers would be using this and finding it helpful. A clear distinction was noticeable between the high and low controls. The low control group failed to make as much use of engagement and relied more on blocking the experiences with distracting media or activities.

A large number of alternative explanations for the voices were offered. This again is something which is encouraged by the hearing voices network and which possibly offers valuable opportunities for gaining control of the experiences. A clear difference was apparent between high and low control groups with over twice as many high compared to low control voice hearers reporting paranormal explanations, although the low control voice hearers did report more spiritual explanations than the high control voice hearers.

The low control voice hearers reported more idiosyncratic explanations for the voices than the high control hearers. They were also more likely to report the voices as arising from illness.

There was a combination of physiologically based explanations and spiritual or paranormal explanations and in at least one case a combination of the two. This indicates how these two disparate hypotheses can be held simultaneously. This seems to suggest a good deal of flexibility as well as more than a hint of the unusual and metaphorical thinking indicative of an experiential mode of cognition. This was particularly noticeable in relationships to the technological explanations 'like a transmitting and receiving radio' this also suggests a certain passivity in 'picking up' the voices which is akin to metaphorical mapping of machine characteristics (see Sass, 1992).

The relationships between paranormal belief and levels of reported discomfort in relation to the voices seem to suggest a beneficial aspect of

paranormal belief or it could alternatively mean that those hearers who experience less discomfort can afford the luxury of these beliefs. The ASGS as a sheep goat scale rather than simply a belief measure also addresses experiences and this suggests that these may provide a useful explanatory framework for voices experiences. Using this framework the hearer can begin perhaps to take responsibility for his actions and experiences — viewing them as connected to some kind of paranormal facility or skill. It was noticeable that more spiritual explanations of the voices were offered by the low control experients, perhaps corresponding to an external frame of reference to which they are subjugated.

Paranormal belief was variously related to reported control of the voices. In the males it was negatively related, suggesting higher levels of belief were associated with lower levels of control while the opposite was true of the females. In spite of this difference both males and female recorded higher levels of belief in association with lower levels of discomfort.

This may be supportive of Taylor & Brown's (1988) and Schumaker's (1990) contention that such beliefs can be healthy. This is something which is completely at odds with much psychiatric practice, which aims to disengage the psychiatric patient from beliefs such as these as soon as possible. It might suggest that instead of obtaining a grounding in orthodox 'scientific and objective truth' he or she may find it more beneficial to adopt a more 'magical' perspective. Romme has discussed this tendency to impose 'objective truth' upon the voice hearer. While this might seem counterproductive from our own Western perspective we should remember that in more traditional cultures some people who hear voices are marked out for roles as shamans and benefit greatly from the social acceptance of their unusual ability.

What is perhaps useful about the Hearing Voices Network's approach to these experiences is the encouragement of a diversity of explanations. The small sample reviewed here offer a good range of explanations which

reach from reasonably orthodox accepted explanations involving psychiatric diagnoses to the much more controversial spiritual or paranormal ones. Each of these explanations are movements towards a personal construction of reality which meets the needs of a particular individual.

Chapter 7.

An integrated approach

Following the overall pattern of an experiential or imaginative cognitive style in the empirical and interpretative chapters an attempt is made in this chapter to relate the various components of such a style to create a theoretical picture of this style of thinking. It incorporates a wide range of experiential phenomena including hypnagogia, synesthesia and metaphor and analogy. This experiential style is actually the everyday consciousness that we all experience, it underlies the more analytic thinking style which is considered as 'reason' and 'rational'.

In evolutionary terms experiential thought is much older than its rational and analytic counterpart. It is characteristic of thought in antiquity and children's thought (Gelernter, 1994). It is likely that we miss much of the features of this thought such as its metaphorical and symbolic nature because of it is so implicit. By examining these metaphors we have an opportunity to highlight the previously hidden and realise that certain images such as those represented in the experiences reported in this work are relatively commonplace yet perhaps they relate to the more twilight periods of awareness, characterised as low focus thinking by Gelernter (1994) and seen near sleep and in extreme changes in arousal. Perhaps schizophrenics and paranormal experiencers inhabit these regions by virtue of traits that have been discussed in the earlier chapters and are therefore more familiar with this territory.

Experiential cognition and imagination

Evidence was found in the psychometric studies for an imaginative and magical mode of cognition being related to reports of paranormal experiences. A similar conclusion can be drawn from the studies regarding certain aspects of psychopathology. In this section a tentative attempt will be

undertaken to try and integrate these different factors and influences further under a single dimension which might be conveniently described as one of experiential versus analytic cognition (Epstein, 1994). According to Epstein:

There are two interactive processing systems, experiential and rational; the experiential system is intimately associated with the experience of affect. The experiential system is an associationistic system. Processing in the mode of the experiential system and its influence on rational thinking can lead people to judge events that are only arbitrarily related as causally related. (p. 717)

The tendency to favour one form of thinking (mentioned earlier) in some cases inclines to a neglect (if not a complete denial) of another major form of thinking. Here I will use the terms employed by Epstein (1994) the *experiential* and the *rational-analytic* to distinguish these two forms of cognition. In general, rational analytic thinking has been promoted above imagination and imagination has largely been viewed as a weak, inferior, regressive or sick mind. It is only recently that philosophers and scientists have advocated that research examine the role of imagination.

These kinds of complementary thinking have largely been ignored in psychology, although they have received attention from some quarters, e.g. Freud in his classic distinction between primary and secondary processes (although he perhaps sees indulgence in primary processes as largely pathological). Epstein (1994), in his model of the cognitive-experiential self provides a rich framework for understanding two modes of cognition. Another early discussion of this topic is offered by McKellar (1957) in his discussion of A (autistic) and R (reality) types of thought. The cognitive heuristics of Kahneman, Slovic and Tversky (1981) and the central and peripheral routes to understanding and attitude formation outlined in social psychology (Petty & Cacioppo, 1981) are also examples of this distinction between these two different types of thinking.

Freud's distinction between primary and secondary processes emphasised these two modes of thinking, stressing the important role of imaginative and experiential cognition, albeit largely in the development of psy-

chopathology. He described the role of imagination in structuring experience but maintained the Western bias towards rational rather than experiential thought. There were of course some domains in which imaginative and experiential thinking had precedence, particularly in the creative process. It is through experiential cognition that unusual juxtapositions of concepts can be made. Even though valuable from the position of its creative contribution, the experiential mode of thought sustained a pathological flavour and debates continue on the relationship between pathology and creativity (see Eysenck 1993).

Experiential thought is laden with affect and association (characterised by low focus thought and communicated through metaphor); two good examples of this kind of thought, both of which seem to be linked with paranormal experience and psychopathology are synesthesia and hypnagogia.

Hypnagogia & synesthesia

Mavromatis (1987) in his discussion of hypnagogic experiences proposes that mental images may on occasions be treated as real perceptual objects by the sensory and processing systems in the brain. So mental images can be functionally equivalent to physical objects and events at many levels of the visual system (Finke, 1980). In isolating areas or structures of the brain which might be considered focal points for hypnagogic activity, Mavromatis points to subcortical structures (Cytowick, 1994, has suggested that synesthesia is also subcortical in origin). There has been a steady accumulation of evidence that the destruction of the visual cortex does not result in total loss of vision, leading to the notion that vision may be partly directed from subcortical regions of the brain.

Specifically, Mavromatis identifies hypnagogic activities with cortico-subcortical perturbations and with 4-7 cps theta rhythms recorded from the parietotemporal regions. The stimulation of the deep structures in the limbic system of epileptic patients seems to trigger experiences remarkably similar

to hypnagogic experiences. For example they show verbal communications which are similar to aphasia, sleep-talking and hypnagogia. From another line of evidence — the link between schizophrenia and hypnagogia — Mavromatis rallies support for his identification of lower brain sites for hypnagogic experiences. A number of investigators have identified disturbances in the reticular system, thalamic structure, midbrain, diencephalon and brainstem of patients.

Glicksohn (1990) noted that most cases of subjective paranormal experience occur during states proximal to hypnagogia. The case for relaxed states is already well stated in experimental parapsychology and the relationship between spontaneous experiences and similar states has been noted already (Irwin, 1989).

There have been intimations that older areas of the brain may be engaged in psi experience. For instance Warcollier (1948) remarks that telepathy in its most primitive form may produce coenesthetic disturbances i.e., sensation arising in the vital organs. Furthermore, these can be characterised by "sensations of a depressing type; ... [and] give rise to fits of weeping, vague presentiments or premonitions, confusions or disorientations." (quoted in Mavromatis, p. 61)

Myers (1903) viewed synesthesia as being related to more primitive forms of perception and proposed that synesthesia "... may connect in unlooked-for ways man's responses to his physical and to his transcendental environments (quoted by Alvarado, 1994).

McLean (1960), as cited by Mavromatis, notes that the old brain can confuse the inside and outside worlds. His impression is that "[these patients] show an exaggerated tendency to regard the external world as though it were part of themselves. In other words, internal feelings are blended with what is seen, heard or otherwise sensed in such a way that the outside world is experienced as though it were inside. In this respect there is a resemblance to children and primitive peoples." (p. 252)

Synesthesia has been considered as an older form of thinking about and experiencing the world which is linked with older structures of the brain. Synesthetic experiences involve a cross-domain processing of perceptual experience or a fusion of perceptual qualities sometimes described as syncretic (Werner, 1948). So certain aspects of visual experiences can be equated with certain aspects of auditory experiences, for instance bright = loud and dull = quiet (there is even an indication of this in the everyday idiom "she wore loud clothes" which relates to brightly coloured clothing). As an evolutionally older form of registering and experiencing the world syncretic thought is, according to Mavromatis, present in lower animals. He reports upon an experiment by Schiller (1935) in which fish which had learnt to discriminate between light and dark seemed to demonstrate a 'transfer of training between the senses' in that they responded to certain odours as 'bright' and 'dark'.

One might imagine, for example, that although the visceral brain could never aspire to conceive of the colour red in terms of a three-letter word or as a specific wave-length of light, it could associate the colour symbolically with such diverse things as blood, fainting, fighting, flowers etc., — correlations leading to phobias, obsessive-compulsive behaviour, etc. Lacking the help and control of the neocortex, its impressions would be discharged without modification into the hypothalamus and lower centres of affective behaviour. Considered in the light of Freudian psychology, the old brain would have many attributes of the unconscious id. One might argue, however, that the visceral brain is not at all unconscious (possibly not even in certain stages of sleep), but rather eludes the grasp of the intellect because its animalistic and primitive structure makes it impossible to communicate in verbal terms. (McLean, quoted by Mavromatis, 1991)

Hunt (1984) provides an account of mystical and altered states experiences which are a full exteriorisation and completion of synesthetic experience. He argues that this is the creative imaginal core of thought and language come to the front of experience. Alvarado (1994) examined the relationship of synesthesia to paranormal belief. He notes the speculations of Duplessis (1966, 1968) where she discusses synesthesia as a "mode of emission of an agent's image" (Alvarado, 1994, p.12). This is interpreted by

Alvarado as meaning:

that a synesthetic transformation of a telepathic signal is a usual expression of ESP-acquired information. She has reported qualitative ESP tests in which ESP reception was facilitated by the use of sensory modalities different from those of the percipient's responses. Duplessis (1966) also lists several similarities between synesthesia and ESP. In her view both phenomena are: spontaneous, maybe hereditary, happen more frequently when the individual is relaxed, more intense regarding emotional content, predominantly visual, related to creativity, and to memory processes. (p. 12)

Alvarado went on to test this by assessing a small sample on both paranormal experiences and synesthesia. Respondents were assessed on the basis of their synesthesia scores (Tellegen's synesthesia subscale of the absorption scale was employed). He found higher frequencies of reported paranormal experiences in the respondents who were high on the synesthesia measure than those scoring lower on it.

Both hypnagogia and synesthesia are briefly presented here as examples of an experiential mode of responding. The proposal presented here is that this experiential mode of cognition is a primary process underlying all human experience. This is likely to be the dominant mode functioning even though rational analytic modes are often accessed. These experiential modes are more commonly experienced in passive, low focused attentional states, for instance near sleep, and perhaps in more aroused states such as a 'jamming of the circuits' (West, 1962).

It is also more likely that children adopt these stances more readily than adults and perhaps our ancient forbears accessed these states more readily than their modern counterparts (Gelernter, 1994). None of this is very controversial, what is perhaps more testing is the likelihood that these states of diffused consciousness can report accurately on the world and possess meaning.

To a degree, the meaning derived from these experiences is dependent upon a change in perspective. Objectivity itself (objectivism) is at odds with this view as it naturally denies any significant role to subjective states and

imaginative activity. A very good argument exists that objectivism itself is based upon particular imaginative structures, schemas and metaphors (Lakoff, 1987) and cannot therefore profess exclusive rights to the truth. It is made blatantly apparent by the contemporary metaphor theorists that a God's eye view of world is untenable — truth and objectivity are only satisfactory concepts insofar as they incorporate the social and common experiential frameworks of any given culture.

Mapping out the role of imagination and metaphor

The main characteristic of schizophrenic cosmology is its fantastic and magic character.... The schizophrenic world is filled with secret energies, rays, good and evil forces or waves which penetrate human thoughts and direct human behaviour.... Even though the cultural changes throughout history have influenced the thematic content of the schizophrenic world, there are, nevertheless, certain motifs which repeat themselves: a struggle of contradictory forces, the possibility of action per distance, and the pretended character of the perceived world. The world is a place of struggle between forces with a moral connotation: good and evil, beauty and ugliness, wisdom and stupidity.... It seems as if the patient discovers the essence of reality— Kant's "Ding an sich" (noumenon). According to the patient, other people are ignorant and only aware of the Kantian phenomenon (appearance). The world becomes a caricature of causal connections: there are no independent events—one event is always dependent on another and interacts with the other. (Kepinski 1974, pp. 118-119. quoted in Bovet and Parnas, 1993)

The experiential side of thinking delivers an emotionally charged magical world view as can be seen in the quote above. This is the kind of thinking seen in its most pure state during dreams and psychosis but it is also arguably inseparable from all thought. This dream-like thought seems to occur in the background even during waking activities. In a study by Klinger and Cox (1988) subjects were beeped throughout the day and asked to record their daytime thoughts at those moments; 25% showed signs of dream-like mentation. Also the predominant process in experiential thought — metaphor — plays a primary role in structuring the world (Lakoff & Johnson, 1980; Wheeler, 1987).

In order to fully appreciate the nature of experiential thought we have

to offload some of the clarity and logic of rational-analytic stance and welcome the incongruous, conceptual overlapping, and logically blurred. Experiential thought is likely to involve what seems to be vague and bizarre content which has more to do with implicit patterns such as image schemas (Johnson, 1987). In a case study mentioned by Hurlburt (1993), a young woman called Michelle used the term 'balloon' to communicate her dysphoric experiences. She could understand perception, metaphor and conception in relation to everything except her own personal inner experience. This suggests that 'balloon' was a description which unfolded from bodily and emotional valences — it is a preconceptual description of personal experience; this is close to how Johnson describes image schemas. The balloon for Michelle was a subspace of her head in/or against which certain experiences, thoughts, images or words would appear. This seems to suggest something very like an enactive bodily/emotional image schematic representation of the cognitive registering process.

These bizarre symbols when communicated to clinicians are often taken to be hints of pathology. Within the current cognitive approach to psychology there is no place for such artful elaborations. According to Sass (1992):

Apart from a few perfunctory speculations about the confusion and anxiety likely to result from the malfunction in question, the cognitivist theories have not had a great deal to say about the lived-world or existential condition that may underlie and motivate these anomalies of expression. And, since these cognitivist theories generally understand schizophrenic abnormalities of speech and understanding as a causal by-product of a malfunctioning brain or cognitive mechanism, they tend to downplay or even to deny the intentional and meaningful aspects of such language. (p.182)

It is not surprising that these kinds of thoughts and experiences are seen as regressive and unreal when viewed from the sharpened intellect of the rational analytic position. Gelernter (1994) describes the elevation of the rational over the experiential and laments the loss of the magical.

The human cognitive faculty becomes, in this view, a tent defined by a single round of cloth. As the individual or the civilisation develops, the cloth doesn't get bigger—the tent pole merely rises higher. Knowledge ascends to encompass new realms, and at the same time the perimeter is dragged inwards, and experiences that were once inside no longer are.

Human knowledge deepens and narrows, continuously and inevitably, and on this view the pronouncements that attack "the 'magic' of earlier visions" are profoundly wrong. They deepen our understanding not because they are good diagnoses but because they are interesting symptoms. Outfitted as they are with modern minds and habits of thought, our own thinkers and philosophers are simply unable to see what ancient man saw. (p. 112)

Conceptual metaphor plays a fundamental role in our experience. Not only are our everyday actions are enfolded by these imaginative structures, so is science, economics and every area of human endeavour and experience.

According to Lakoff and Johnson (1980):

Our ordinary conceptual system, in terms of which we both think and act, is fundamentally metaphorical in nature. (p.3)

When concepts become culturally and socially acceptable their origins in metaphor become forgotten and they are taken to be literal. Perhaps in the case of paranormal experience and psychopathological/ schizotypal experience these are a set of metaphors not convincingly accepted by the culture as a whole. In some cases, perhaps particularly with the more profound experiences such as psychosis, we have examples of personal construction and metaphors. Metaphors offer the opportunity to develop new views and perspectives, as Bohm and Peat (1987) indicate:

The essential point ... is that metaphors can sometimes have an extraordinary power, not only to extend the thought processes of science, but also to penetrate into as yet unknown domains of reality, which are in some sense implicit in the metaphor... (p.41)

The contemporary view of metaphor owes much to the groundbreaking work of George Lakoff and Mark Johnson (1980). Their book *Metaphors We Live By* provides a radical view of metaphor and its meaning. No longer

seen as simply an attractive but vague linguistic device, metaphor instead is accorded a role central to cognition itself. In this and other works (Johnson, 1987; Lakoff, 1987); Lakoff and Johnson provide an extensive analysis of the role of metaphor in thought and language. They show that metaphor is a form of cross-domain conceptual mapping, that highlights structural similarities between the experience of the target and source domains in a coherent and systematic way. To give an example, we often talk about love as if it constituted a journey, as in "We've hit a dead end street." "We can't turn back now." "Their marriage is on the rocks." "The relationship is not going anywhere." "The relationship is at a crossroads."

These examples of everyday views of love and relationships convey the metaphorical sense of a journey. As often happens the metaphorical representation (in this case a journey) is used to structure the more abstract experience (in this case love). Love is mapped out in terms of a journey because there are inherent commonalities between the two domains of experience—the end of a relationship is the end of a journey; a relationship can be rough and stormy or smooth and uneventful, just like a sea crossing.

Lakoff (1987) and Johnson (1987) present a strong case for a new understanding of the generation of meaning through metaphor, basic-level categories, and preconceptual systems such as image schemas. Basic-level categories constitute prototypical exemplars of any category; for example imagine a bird and it is likely to be sparrow-like rather than emu-like; image schemas are regularities and patterns in the ordering activities of cognition. An example of one of the most basic image schemas is that of the container. For instance, the mind is a container as in "Get those ideas out of your head." "I'll keep that in mind." "He's out of his mind."

Lakoff and Johnson stress an enactive view of cognition and advocate that imagination and embodiment be accorded higher status in accounts of cognition and the categorisation of experience. I will use the term metaphor in the spirit of the contemporary view, although at times the terms analogy

or symbol might be easily exchangeable with it. In some cases, the metaphors may be obvious in their usage and relationship to the experiences they help to structure. In other cases it will be necessary to be more sensitive to the context in which a term is employed in order to perceive any relationships. This broad approach to metaphor departs from the strict definition of metaphor as a linguistic device and promotes a view of metaphor as an activity of cognition.

Studies of metaphors provide important insights into the construction of a discipline. Metaphors serve both to focus and constrain thought and investigation within certain boundaries. In the history of psychology, the mind has been seen as a wax tablet, a ghost (in the machine), a telephone exchange, a hydraulic system, and most recently and possibly most influentially, a computer. Texts such as that by Soyland (1994) and Leary (1990) provide excellent accounts of the changing metaphors used in psychological modelling, rhetoric, and discourse.

Generally, we fail to realise how much our language is dependent upon and constructed from metaphors, both living and dead. Many metaphors eventually die and become part of literal discourse; for instance, the term mental illness is currently used in the literal sense but was originally intended as a metaphor; in this sense, the literal is a subclass of the metaphorical (Soyland, 1994). Adopting a strong view of metaphor, we may even argue that everything is metaphor (Wheeler, 1987), even those fundamental aspects of reality such as our cardinal concepts of time, space, and measure (Jones, 1983).

Not only has the contribution of the imagination to cognition been largely overlooked but the relationship of the imagination to the body and the role of the body in the act of perception and experience has also been missed. As always there are some exceptions to this and as in the case of imagination we can look to the continent and the work of the phenomenologists like Husserl, Heidegger and Merleau-Ponty. More recently, as part of

the increasing interest in metaphor, authors such as Mark Johnson have discussed the 'body in the mind', the way in which a good deal of our imaginative structures rely on forms derived from the experience of embodiment. The sense of embodiment is fundamental in structuring imagination; the role of image schemas (recurrent patterns of experience which are pre-conceptual in form) is primary in structuring even the most common-place experiences.

One good example offered by Lakoff (1987) relates to anger. Anger is schematically represented as a substance under pressure. So when a person says that they 'exploded', 'hit the roof', or 'blew a gasket' they are drawing on an imaginative schematic structure in which physiological experience, tension and arousal are metaphorically allied with substances which are heated or under pressure and which as a consequence explode.

There are possible parallels here in the visual iconographic representations of upper palaeolithic art (Lewis-Williams & Dowson, 1988). In these works it has been hypothesised that the shaman's experiences of altered states of consciousness are reported in the simple patterns of the paintings of the period. The zig zags or spirals for instance may be representations of the trembling and boiling sensations in the stomach and spine. Interestingly Lewis-Williams and Dowson note similarities between some of these transformations of physical states into visual representations and synesthetic transformations.

Assumptions about our basic terminology being literal seem upon further examination open to question. Even the verb 'to be' which would be seen as the most literal of verbs is metaphorical when you look at its origins. It comes from the Sanskrit *bhu*, to "grow, or to make grow" while the English forms 'am' and 'is' have evolved from the same root as the Sanskrit *asmi*, "to breathe".

Emphasising the role of imagination in cognition permits an understanding of the ways in which metaphorical, analogical, and associative rea-

soning may help to structure unusual and rare experiences such as those attributed to paranormal causes. Perhaps even more important than this is that as these imaginative schemas and frameworks derive from experience (predominantly physical experience) they provide a bridge between matter and mind — the Cartesian gap.

Conceptual metaphors are central both to developing personal beliefs and formal theories. Analogistic reasoning is likely to be responsible for much of the belief systems of traditional societies. Rulers such as kings are likened to the sun (this is especially the case in Ancient Egypt); sun = gold; and as such the king wears gold. Much of this kind of reasoning is implicit and unconscious and we are as likely to submit to its charms as much today as yesterday; there are many good examples in terms of modern media advertising. Science itself progresses in large part thanks to the available metaphors, for example “an atom is a solar system” (Ortony, 1993).

It is likely that metaphorical thinking is strongly linked to magical thinking. For instance, a common element in witchcraft is the use of a “witness” or object which represents the individual to be focussed upon, is influenced in some way and that influence transferred to the person it represents; “the person is the object”, they are linked together in an imaginative, magical and fundamentally metaphorical relationship. ESP is understood largely in terms of metaphors focussed around the notion of a “power” or “energy” which can be “transmitted” and “received”. The construction of ESP relies largely on metaphorically mapping one set of concepts in an unknown domain (the domain of ESP) onto another known domain (for example the domain of communications theory and radio transmissions — this and other proposed core metaphors are set out in more detail below). Discussions of this matter have appeared in contributions to the literature by researchers examining anomalistic psychology (Zusne & Jones, 1987) and experimental parapsychologists (Jahn & Dunne, 1987) who are prepared to say that:

consciousness is an operation rather than a thing, a repository, or a function. It operates by way of analogy, by way of constructing an analog space with an analog 'I' that can observe that space, and move metaphorically in it. It operates on any reactivity, excerpts relevant aspects, narratizes and conciliates them together in a metaphorical space where such meanings can be manipulated like things in space. Conscious mind is a spatial analog of the world and mental acts are analogs of bodily acts. (p. 65-66)

In a sense we never escape the images of the world we construct through metaphors and it is these that form the basis for our understanding of the world. The contemporary metaphor theorists do not accept that this is an inherently subjective position but one which represents a middle position between objectivity and subjectivity which they call 'experientialism'.

This would seem to support my position in arguing for an appreciation of the multilevelled role of metaphor in understanding thought and experience.

Metaphor seems to provide a fundamental basis for thought. This leads to a counter-intuitive position that the literal is a subset of the metaphorical (Soyland, 1994) and that reality is constructed through a particular choice of metaphors and images which fit the cultural perspective in which that construction is occurring. The role cognition plays in constructing reality is undeniable. Wheeler (1987) contends that metaphor is the primary reality, Jones (1983) describes how the basic building blocks of the world are themselves reliant on metaphor and Jahn and Dunne (1987) make a similar case.

In the previous section evidence was presented to support a case for understanding paranormal experience as arising out of experiential cognition. This will be further explored in the following pages particularly in relation to a metaphor schematisation of a phenomenology of the mind in paranormal experiences.

Metaphors and mind

The recent emphasis on metaphor has perhaps been sensed by para-

psychologists Jahn & Dunne (1987). They apply this framework to understanding psi in the light of metaphors drawn from theoretical physics.

...the common concepts of established physical theories, such as mass, momentum, and energy; electric charge and magnetic field; frequency and wavelength; the quantum and the wave function; and even distance and time, be regarded as no more than useful categories that consciousness has developed for ordering the chaos of stimuli bombarding it from its environment, or passing from it to its environment. More precisely, they reflect the characteristics of consciousness as of the environment. It follows, then, that the concepts, formalisms, and imagery of physical theory may provide useful metaphors for the representation of nature and processes of consciousness itself or, again more precisely, of consciousness examining itself. Conversely, the less tangible aspects of subjective and impressionistic experience may be requisite ingredients of any general theory of reality, including physical reality. (p. 205)

In their model of the role of consciousness Jahn and Dunne challenge the traditional Western view of a particulate nature of consciousness. Although consciousness has predominantly been viewed as a discrete object bounded in space and time, Jahn and Dunne propose that there is no reason why the opposite view should not be entertained—that consciousness can be spread-out, blurred and wave-like. Consciousness may itself (just like material reality) be better and more fully described by adopting a wave-particle duality perspective. Once the notion of a wave-like aspect to consciousness is introduced it is feasible that consciousness can be viewed as operating an entirely new set of properties which are characteristic of waves but not of particles.

At bottom, Jahn and Dunne are prepared to accept a fluid view of reality in which the world and its observers are inextricably linked in a process of experience, understanding and evaluation. A world which seems more metaphorical than literal, temporary and fluxing rather than enduring and fixed. With these values we return to a position held by the ancient Greeks firmly between the choices of 'being' and 'becoming'. Parmenides (500 BC) was a proponent of the concept of being and he argued that the world does not change and it really is as it seems. Heraclitus (500 BC) — famous for

never stepping in the same river twice —argued that contrary to the view of Parmenides the world is constantly shifting and ever becoming something new — it is more fire than earth. Being and becoming are perhaps examples of an object / relationship dichotomy. Jahn and Dunne, drawing on theories in modern physics reinstate this distinction and in true 'bootstrapping' style they are even prepared to admit that quantum theory as it stands is essentially metaphorical.

Jahn and Dunne note that changes in perceptions of time are evident in different cognitive states; when we are happy time flies, when we are bored time drags. Also, in terms of mass, people can be heavy (heavy, burdened) or light (levity, lighthearted). Lighter thoughts drift away and break free from us while the heavier ones gravitate towards us. As in the theory of relativity, massive experiences not only weigh on us but distort our consciousness perception grid (p. 235). Jahn and Dunne draw attention to some startling analogies between physical processes observed in physical systems and the kinds of occurrences which we all experience in everyday life.

This mesh of analogies or web of metaphors is a subtle system of inter-relationship and interdependence. Many thinkers have noted that we should take notice of the energy-matter continuum. Bohm explicitly places these two concepts, as well as 'meaning', in a triangular relationship. This relationship relates to a formulation of what Bohm calls soma-significance which is another way of viewing the mind-matter connection. From Bohm's perspective mind and matter are not separate at all as they are in the Cartesian sense but aspects of one flowing whole.

Bohm notes how intelligent significant activity which we usually only attribute to mental events occurs in physical systems as well. This being the case, the physiological changes in response to a fear stimulus are somatic signs of significance. This links remarkably well with the arguments for an enactive view of mind where the embodiment of mind contributes much of the imaginative structures used in cognition and experience (see Lakoff &

Kovacs' case study of anger). It is likely that this level of thought is characteristic of the implicate (Bohm, 1980) or borderline (Chadwick, 1990) level of understanding.

The metaphors and image schematic structures which seem to underlie the fundamental construction and explanation of paranormal experiences may be linked to some of the features of experience (vividness of certain aspects of the experience). It may be that those with higher levels of self focus will experience a greater awareness of the physical state of their body and be more likely to permit this to structure their experiences and their communication of these.

Not only is the body involved, it is also likely that mental representation and affective states will colour perception and influence hallucinations. For instance, imagine experiencing a sense of loss of self, of boundaries, of individuality; this might lead to problems in defining where self ends and begins, not just conceptually but physically (as it seems unlikely that these operate separately from each other). This state of affairs could lead to the assumption that your thoughts are leaking out or energies are being beamed to you without any resistance normally provided by the body.

According to Smith (1993) the voices heard by schizophrenics are ethereal, soft and mumbled, in the body, or vaguely in the air, arriving on beams, rays or signals. Schizophrenic hallucinations often seem to originate from affective or mental seeds. Arieti (1974) describes how a worthless feeling may be responsible for generating hallucinations and delusions of rotting (again a good example of a metaphorical transformation).

It is likely that once thought takes a lower focus personal reminiscences and focal concerns contribute much of its content. The ESP claims of psychotics may be derived from low focus thought brought on by such focal concerns but may also have a correspondence with real events. The evidence supporting psychotic state telepathy comes mainly from early prodromal cases and therapeutic situations, while the experimental evidence is

rather poor.

It is inevitable that certain schemas would arise in describing and experiencing paranormal phenomena. We can see how the basic assumptions about reality provide a context for the use of these schemas (they probably developed themselves from sensed facts about reality). Objectivity is the view that the world is as we see it, made up of hard objects such as tables, chairs, rivers and mountains, which are 'out there'. Mind where it exists is a characteristic of the brain bounded by the body. Experience is individual and subjective but can be shared through communication. Experience is also bounded by the time-space coordinates in which the body moves (Howell, 1989). We have seen that there are possible alternatives to this view arising from theoretical physics (Bohm, 1980). Howell describes the phenomenological way of dealing with the objective-subjective split. This is achieved through acknowledging the interactive nature of reality and our expectations, although she admits that this view has had little impact on "the plausibility limits of imposed on interpretations of praternatural experiences" (p. 81).

Jahn and Dunne (1986) speculate that these kinds of constraints to cognition can be removed if a human can obtain to wave rather than particle status. Through their analysis of metaphor and idiom, such as being "lost in each other" and acknowledging that "this is bigger than the both of us" they conjecture that anomalous events such as ESP occur where:

the wavelengths of the consciousness wave functions have the same or larger scale than the dimensions of the environmental wells or contexts in which they are immersed, and will revert to a normal pattern when the wavelengths are much smaller than those dimensions ... long wavelengths are postulated to represent more free-floating, holistic, generalised, aesthetic consciousness strategies. (p. 263)

Some evidence is provided for this view, for instance, Nelson (1989) has described the mystical experience as resulting from an 'ontic shift' or 'reality shift' in which — through changes in awareness — the world has itself changed. Nelson also mentions that there are certain personality char-

acteristics which enable this reality shift, for example, absorption. Howell argues that all forms of psi experience (ESP, PK, precognition) compromise body boundaries. This has to be taken seriously. It has perhaps been avoided by the forced fit of parapsychology into current cognitivist frameworks.

Deikman (1982) discusses a state (the receptive mode) similar to the one we have discussed as generative of metaphors and psi experiences.

... past and future drop away and sensual attributes dominate over the perception of form and verbal meaning. Analytic thought tends to cease; attention becomes diffuse and boundaries blur. The separate self dissolves, permitting the experience of connection or merging into the environment.' (p. 71)

Jahn and Dunne (1987) use the wavelength metaphor in a similar way to Gelernter's focus metaphor, both of these may indicate substantial alterations in cognition, which as a consequence yield unusual experiences.

According to Jahn and Dunne:

Consciousness may be characterised as a long or short wavelength. The former is focussed, and purposeful the latter involves a more diffuse pattern of goals (free flowing and aesthetic attending less to detail and more holistic patterns and sensations). p. 240

This relationship between mind and matter did not escape the attention of Jung (1963) who also noted this exchange of energetic, spatial, and mass characteristics between subjective and objective events.

It is obviously important to examine this 'mind space' because it is likely that it is within this imaginative structure or schema of spatial extent of experience, that the weightings, locations or parameters involved in the decisions of subjective and objective, self and other are calculated.

Summary

In this chapter experiential thought was considered in relationship to psychological states such as hypnagogia and synesthesia. These were employed as examples of cognitive states which are related to unusual experience of the kind reported in both paranormal and psychotic experience.

A physical basis for this kind of thought was suggested with examples of how experiential thought may be more primary and form the basis for literal/logical thought. It was also suggested that addressing the metaphorical representations of embodied/experiential thought provides a means to address the mind body division.

Finally the speculative but powerful ideas drawn from metaphorical analyses of quantum physics were examined as they may suggest ways of understanding paranormal experiences.

In the next section specific attention is paid to metaphors used in the parapsychological and psychical research literature with a view to developing a set of structures and examining the implications of anomalous experiences.

Chapter 8

The metaphors of paranormal experience

In the last chapter it was proposed that metaphors are fundamental to thought and particularly descriptive of experiential or low focused thought. Metaphors can act as schematic images of personal experience and therefore provide a framework in which to understand and contextualise such experience. The metaphors of paranormal experience are described here firstly in the context of a review of the parapsychological literature and subsequently as windows on experiences reported in the narratives of paranormal experiencers. The second part of the chapter adds an empirical dimension to the first part permitting a test of the usage of the metaphors isolated in the parapsychological literature.

This chapter focusses the overall investigation upon the particular forms of paranormal experience, and how they are represented metaphorically. It is suggested that this provides a means of accessing and understanding the experiential or imaginative style of cognition which has been suggested as underlying the experience of the paranormal and some symptoms of psychopathology.

The review of the parapsychological literature isolates three forms of metaphor used to describe parapsychological phenomena: these are named *intrusions*, *transmissions* and *connections*. These are recorded in the answers of a sample of participants and assessed for their relative frequencies to other explanations and metaphors.

Like any other area of research, the history of psychical and parapsychological research is replete with metaphors employed to conceptually isolate the elusive quarry psi (Hyman, 1989). This very elusiveness suggests a primary metaphor of quicksilver or mercury (White, 1985). As in other disciplines, there are benefits to be gained from applying an analysis of metaphor to parapsychology. This approach highlights how paranormal

phenomena have been conceptualised by different parties, how the study of the paranormal has developed, and provides insights into what these exceptional experiences might mean to those people who have them. It also provides us with ideas about how the subject of parapsychology is presented in the professional and public arenas.

An examination such as this, taking into account the metaphors employed in the field of parapsychology, is somewhat rare but not entirely new. Hillman (1971) in examining the main images, and fantasies of parapsychology noted the use of metaphors such as the involvement of will in relation to PK and intimacy in relation to apparitional experiences. These particular metaphors indicate how these kinds of experiences are constructed as well as indicating broader considerations such as the general spiritual orientation or anti-matter fantasy of many parapsychologists.

Hess (1988) takes a certain delight in immersing himself in the metaphors and ideas of parapsychology. He explores the identity and sexuality of parapsychology arguing that there is a hierarchy expressed in the field with experimental modes of research having an elevated status over those that involve experiential investigations. In addition experimental approaches tend to be described as being more masculine, they are considered as harder and more objective than the feminine experiential approach.

Exploring the role of dreams in psi experiences, Ullman (1984) views these communications as primarily metaphorical in nature. According to Ullman, dreams are metaphors in motion, and psi that occurs during dreams partakes of this metaphorical atmosphere. Ullman ultimately views dreams and psi as phenomena which bind the individual to others and to the whole, as with metaphors they emphasise connecting patterns and relationships.

The metaphors in parapsychology and psychical research have been forged, adapted, and abandoned as the times and society encouraged different perspectives on paranormal phenomena. For instance, we have seen the

force involved in psychokinesis compared earlier to fluids and electricity and later to fields and quantum processes. The few titles listed below (which probably occupy space on many of our shelves) give an inkling of the ways in which paranormal phenomena have been envisioned: *Phantasms of the Living*, *Mental Radio*, *Beyond Reality*, *Parapsychology: Science or Magic*.

Historically, the study of psi has been viewed as existing far outside the normal boundaries and concerns of 19th - and 20th - century science. Whether proposing the possibility of contact with the dead or novel forms of communication, books with titles such as *Beyond the Reach of Sense* (Heywood, 1974) and *Beyond Reality* (Rogo, 1990) establish psi as an object of scrutiny out of this world; and to many the study of psi and its existence are seen as existing in the *Margins of Reality* (Jahn & Dunne, 1987). These titles are naturally eye-catching and are no doubt strategies to reach a popular audience; however, they also provide clues to how paranormal phenomena are conceptualised. Some metaphors are used overtly; however, it may be argued that some of the metaphors that will be examined are literal in their meaning. Accepting that much is yet to be learned about the nature of psi, it is reasonable to consider some of these "literal" forms of describing psi as metaphorical (indeed, if we adopt the strong view of metaphor, the literal is simply a subset of the metaphorical anyway). This helps to clarify the way in which particular descriptions of paranormal experiences arise in certain contexts and how they are seen as being related to other types of phenomena.

Psi as the grail

If for popular writers and some researchers psi research remains beyond the sensate world many skeptics would tend to agree. For some, it belongs to the same world as religion, magic, alchemy and astrology. Alcock (1985), in the *Skeptics Handbook*, illustrates the counteradvocate's position that parapsychologists are looking for intangibles that may be spiritual or quasi-religious but that at the very least are not scientific. To Alcock,

parapsychology is not the search to understand the anomalies that puzzle normal science; it is much more the quest to demonstrate that certain anomalies can be found that demand for their explanation the existence of forces or concepts as yet not accepted as possible by science. (p. 542)

Alcock lists the sciences and discoveries that have dropped by the wayside in the march of science towards truth: alchemy, phrenology, N-rays, phlogiston. By association, psi and parapsychology can be seen as occupying a similar position to these by-gones. It is a fact that psychical research and parapsychology have been seen as reactions to a growing materialism in the sciences. With the advent of spiritualism, with mediumistic phenomena and a possible channel to another world, those espousing such a view were offered the means by which to argue against materialists. If true, these phenomena promised an afterlife and a mind free from the chains of matter. If parapsychological research was concerned with these issues, then it was guilty of religious and spiritual motivations. This is a sin according to the skeptics, but it is a blessing according to some writing from the parapsychological perspective: "Parapsychology, once the despised outcast of a materialistically-orientated orthodoxy, may now claim pride of place among the spiritual sciences; for it was parapsychology which pioneered the exploration of the world beyond the senses" (Randall, 1975, p. 241).

James Randi (1975), in his book on Uri Geller, uses a religious metaphor when he refers to the search for the holy "grail of ESP." By describing ESP as a holy relic that is mythical, precious, and wholly unattainable, he provides the sense of a fruitless crusade. The association with religion rather than science is reinforced, thus hammering home the idea that parapsychology is far removed from scientific orthodoxy and owes its origins more to metaphysics and faith than empiricism and reality.

Psi is Pathology

Counteradvocates and lay people have conceptually mapped out psi in terms of other domains such as illness and medicine. Hyman (1989) consid-

ered parapsychology a good candidate for the title pathological science. The connotations are obvious: Parapsychology is an ailment in the body of science and the remedy is surgery, to cut it out! However, Hyman is more lenient; he argues that instead of being hounded out of science deviant scientists should receive honest, constructive criticism to treat the pathology.

If "pathologies" do exist in the sense that some of our best scientists defend bizarre positions, then like all sicknesses, they are a symptom of something. Something is wrong and requires remedy. We cannot discover what is wrong by bad diagnoses—by failing to acknowledge the disease exists, by preventing others from learning about it, or by isolating the disease from the main body of science. Good science requires good and effective criticism. Bad and irrational criticism, even when the object is bizarre or outrageous, benefits no one. (p. 250)

Perhaps the most popular form of the pathology metaphor is that of mental illness, and it is directed at those who are likely to believe in exceptional phenomena, who report having had such experiences, or having investigated them. For instance, according to astronomer Peter Sturrock: "Having talked to some 'experts' in the UFO field, I am convinced that 99.9 per cent of them are crackpots, psychopaths or otherwise unreliable characters" (in Evans, 1982, p. 189).

Not only are UFO experts "mentally unreliable," so too are shamans and mediums (Gauld, 1982) points out:

Just as Victorian anthropologists were apt to think shamans merely crazy, so some psychiatrists and clergymen have dramatically or unreflectingly asserted that many mediums are mentally disturbed and probably certifiable. Such assertions are as mistaken in the latter case as in the former. (p. 21)

John Maddox, the editor of *Nature*, in a debate that took place at the University of Liverpool, argued that psychic impressions are more likely to be hallucinations rather than true accounts of the world and that as such, they are probably symptomatic of schizophrenia. Accordingly, he thinks

that to the extent that many of these phenomena are conceivably and quite probably the reports of people suffering from real organic physical diseases of that kind, it is really rather cruel that we should

rhetoric is employed to distance the phenomena and the subject from both science and common sense. It might also be argued that the opposite situation may arise where a proponent may seek to use "scientific" terminology and metaphors in order to solidify the position of certain parapsychological claims. Either way, the use of metaphor is essential to this rhetoric. It will be seen later that certain metaphors are probably employed precisely because they resonate with the current models in scientific research. I would like to extend this and suggest that an examination of the metaphors implicit in descriptions of psychical phenomena can usefully illuminate the ways in which these events have been conceptualised.

Three core metaphors of psi phenomena

Intrusions

In the heady days of spiritualism there was an invasion of another world. The title of Hilary Evans' book *Intrusions* seems a useful categorising metaphor for these experiences. For example, take a look at Daniel Defoe's discussion of the matter:

By apparitions of Spirits, I mean when the invisible inhabitants of the unknown world, be they who they will, assume human shapes, or other shapes, and show themselves visibly to us, so as that we can see them, speak to them, hear them speak, and the like. . .

The question therefore is not so much whether there are any such things; but WHO, and WHAT, and from WHENCE they are, what business they come about, who sends them or directs them, and how and in what manner we ought to think and act, and behave about them, and to them. (in Evans, 1982, pp. 62-64)

There is no doubt that the oldest posited cause of paranormal phenomena are spirits or ghosts that penetrate our reality from another unseen world. These entities are often said to be ancestors, deceased relatives, or friends. The structure of this schema consists of an image of an another world from which the occupants occasionally visit our reality. In most religions and in mythology, there are numerous accounts of this other-world as

an afterlife, spirit-world, limbo, and other terms. The intrusion metaphor is also evident in anthropological studies of traditional societies, which often employ spatial and entity schemas to make a demarcation between nature and civilisation. Typically, the area outside the village (especially the forest) is seen as occupied by spirits, and dangerous activities such as walking alone in the bush are invitations to discarnate influence and possession; in fact, it is viewed as flagrantly encouraging an intrusion into the self or the home.

The intrusion metaphor assumes that poltergeists and apparitions are the appearance of spirits that normally occupy a different space to our own. Florence Cook manifesting Katy King and Mirabelli conjuring up the dead are both viewed as creating a pathway from one world to the other. These experiences were inevitably seen as alien visitations from another world that intruded upon and jarred our increasingly material, objective, and mechanised reality.

There were good reasons for assuming that spirits were in attendance at sittings. In so far as the proceedings included a measure of control for fraud, movements of objects and rapping sounds all suggested contact with a presence, an intelligence, even if it was generally hidden from the eyes of the observers. In some cases, the presence was felt more corporeally and the witnesses had good reason to assume that there were real entities intruding into the space of the séance room. For instance, the impressive accounts of sittings with the medium D. D. Home feature reports of observers seeing and holding disembodied hands. These hands ranged in size and flesh tone and felt warm and solid, yet they also seemed to melt away from the firmest grip (Braude, 1986). These insinuations of human form together with the sitters' traditional religious beliefs in an afterlife provided a fitting construction of these events. The notion of underlying communication or intention seemed to be a factor in these mediumistic displays as well as in hauntings—the spirit was often assumed to have something to communicate,

hence their return to our world. This reaches its peak in crisis apparitions where contact is made to inform someone that a death has taken place.

One of the main concerns of the early investigators was the issue of survival. However, continued contact between the psychical researchers and mediums eventually raised doubts over this issue and perhaps engendered a change in emphasis and metaphor. Increasingly, there was less concern with the ostensible deceased entities that sought to communicate with the living and more interest in the psychic performances themselves and with notions of a possible underlying energy or psychic force.

The intrusion metaphor has not lost its appeal in popular circles (or in other cultures). Choose any film dealing with paranormal topics from *Ghostbusters* to *Poltergeist* and you are treated to entities imposing themselves upon otherwise normal citizens, their homes and their refrigerators. We also have increasing reports of alien abductions, mostly in the U.S. but to a lesser extent in Europe. These are intrusions with a modern technological and extraterrestrial flavour in which the other world is even further removed from us. It is likely that there are similarities between these ideas and older ones of possession. The term intrusion is used simply because it conveys the notion of a visit from another place; it is not meant to be viewed exclusively in a negative light.

The intrusion metaphor relies upon particular image schematic structures: for example, that of the container schema. An intrusion is made into a particular space, into consensual reality, albeit one which is often altered for the benefit of the medium (i.e., carried out in the dark or in conditions of reduced light). In the development of the metaphor of psychic force and in the case of poltergeist phenomena, the medium or agent is the space from which the intrusion is made into sensate reality. In the investigation of the Miami poltergeist, researchers mapped the trajectories of objects, noting the apparent influence of the individual at the centre of the phenomena (Roll, Burdick, & Joines, 1973). Insofar as the activities of the intruding entities or

psychic forces manipulate the environment, this can also be construed as a purposive means of communication. Further study of this metaphor would usefully incorporate mythical and anthropological accounts of intrusions to extend and elaborate the content and context of this metaphor.

Transmissions and Forces

The focus of attention of psychical research eventually shifted from the intrusion of entities to the ostensible demonstration of psychic energy or force and also the anomalous transmission of information. The notion of psychic force is an obvious forerunner of PK, which like ESP removes the necessity for any intruding entities, providing instead a perspective which is more in line with the modern scientific informational or physical context for understanding these phenomena. E.W. Cox exemplifies this shift of conceptual metaphors:

I have found no evidence, that the spirits of the dead are in any way concerned; on the contrary, the evidence pointed entirely in the opposite direction. All the conditions under which the phenomena presented themselves were entirely consistent with the exhibition of a force emanating from some person or persons present and were wholly inconsistent with any reasonable hypothesis of action by those who have passed into another state of existence. What is the nature of that force? if it be a product of nerve organisation, or a purely Psychic Force, is a question of the highest scientific interest that demands and, I hope, will soon receive the most patient and profound investigation. (in Evans, 1982, p. 122)

Crookes came to the same conclusion:

These experiments appear conclusively to establish the existence of a new force, in some unknown manner connected with the human organisation, which for convenience may be called the Psychic Force" (in Evans 1982, p. 122).

Tyrrell (1947) dealt with the same issue arising from the study of poltergeists:

It looks much more as though a certain subconscious level of the personality, of a sub-intelligent character, may be able to express itself by

levels of mind:

Or is it some contact with a deeper level of mind, as bubbles on a stream have contact with the water of the stream? (p. 5)

The metaphors that are used to structure abstract or unusual phenomena do not arise arbitrarily; for instance, mental radio no doubt received a boost from the discovery of "brain waves" or voltage fluctuations in the brain. During the 1920s Italian neurologist Cazzamalli reported radio frequency radiations from subjects. However, as Rush (1986) notes:

The only known electrical oscillations in the brain are the brain-wave potentials with frequencies of the order of ten per second. The electrical power in these oscillations is minute, and the efficiency of radiation from the brain at such frequencies is extremely low. The problem of selectivity, of "tuning in" one individual pattern among a chaos of biological transmitters, is obvious. (p. 286)

Radio is a real-world application with known physical principles that provides a form for the less tangible processes of ESP. As Lakoff and Johnson (1980) argue, cognition naturally employs metaphor to relate abstract, unknown domains to known experiential structures developed from other domains, so anomalous communications such as psi are mapped out in terms of known information transfer processes and technologies such as radio. This supplies a rich context for analysing the nature of psi in a way similar to that of normal processes of communication. A good example of the range of possible metaphors drawn from scientific research in general is described by Stokes (1987) in his review of theoretical parapsychology. From the current perspective these are metaphors; their originators no doubt would consider them as literal possibilities.

As in other forms of information transfer, the signal will occasionally be interfered with or degraded by other forms of noise. Some of the most recent developments in parapsychology have attempted to control this signal-to-noise ratio. Techniques to reduce noise have been the basis of the

and Honorton employ the information transmission metaphor, perhaps because it provides the only currently acceptable image of the way in which psi might operate (contemporary psychology as a discipline is predominantly characterised by reductionistic and mechanistic metaphors). The Ganzfeld might increase the probability of psi occurring in a number of ways; an obvious alternative to the noise reduction theory is that it encourages the development of receptivity to a more collective level of personality (this possibility is suggested in Sinclair's second metaphor, in Tyrrell's work, and in Swann, 1987).

Explicit reference to an information transfer metaphor is made in the recent work of May, Spottiswoode, and James (1994). They purposefully construct and examine the metaphor in an attempt to provide an understanding of the influence of target characteristics in anomalous cognition experiments. May et al. were concerned with the relationship of Shannon entropy—which they define as “a measure of our uncertainty, or lack, of information, about a system” (p. 263) and how this relates to target images used in experiments. They propose that a reductionist approach following information theory and using the explicit information transfer metaphor provides circumstantial evidence for possible receptors of psi or anomalous cognition. It would seem that Isaacs' contention that the information transfer model is outdated was premature. The fact that May et al. note that they are working with a metaphor should be applauded, and their work indicates how different metaphors can be usefully explored without resorting to notions of one correct view. Any metaphor operates within a limited context, revealing some aspects (and hiding others) of the phenomenon being explored.

Researchers such as Tyrrell (1947) considered that telepathy was less about the transmission of thought and more about cues from a subliminal level of the personality. Adopting a depth-psychological account of self, people can be seen as volcanic islands projecting above the sea; underneath

they slope to a common ground from which they came and in which they are all connected. Swann (1987) presents the case against the transfer metaphor in his book *Natural ESP*; again, like Tyrrell, he develops a depth metaphor for psi (these depth metaphors will be encountered again in the next section with respect to Jung's notion of synchronicity). Swann makes the important objection that the some metaphors of ESP can hinder performance and lead one to have the wrong expectations of psi.

I was able to conclude (correctly so) that ESP must work and function on its own by mechanisms not recognisable to my brain learning, even though I possessed lots of labels that served me intellectually. There was no direct connection between these labels and real ESP mechanisms. To put this another way, my labels served as filters or barriers to true real ESP experience! The labels were acting as mental preconceptions about what should be experienced intellectually.... It was only after I learned to detach myself from the power of these labels that some of ESP's mechanisms revealed themselves. (p. 2)

The image schema underlying the metaphor of information transfer is exemplified in all communication systems. We continually assume that any form of communication involves the transference of some form of information package from a sender to a receiver; see Reddy's analysis of the conduit metaphor in language for an example (Reddy, 1993). Radio transmission provides another example of a concrete communication process. Images of transferring units of information or the influence of some kind of force are projected onto those experiences, which are classified as paranormal. Our common sense notions of communication and causation dictate the forms we apply to anomalous experiences. Telepathy is seen as mentally seeing or hearing and psychokinesis is the mental creation of physical movement or action. The term extrasensory perception (ESP) confirms this metaphor and implies that we can consider these phenomena as extensions of our normal perceptual and motor skills. There have been attempts to avoid the perceptual and motor connotations of this kind of terminology, for instance the suggestion of the "theory-free" terms psi gamma and psi kappa to replace ESP and PK (Thouless & Weisner, 1947). Zusne and Jones (1989) present a

similar view, noting how elements of "magical thinking" follow similar structural patterns to known and understood physical world processes. Zusne and Jones see this metaphorical comparison of psi and known processes of communication as indicative of 'magical thinking'; however, if it were simply that, then we would have to consider many terms in science as deriving from similar threads of fantasy. It should be stressed that what is important about this relationship is how the image schemas and metaphorical projections that we derive from our previous experience (predominantly bodily experience and our contact with our particular culture), structure and define more abstract, emotional, or exceptional experiences and events.

Connections

The most recent development in metaphors of psi is probably a holistic vision of reality—one of intricate and intimate connections. This development owes its inspiration largely to the developments in quantum physics earlier this century, which have been popularised by books on the new physics. From this perspective reality is fundamentally interconnected; it removes many of the difficulties inherent in parapsychological phenomena by permitting non-local interactions and connections. A good definition of the holistic or systems paradigm is provided by Battista (1982).

According to the holistic paradigm the entire universe is interconnected and hierarchically organised. Matter and energy, living and nonliving, mind, body and spirit all refer to different levels of the same unified system. We know about this universal system because of our interaction with it. Uncertainty is an inherent part of our relationship to the system because the system is a process and we are a part of the process we are attempting to know. To the extent that we can reduce this uncertainty we generate information about the world process. Knowledge thus exists in relationship rather than in an "objective" world or in "subjective" experience. The world is not classically determined in a simple, linear billiard ball manner; rather, each level of the universal system operates on every other. Events are thus partially determined from above (more complex and encompassing levels) and from below (less complex and encompassing levels) as well as from the same level of complexity. Thus, we can never know the absolute cause of anything, or whether an event is totally determined. (p. 145)

There are reasons to assume that this interconnected reality is the one experienced by mystics and psychics (LeShan, 1974). Eileen Garrett describes clairvoyance as:

an intensely acute sensing of some aspects of life in operation, and since at clairvoyant levels time is undivided and whole, one often perceives the object or event in its past, present and/or future phases in abruptly swift successions. (in Talbot, 1991, p. 208)

The connections metaphor resonates strongly with the theory of synchronicity introduced by Carl Jung (1960). He suggested that in addition to causal relationships, there exist acausal connections that are recognised because of their meaningfulness. For Jung, psi processes begin where the conscious processes end, at the boundaries of the phenomenal "I." According to Richard Noll (1989), J. B. Rhine and Jung had met only once but were deeply interested in each other's work. Noll asserts that Rhine:

had to "repress" these transpersonal and causally-independent assumptions that can be found in Jung's model because they clashed with causal and reductive assumptions that place the "source" of psi within the individual and necessitates the belief that a causal mechanism can be found to unlock the secrets of psi. (p. 73)

This metaphor implies that psi is an outcome of fundamental interconnectedness and relationship to the whole. ESP is not a matter of transference of thought, image, or feeling, because these are simultaneously everywhere and are not dependent upon transmission in time and space. Work influenced by this metaphor is being considered in parapsychology, but the dominant mode of exploration relies on the transmission metaphor. This is not surprising, given the difficulty of framing empirical investigations in terms of the connections of a holistic metaphor. Jaffé (1962) emphasises the holistic nature of psychic reality in synchronistic phenomena:

Basically, both "sender" and "recipient" are mere instruments of the autonomous archetype and its "ordering" effect on space and time; or, they may be fellow actors in the drama of an archetypal situation. Man and his conscious mind and will power are pushed into the background by the Objective-Psychical, the Archetype. It is possible that the impersonal, a-causal process of "ordering" (such as the dou-

ing out and influencing other brains at a distance. Showers of particles, or positrons, have been postulated that appear unimpeded by distance or barriers. Psi fields have been proposed that are connected with organisms and inanimate objects and can interact at times depending on attention, motivation, and other psychological factors (see Rush 1986, for further details).

In addition to these physical metaphors, there have been attempts to structure psi employing concepts of four-dimensional space-time developed from relativity theory. In effect, this would permit a shortcut between two events and a possible psi connection in higher dimensions. One account of telepathy and precognition has employed the term *resonance* to describe how ESP may occur (Marshall, 1960). It is conjectured that two complex systems, such as human brains, might synchronise and a thought pattern in one be reproduced in the other. These physical and quasi-physical theories all draw on theories and models circulating in physics and inevitably rely on metaphors as these processes are often beyond common sense cognition. In the words of Hardison (1989), science has gone beyond the normal limits of direct human cognition.

We no longer face a world viewed from the middle distance where Newtonian objects are "Solid, massy, hard, impenetrable..." [instead]...nature has slipped, perhaps finally, beyond our field of vision. We can imitate it in mathematics—we can even produce convincing images of it—but we can never know it. We can know only our own creations. (p. 1)

A recent holistic metaphor that attempts to illustrate the nature of wholeness through concrete example is that of the hologram. Working independently, physicist David Bohm (1980) and neurobiologist Karl Pribram (1971) proposed that the hologram might be a good analogy to the universe and also to the brain. So that, in effect, you have a holographic brain interpreting a holographic universe. Initially, this metaphor was received enthusiastically, used widely, and some would say too loosely (Blackmore, 1992). In the years since its introduction, its popularity has weakened a little (see Soyland, 1994 for a discussion of the holographic memory model in cogni-

tive psychology). The holographic metaphor emphasises the interconnectedness of nature, each part being related to every other part just as in the hologram itself every part is encoded throughout the interference pattern on the photographic plate. By illuminating a particular region of the holographic plate we still see the whole image but with less detail and from a decreased range of possible points of view.

Holistic metaphors almost seem ready made for the elusive nature of psi. Some have commented that ESP and PK are inevitable in a holographic universe because of fundamental connectedness. As Krippner (1982) notes: "ESP and PK are necessary components of that [holographic] universe. Indeed, holographic theorists would have to hypothesise the existence of ESP and PK had not parapsychologists carefully documented their existence over the years" (p. 124).

Synchronicity and holograms aside, most of the momentum for this view of interconnectedness and wholeness has been provided by the growing popularity and mystery of quantum physics. It should be noted that quantum physics is heavily tinged with metaphor itself (not surprising, as it deals with a truly abstract realm). The explanation of psi in terms of quantum mechanics draws a link between psi and quantum mechanical events. Quantum events are probabilistic, independent of time and space, and constitute correlations of states rather than energy transmission. Some researchers (e.g., Walker, 1975) have proposed accounts in which an organism's intention might influence an indeterminate quantum situation.

Another interpretation is offered by observational theories, in which it is proposed that the imagined process and the quantum process correlate. The term observational theories has been used to describe accounts of psi derived from explanations of quantum theory following the Copenhagen interpretation. In short, they assume that the observer paradox in quantum physics (illustrated by the famous example of Schrödinger's cat) indicates that events are in a state of superposition prior to any measurement or

observation being made (the cat is both dead and alive). Once this all-important observation is made, the wave function collapses, the superposition is ended, and an identifiable and located event takes place. The observational theories present a view of ultimate interconnectedness, which complicates the task of devising appropriate empirical designs to test these theories. They require extra precautions that transcend the normal levels of security applied to sources of possible sensory leakage; for instance, they even require the consideration of possible leakage from any future examination of the results of such an experiment (Lucadou, 1994).

Jahn and Dunne (1987) explicitly describe psi in terms of quantum mechanics. Their approach is remarkably similar to the work of Lakoff and Johnson (1980). They note that idioms of the English language often employ metaphorical structures based on spatial schemas, which are extended to abstract emotional and cognitive experience. In particular that:

impressionistic verbal allusions to physical distance are commonly used to describe all manner of cognitive or emotional situations. A person is described as a "close" friend or "distant" relative, as "deep" in thought or "high" as a kite; an idea may be "central," "remote," or "far out"; and we allow our minds to "wander" over various conceptual "grounds," before taking a "position" on an issue. Lucid as these analogies may be, they are inherently qualitative; to quantify such consciousness dimensions, some referential standard must be established—some conceptually evident "stride," "meter," or "wavelength," as it were—in terms of which consciousness "distance" may be specified in quantitative form. (p. 229)

Jahn and Dunne build on this and develop a metaphorical interpretation of humans as quantum particles, mapping human characteristics of subjective experience in terms of the processes of quantum events. They construct the image of a human as a particle, or rather a "quantum wave-mechanical model of the rudimentary consciousness atom," (p. 251) which is capable of interacting with other humans and with the environment by all those means available to the analogous physical wave systems, including wave-mechanical collisions, interatomic radiation, evanescent wave tunnelling, or escape to free wave status. Each of these actions is metaphorical-

ly projected from the domain of observations of physical systems to those of consciousness and different aspects of normal and anomalous communication. Amorim (1994) develops Jahn and Dunne's proposal by drawing on the work on analogy and metaphor in understanding scientific concepts (e.g., Gentner, 1983). He proposes the importance of developing metaphorical models of psi phenomena; in particular he advocates examining the observational theories and the possible isomorphy between the structure of quantum and psi phenomena.

Jahn and Dunne's use of metaphor provides an important and valuable means to describe and explore an abstract domain such as the experience of psi. In their linkage of the sub-atomic world with experiments in parapsychology, they knit together two domains that are difficult to conceptualise; but more than that, they accomplish this through the use of a coherent and systematic account, drawn from real-life cognition, which is metaphorical in nature. Beyond this, as Amorim (1994) proposes, Jahn and Dunne's quantum metaphor is also important in that it leads to testable hypotheses.

There are enormous difficulties in dealing with a world or a conception of a world which is ultimately thoroughly interconnected. For instance, any reductionist isolation of elements is temporary and may actually detract from the phenomenon it seeks to describe as much as it promises to clarify its nature. When these elements are taken in their natural state, as active relationships, they present a "truer" yet fuzzier picture of the underlying reality than they do when taken out of context and out of relationship. This is becoming an accepted consequence in terms of fuzzy logic accounts of reality (Kosko, 1994), wherein black and white solutions seem to deliver clarity yet are inaccurate in nature and grey accounts lead to fuzziness but describe a process better. In structuring this reality, it is important to use a instrument suitable for the job—metaphor is eminently qualified for this. Metaphor is a means of qualifying and depicting relationships. It is natural-

ly incomplete and limited, but it provides as accurate a view as possible when you reach into a reality which is not about isolated parts but about wholeness. Battista (1982) proposes that the appropriate methodology for a holistic paradigm is one that uses analogy (and presumably metaphor). The schema on which the holistic metaphor relies is one of relationship and connection (human and conceptual), notions of inclusivity and belonging, the recognition of gestalt, and the emergence of higher orders (the whole is greater than the sum of the parts); these ideas all perhaps contribute to the formulation of the connections metaphor.

Conclusions

It seems that the history and interpretation of psi (like any domain of experience) has relied heavily on metaphor, and reinforces the idea that humans (scientists included) are an inexhaustible source of analogies of the universe (Bohm & Peat, 1987). It may also support the contention of Lakoff and Johnson (1980) that cognition is fundamentally metaphorical in nature. It offers a way of understanding different constructions of paranormal experience (see Table 31)

Table 31 Different explanations derived from the different metaphors used to describe various phenomena

Phenomena	Intrusions	Transmissions	Connections (Holistic)
ESP	Mediated through intruding spirit	Communication-like process	Synchronicity/ non-local correlation
PK	Force exerted by spirit	Force transmitted by agent	Observer collapse of the wavefunction
RSPK	Activity of unseen spirit	Unconscious-repressed emotional transmission of force by an agent	Observer collapse of the wavefunction
Apparitions	Intrusion of spirit	Constructed image in response to information communicated from one domain to another	Synchronicity/non-local correlation

In the next section the metaphors employed in lay theories of paranormal experience are explored. It seems likely that lay theories related to paranormal experience may draw on the same metaphors as those presented above but may differ in the extent to which they are formally expressed.

Metaphors and lay theories of psi experiences

It seems that formal explanations of paranormal experience have built upon culturally available conceptual metaphors and schemas. In order to further clarify these figurative schemas in general usage an examination of lay explanations and theories of different paranormal experiences was undertaken.

It is likely that individuals who report having unusual experiences which they attribute to paranormal sources are likely to narrate them employing metaphors and schemas which relate directly to their experience as well as to culturally available theories and models. Metaphors are employed much more frequently in ordinary discourse than we might expect. Gibbs (1994) notes that between 5 and 6 metaphors are introduced per minute of discourse. Analyses of the use of metaphors in television debates and news commentary programs showed that speakers use one unique metaphor for every 25 words (Graesser, Mio, & Millis, 1989). In addition, novel metaphors were employed about every 2-3 minutes of discourse by U.S. senators during the debate in January 1991 on the use of military force in the Persian Gulf (Voss, Kennet, Wiley, & Engstler-Schooler, 1992).

Metaphor has been the subject of a growing number of empirical investigations. McConnell et al. (1993) were successful in measuring personality attributes such as optimism, pessimism, locus of control and sensation seeking through studying the metaphors which people generated. Another study which looked at metaphor usage by participants who were trained in psychology or who had little or no formal training revealed that the experienced participants tended to generate more metaphors, particularly with respect to abstract areas of discussion where literal explanations were not available (Cooke and Bartha, 1992).

Quinn (1987) examined the usage of metaphor in general discourse of Americans about marriage. She found that only eight classes of metaphors

occurred when people discussed marriage. Amongst these were metaphors of sharedness (I felt that marriage was just a partnership); metaphors of mutual benefit (That was really something we got out of marriage); metaphors of effort (she works harder at our marriage than I do); metaphors of risk (there are so many odds against marriage). In all, eight classes of metaphor seem to reflect the conceptual elements which characterise the model of marriage held by most Americans. This analysis reveals the way in which metaphors are used to construct and understand the abstract realm of marriage.

In the field of parapsychology there has been relatively little attention paid to the metaphors used to describe paranormal phenomena. Hillman (1971) identified a number of fantasies involved in the study of parapsychology, these included; the notion of will, intimacy and a general spiritual or anti-matter fantasy. Hess (1988) undertaking a similar approach which focussed on the discourse of parapsychology, found a hierarchical structure built upon foundations of hard and soft approaches which equate with the masculine and feminine approaches to science in general. Ullman (1984) has indicated how psi seems to be woven into dreams which suggests that like dreams psi has a metaphorical form. These approaches indicate two levels of metaphorical analysis: 1) a higher level which focuses on the construction of a subject and the ways in which discourse and narratives represent the paranormal and psi; and 2) a deeper level which concentrates on the form of the phenomena and suggests that psi itself may derive from a metaphorical state of mind. This is a state which involves low focus thought (see Gelernter, 1994) which is more experiential and imaginative than rational and analytic (Epstein, 1994) and more related to the diffuse and unfocused mental states seen more in creativity than problem solving.

Jahn and Dunne (1987) explored this second level of metaphorical analysis by examining metaphorical projections from the quantum to the human realm (popular sources such as Zohar's (1990) *Quantum Self* have

also explored this metaphor). They offer a fascinating in-depth coverage of the quantum consciousness metaphor. They explored the metaphor of the human particle/ wave, mapping the qualities and characteristics of wave particles onto human cognition and experience in an effort to understand and speculate upon the generation of psi. They adopt a method similar to that used by Lakoff & Johnson (1980) where they pay particular attention to the clues offered in everyday speech regarding changes in orientation and movement in mental space. For instance:

We speak of "spheres of influence," of "far-ranging" minds or thoughts of "penetrating" insight; we acknowledge the advantages of "positive attitude" or the detriments of "negativity"; and we ask "what's his angle?" or "what's the point?" to ascertain someone's perspective or orientation on a matter. (p. 247)

According to a traditional objectivist position this is simply a matter of figurative speech embedded in subjectivity, however from the perspective of the contemporary metaphor theorist this is resonant of actual deep experiential gestalts, which are structured and communicated metaphorically by relating them to the experience of movement and orientation in space. Amorim (1994) extended Jahn and Dunne's work more formally by showing how cross-mapping attributes of quantum systems permits predictions about psi. He does this by assuming an isomorphy between quantum and psi phenomena, drawing on the observational theories to penetrate the intentional states of the psi experient or operator. Building these analogies permits certain testable hypotheses to be generated, in a sense this kind of approach makes explicit what has been largely implicit and unrecognised in any kind of creative scientific theory formation.

Adopting the first level of metaphor analysis, we have reviewed the apparent use of three different metaphors in the parapsychological literature. Although these might be taken for literal entities, it is worthwhile postponing judgement and treating each as a way of relating to the experience of psi. Different metaphors reveal and conceal particular aspects of the

reality they are directed at; it is therefore important to realise that there are no justified reasons for choosing one metaphor over another in an effort to find the 'truth' (although one metaphor may be more appropriate or harmonious within a particular cultural or temporal environment than another). Metaphors are the appropriate tools for describing a world which is not 'static but that is inherently a multifaceted being which influences and reflects the activities of its explorers' (Feyerabend, 1988, p.270).

As indicated in the previous chapter, three broad categories of metaphor seem to exist in the literature of parapsychology and psychical research. Firstly, a metaphor that describes psi as occurring through the intervention of entities (usually the spirits of the deceased); secondly, an information transfer metaphor which describes psi as a communication process (like a radio signal) and PK as *force* or *energy*; and finally, a more holistic metaphor (which relies on notions of interconnected nature evidenced in Jung's notion of synchronicity and the abstruse realm of quantum mechanics but also in lay conceptions of family bonds). These metaphors might be briefly referred to as *intrusions*, *transmissions* and *connections*.

It is important that we attempt to understand the folk models and metaphors that people generate and employ to describe ostensible paranormal experiences. It will help to describe the kinds of models and expectations that people have of these experiences and how these are used to construe possible instances of psi. It may also provide clues about the situations in which certain experiences may arise; for example, one of the signs of having an ESP experience might be the sense of foreignness of the information, that it does not seem to belong to the individual and that they have no recognition of having generated it themselves. It seems reasonable to assume that it *came in* or was *transmitted in* from the outside. Most importantly, it is valuable to examine people's metaphorical accounts of experience and explanation because it offers ways in which to picture psi; this is of course something we are still far from being sure about (Morris, 1974).

In this study, semi-structured informal interviews were carried out in order to assess the use of these three core and other metaphors and explanations of paranormal experience in people's everyday discourse.

Participants and procedure

Thirty eight participants, mostly undergraduate students from the University of Edinburgh and Napier University, Edinburgh, took part in the study. The few remaining participants were gathered from a participant pool held at the Koestler Parapsychology Unit. The participants possessed a range of opinions and beliefs on acceptance of the paranormal.

In most cases, each participant had taken part in an experimental task and was briefly interviewed following the task. In some cases, participants were interviewed after a longer period of time had elapsed since they undertook the task. Each participant was initially asked to relate any paranormal experiences that they might have had (some of these were presented in chapter 5). Upon completing their account of these experiences they were asked three questions regarding paranormal phenomena, always presented in the same order (shown below).

1) How might you explain what is involved when someone says that they have an experience of ESP (e.g., telepathy)?

2) How might you explain what is involved when someone says that they have seen a ghost?

3) How might you explain what is involved when someone says that they have an experience of PK (e.g., a mental influence on matter)?

Each participant was encouraged to answer the question as fully as possible. They were not interrupted but were encouraged to continue if it seemed that they had more to say. In the early part of the study the PK question was not included, as a result nine participants did not provide answers for this. All interviews took place in the privacy of an experimental cubicle and lasted between 5 and 60 minutes depending entirely upon the wishes of the participant.

Analysis procedure

Each of the participants taking part in this study were classified in terms of whether they reported at least one experience which could be considered as 'paranormal' in theme. This meant that even a minor experience which may be considered as a 'case of coincidence' would assign them to the experience group. In some cases a participant had experiences which they related but which they had not defined as 'paranormal' yet they could clearly have been categorised as such and so these were included in the experient group. Each of the participants prior to being asked the three questions regarding different explanations of paranormal experience were asked to relate any experiences which they might consider as possibly being paranormal in nature. If they had at least one such experience to relate then they were considered as having had an experience which might be labelled as 'paranormal'. In reality none of these experiences could be verified and so each stands as an ostensible paranormal experience or better as an anomalous experience for which the individual has not found a conventional explanation.

Interviews were fully transcribed for the 38 participants. The interviews were divided into 'idea units', these were oriented around a single theme, metaphor or explanation, units varied from sentences to parts of a sentence or occasionally a number of sentences. An example response divided into idea units is represented below.

e.g. Response 9b:

(unit 13) I'm not so sure about this idea of them having a reason I think that's maybe a human thing that's been imprinted on it

(unit 14) I think they exist everywhere in a sense

(unit 15) it's just that we don't pick up on it much something like that.

Each separate idea unit was assessed independently for the occurrence of metaphors by the two raters using a content analytic technique. The

number of occurrences of the three core conceptual metaphors (intrusions, transmissions and connections), as well as novel metaphors and explanations were recorded. All metaphors and explanations were recorded irrespective of whether the individual actually subscribed to that view or simply raised it as an explanation others might adopt. This means that someone who reports no such personal experience may use a metaphor or explanation of paranormal experience. Essentially, the metaphors and explanations recorded offer a glimpse of the ideas about paranormal experience which are in current circulation.

The criteria for recording an instance of metaphor were that the respondent either directly employed a metaphor or that they answered in such a way as to suggest an underlying metaphor. For example, if a nonhuman entity such as a ghost, spirit, or supernatural being was mentioned in relation to an experience this was recorded as an intrusion metaphor. Mention of the notion of some kind of transfer of information between two people (*picking up, receiving* or the *sending* of information) or the transfer of energy between a human and environment (a *mental force* or *energy*) was considered as an instance of transmissions. An instance of connections was recorded if any mention was made of some form of *bond, empathy* or *connection* between individuals or if the explanation involved some form of interconnectedness (e.g., nonlocality in quantum physics). Novel metaphors were recorded if the explanation involved what was judged to be a metaphorical concept other than the three core metaphors. Explanations which were judged to be more literal than metaphorical (this usually meant they were acceptable as current explanations) were recorded as literal explanations.

Results

Inter-rater reliabilities (based on the proportion of agreed identifications relative to the proportion of total identifications) between the two raters indicated that there was 87% agreement on identification of the intru-

sion metaphors, 93% agreement on transmissions; and 93% on connections. Disagreements on identification of a particular metaphor resulted primarily from the tendency for a degree of overlap to exist between novel metaphors and core metaphors. The overall pattern of usage of metaphors is shown in Table 32.

It can be seen from Table 32 that transmissions and connections were preferable in explaining ESP and intrusions in explaining ghosts. In answering the PK question participants seemed to rely on a variant of the transmissions metaphor which involved notions of force or energy.

Table 32 Number and type of responses employed in answering the three questions (bold figures indicate most frequent answer).

	Q. 1. ESP	Q. 2. Ghost	Q. 3. PK	Total
Intrusions	4	61	3	68
Transmissions	41	14	11	66
Connections	12	3	0	15
Novel	17	22	19	58
Explanations	37	41	12	90

In addition to the three core metaphors, novel metaphors were also noted. Table 33 shows the kinds of novel metaphors used and their frequency. These novel metaphors might usefully be thought of as comprising two categories: one with the individual or personality as its locus, focused on internal factors and the other focused on external factors. The most frequent metaphor in the internal factors category was that of some kind of power: a powerful mind. This would appear to bear a strong resemblance to the usage of the psychic force metaphor which is involved in the transmissions metaphor. The other metaphors in the internal category related to certain skills, gifts or personality traits which might characterise a person with psi abilities. The most frequently used metaphor in the external category con-

sisted of stone tape recordings which were mentioned as possible metaphorical explanations of ghosts and these were related to the idea of some form of psychic impression or atmosphere occurring in an environment. These effects seem to be related conceptually to the past occurrence of a traumatic event resulting in residual affect in the form of an atmosphere. In one instance, the respondent noted that seeing a ghost was probably "just a more intense form" of an atmosphere.

Table 33 Examples of novel metaphors used to explain ESP, ghosts and PK.

Internal	External
Powerful mind Particular personality Sixth sense Intuition Willpower	Stone tape recordings Atmosphere Psychic impression Psychic planes Power

As well as noting the frequency of novel metaphors, any explanations which seemed to be used in an overtly literal manner were noted. In an extended definition of metaphor some of these might arguably be included as metaphors. Again these explanations seemed to be usefully categorised under internal or external headings. The most frequent explanations in the internal category were those explanations which revolved around perceptual and cognitive mistakes which occur in states such as hallucinations, imagination and dreams. The next frequent explanation was desire, characterised by a desire to see a deceased relative again. A number of respondents considered non-verbal communication a viable means of explaining ESP. The next two most frequent explanations related to a tendency to have similar thoughts, for example in twins or close friends, and also that recollection characterised by conscience or memory can sometimes be misinterpreted as ESP. In the external category similar kinds of skeptical explanations were employed; tricks of the light were the most frequent along with

coincidence. Less frequent contributions included the notion of some kind of illusion, the influence of a life event or luck.

Table 34 Examples of explanations used to explain ESP, ghosts and PK.

Internal	External
Hallucination & imagination	Trick of the light
Desire (to see someone who has died)	Coincidence
Non-verbal communication	Illusion
Similarity of thought (eg in twins)	Life events
Conscience & memory	Luck

These results support the idea that paranormal experiences are predominantly structured in terms of three core metaphors of intrusions, transmissions and connections, with intrusions and transmissions enjoying the greatest circulation. These metaphors overlap to some degree with the novel metaphors; for instance the powerful mind metaphor is readily associated with the notion of some kind of transmitting energy involved in PK or ESP (focussing on the transmitter rather than the transmitted). Examples of answers to these questions are displayed in Table 35. In addition it is worth noting that each of the core metaphors are not singular descriptions of one phenomena although they may predominate in one kind of experience, as transmissions do in the case of ESP, but transmissions are also used to explain ghost or apparational experiences. Also they may be used as complementary explanations, for example where transmissions are originated by spiritual entities (intrusions).

Table 35 Examples of discourse involving the three core metaphors.

Intrusions

13-b

in your mind that you've *brought back* this person's spirit
they've *gone on somewhere* else ermm either they're in heaven or hell or whatever

37-a

I believe there's a place which isn't heaven and it isn't hell that the spirits *sort of hang around* (laughs) for a while and they can communicate with people who are very receptive to them and because these spirits exist in infinity which is timeless they know what is going to happen in our future

Transmissions

15-a

I always thought of it as *tuning in to* somebody else's thoughts and actually like language almost having a conversation with somebody except mentally you can just see what their thoughts are like

23-a

I would think telepathy would be where ermm you *pick up ideas* out of someone's mind I suppose it might be like the radio where that picks up y'know that's always fascinated when you're young how the radio works and it sort of speaks (laughs) y'know picks up signals

Connections

32-a

Just a *strong bond between two people* and that enables them like twins or something like that

28-a

ideas about *nonlocality* and quantum physics appeal to me er but naturally everyone immediately says this means we can have telepathy and that's er a presumption that's hard to make since I find the actual physics pretty hard to believe and you have to take that all on trust anyway

Finally, to further explore the data, the proportion of metaphors to the total number of idea units used in all answers was assessed and explored for possible relationships with paranormal belief and experience. Self-response scores for paranormal belief and paranormal experience were correlated with the proportion of metaphors used by respondents. Belief scores (as measured by the Australian Sheep Goat Scale, Thalbourne & Haraldsson, 1980) were only available for 23 respondents, all correlations were based on

this sample.

Pearson correlation coefficients were calculated between paranormal belief and proportion of metaphors to idea units used in answering the question. Paranormal belief was significantly positively correlated with the proportions of metaphors to words used in the explanations of paranormal experiences ($r = .50, p < .02$). Interestingly, a negative correlation was obtained between the proportion of explanations to idea units and paranormal belief ($r = -.26, ns$). It is most likely that these results reflect the different degrees to which explanatory schemas are available for paranormal phenomena and experiences. Those with more experiences have not only used terms appropriate for talking about those experiences but have developed a conceptual framework characterised by the core and novel metaphors presented here. Those individuals reporting fewer experiences were more likely to use literal explanations and avoid using the metaphors of paranormal experience. This probably derives from their lower levels of belief and reluctance to employ such explanatory systems, although they may indeed have access to them in the sense that they are culturally shared. There is also the possibility that personal experience provides a certain impetus for the use of and acquaintance with these terms which is less available to non-experiencers.

Table 36 Spearman correlations between number of metaphors and explanations generated in explanation of accounts of paranormal experiences and personality variables.

	TAS	AT	PAB	MGI	VVIQ	PB
Metaphors	.19	.15	.18	.35	.01	.50
Explanations	-.39	-.09	-.25	-.30	-.04	-.26

Discussion

This study provides support for the notion of common core metaphors which are not necessarily mutually exclusive, but which may be used in combination or in isolation for structuring and communicating paranormal experiences. These metaphors have largely gone unnoticed in the work of parapsychologists. In a sense this is not surprising, we tend to miss the metaphorical nature of most of our everyday discourse. This very fact has necessitated a reconsideration of the relationship of discourse and cognition of the kind exemplified by contemporary theorists such as Lakoff and Johnson (1980) in order to highlight this. The work on metaphor in the last couple of decades has initiated a surge in a number of disciplines (literary criticism, Turner, 1987; philosophy, Johnson, 1987; psychology, Leary, 1990; Gibbs, 1994; and cognitive science, Lakoff, 1987) taking stock of how our understanding of human cognition and experience is constructed. For parapsychologists, an examination of metaphor permits valuable insights into the domain in which experiences and accounts of the paranormal are fostered and communicated, and also identifies the varieties and forms of paranormal experience which are in circulation. This is extremely important in undertaking any validation of such experiences and understanding an individual's comprehension of and attitude to different kinds of phenomena.

The three metaphors (intrusions, transmissions and connections) which seemed to characterise much of the writing in parapsychology were reasonably strongly represented in the discourse of the respondents in this study. References to these three metaphors were more frequent than any other single metaphor, supporting the notion that these are the three main metaphors employed in experiencing and constructing paranormal experiences. Both the transmissions and connections metaphors characterised ESP explanations and intrusions was most frequently used in relation to explaining ghosts or hauntings. Explanations of PK also relied heavily on transmissions metaphors. These were mainly descriptions of *mental force or energy*

and are viewed as physical extensions of the transmissions metaphor. PK was also seen as an outcome of novel metaphors such as a powerful mind or imagination which through visualisation can influence the outcome of some physical event.

A deeper examination of these metaphors suggest that in the case of transmissions the signal is conceived as some form of *electrical energy*, with *wavelengths*, and exhibited by *brainwaves*. This energy is *sent, projected or focussed*, and other people can *tune in, receive, read or pick up on it*.

Interestingly, it was also noted by one respondent that a telepathic transmission would probably require more energy and focus to extend its reach to a number of people:

38-a if you wanted to contact a group of people I think that could happen too I don't think if you're telepathic you have to put in so much concentration to the one person I think you could transmit to a few people maybe not a large group but a few people at one time if you wanted to pass on the same message.

Another important facet of the discussion of ESP was the proposition that it was easier to communicate with people who are closer to the individual such as family or friends because they have a greater ability to Tune in, or because they are on the same wavelength, or because they have some form of mental connection by which they can link minds (especially where relatives are involved). This is considered to be a relatively robust finding in the parapsychological literature (e.g. Rhine, 1956; Green, 1960, Irwin, 1989).

The form of these communications was considered to vary between vague feelings, visual images and language. The content was often an intention to inform of some event ranging from relatively unimportant events to much more important events such as accidents. These communication abilities were considered more often than not to be properties of the individual, they were due to a type of person, people having certain characteristics such as a powerful imagination or mind or having some form of

innate aspect such as a gift or development such as a skill.

In answering the question about ghosts the respondents seemed to be less confident about the reality of the phenomenon. Those who had experienced an apparition of some kind tended to err on the side of caution:

5-b what I saw was a shape it was nothing really discernable it just moved in a manner which if I'd seen it from a distance I would think it was human I don't know if I believe in them or not but I don't know how I'd explain it.

12-b I'm not sure that I definitely saw a ghost I'd have to say I don't think it definitely was I don't really know what it was.

Some assumed that a person's spirit is brought back only in the sense of it being in the mind of the individual who experiences it. Another respondent considered that there was a link between people who were close (in the sense of a relationship) which enabled a connection to be made between the two worlds in which these people lived. Yet another considered it possible for a deceased person to come back from the other world during the transitory period between death and reincarnation. Other respondents preferred to see an individual as responsible for the experience themselves, perhaps through imagination driven by a desire to see relatives who had passed on and by generating the experience themselves in their imagination. Alternatively, the characteristics of the environment may create the experience of seeing a ghost; this was considered to take place in two main ways. It might result from some form of impact on the environment from stressful emotions or a situation which creates a *psychic impression, atmosphere, vibrations or mood*, which may like a *tape recording* be played back occasionally to observers. It may also result from a continued *presence* or mind of a deceased individual which persists in the locale and can be detected by some sensitive people. More skeptical evaluations invoked explanations oriented around tricks of the light and illusions.

The PK question seemed to meet with a good deal more blank stares

and skepticism than the other questions. Ready comparisons with Uri Geller were offered by respondents.

31-c I would investigate strings and magnetic fields perhaps but I don't think I could explain it there is no basis in my understanding at the moment for that to happen.

Generally, respondents stressed that they would want to see PK before they would believe it and considered it to be more likely to be the result of an illusion or deception rather than reality. Where respondents did consider it possible they offered explanations based around unknown power of the mind metaphors and special characteristics, skills or gifts of some people such as Geller. The reliance on powerful mind and force/energy metaphors links PK explanations with the transmissions metaphor as it is employed in discussing ESP. Instead of information being focussed it is seen as some form of concentrated influence (possibly involving a vivid visualisation of the proposed outcome) which is directed upon some physical object. The force or energy involved was considered by one respondent to involve a spiritual force, possibly manifesting as heat, which bends metals but the respondent was puzzled as to how this would actually bend or move non-metallic objects. Another respondent considered it to be an electrical or chemical thing, or an energy that can be influenced. One rare explanation of PK involved the intrusion of a poltergeist. There was also some confusion between PK and the movement of the glass in ouija sessions which also permitted the notion of entities being involved in the generation of PK.

It is interesting, if not surprising, that both novel metaphors and literal explanations seemed to be organised into two main categories of internal and external causes. Novel metaphors were predominantly concerned with the metaphor of power in both internal and external categories, a powerful mind, and a sense of atmosphere or power. The powerful mind metaphor clearly relates back to the transmissions metaphor, this may also be the case for the use of the term *power*. All of these metaphors rely on the vague

notion of energy or power existent in the personality or environment. This is not surprising when we consider that energy is itself a core metaphor which we use to describe our cognitive, emotional and physical states. It also seems to have a great deal of currency in new age discourse as a means of discussing invisibles; in this case it possibly offers a sense of validity since it hints of a more formal use in physics.

Literal explanations revolved around skeptical themes of distressed mental and emotional states in which we may deceive ourselves. The respondents noted that this can occur in hallucinations, dreams and in bouts of imaginative activity. The environment also has a role to play, leading to misperception or tricks of the light and illusions. Other frequent explanations involved the experiencers desiring these experiences or of them simply encountering coincidences (albeit startling ones). A number of respondents allied themselves with non-verbal communication explanations in the case of ostensible ESP.

It is also interesting to note the extent to which most respondents were cautious in their attributions of paranormal causality. They often indicated that they would attempt some form of testing of the experience and assessed other possible explanations prior to committing themselves to a paranormal explanation. As one respondent explained:

26-b [a friend thought that a] poltergeist was stealing the biros and putting them under the er armchair and er the cat actually did it while I was there I pointed this out that it's the cat [and he said] "Oh yeh right well there's other stuff happening as well".

Another respondent expressed some concern over the reliability of witnesses.

20-b If they said "oh I saw a ghost last night?" errm first of all it would depend what medium it was in as in someone was writing in a newspaper "I saw a ghost last night" y'know why would someone want to tell anyone that in the first place unless you wanted to draw attention to yourself?

Overall there was relatively good agreement on metaphors used to

describe the processes underlying ESP and ghosts and rather less so for the processes behind PK. This suggests that there is a reasonably robust collective representation, lay theory or folk concept of ESP which is structured around the notion of some form of transmission of information and involves focusing strongly on another individual or receiving unexpected information. For ghosts the main metaphor involved the notion of an intruding entity. For PK, there is less agreement, indicating not only the decreased social tangibility of these phenomena but also a decreased belief in their validity. It is easier to believe in ESP than it is to believe in ghosts or PK partly because the criteria for these experiences are fuzzier (and more easily met).

Useful extensions of this work could include an examination of similar accounts of experiences in other non-Western cultures. The energy/transmission metaphors which seem to dominate the ESP and PK explanations are likely to be universal; some examples of common metaphors of human energy employed paranormally include: chi (Chinese), ki (Japanese), kundalini (Indian), baraka (Sufi), mana (Kahuna).

Metaphors are threads in a net woven by humans to surround and account for experience in general and they are primary modes of describing the case of unusual or exceptional experiences where literal (objective) descriptions do not exist. By examining the metaphors used in relation to any domain of experience a good measure of the reality of that phenomena becomes apparent. Although for most people the case for the existence of paranormal phenomena remains largely unproven by parapsychologists, a conceptual framework and language already exists for these phenomena from a lay theory perspective. By directing our attention towards the metaphors surrounding these exceptional experiences we may begin to clarify their nature and divest ourselves of the perception that these experiences are definitive objects. (Here we would argue that none of our experiences are definitive objects, instead, all of them result from the metaphorical inter-

play of the domains in which we construct them). We should also be able to move easily between the relationships generated by metaphor and the objects and literal terms which are created as the metaphor crystallises and it becomes socially and culturally accepted. The approach we need is not unlike the complementarity of quantum physicists who must acknowledge that matter is both particle (literal-object) and wave-like (metaphor-relationship). It is in the fluxing, undifferentiated ground of experiential mind that metaphor flourishes and where we may occasionally note the strong roots of psi experience.

Summary

This chapter explored the natural discourse of a group of student participants in response to three questions regarding the causes of different paranormal experiences. It was found that a similar pattern of metaphors and constructs to those used in the parapsychological literature were used by these participants. Common core metaphors seem to be culturally available to describe unusual experiences. These experiences may derive from particular configurations of emotional, physical and cognitive states which correspond to certain coherent metaphorical projections of schemas.

Some tentative evidence was found to suggest that paranormal experience metaphor production is related to experiential variables such as absorption and magical ideation. However, it is likely that these explanations and metaphors are culturally available and their use is not necessarily an indication of the user having had the relevant associated experience.

In the next chapter the most common form of metaphor is explained briefly in a small case study of a practising commercial medium's concept of 'energy'.

Chapter 9

The concept of “energy” — a core conceptual metaphor in constructing paranormal experiences

The role of imaginative schemas like metaphors is also considered in this chapter, where a single core conceptual metaphor 'energy' is explored in the narrative of a practising medium. The use of the metaphor is characteristic of low focus thinking and the blurring of conceptual categories. This results in patterns of interpretation which constitute the medium's spiritualistic world view. The core metaphor of energy is used to link together various forms of evidential phenomena for this spiritualistic world view. If this view were to be presented in a clinical context along with other symptoms it would no doubt be considered as pathological however here it is viewed as an alternative interpretation founded on frequent instances of low focused thinking and consequent exposure to anomalous experiences.

It has long been held that cognition is relatively independent of language. In the past it was largely accepted that metaphor was an unusual construction following literal interpretation. The role of metaphor has largely been downplayed and there has been a tendency to steer clear of metaphor in both philosophy and science (even though this didn't necessarily stop it being used tacitly). According to Lakoff (1987) and discussed in Gibbs (1994) there are two main philosophical objections to the metaphor approach; 1) the objectivist commitment which assumes that "reality is made objectively of determinate entities with properties and relations holding among those entities at each instant. This is a commitment to a view that reality comes with a preferred description, and it is a commitment to what reality is like". 2) The second is the Fregean commitment which is "a commitment to understand meaning in terms of reference and truth, given the objectivist commitment. Semantics consist of the relationship between symbols and the objective world independent of the minds of any beings".

These positions perpetuate the view of metaphor and imagination as decoration on the cake rather than an essential ingredient. Over the past few decades evidence has been accumulating which seems to make the objectivist position less tenable. Rather than adopting the opposite corner to objectivists by assuming a subjective position, the contemporary theorists advocate a middle way — experientialism (Lakoff and Johnson, 1980). In fact this position permits a more sensible interpretation of objectivity than possible in the traditional view. One of the main arguments against objectivism is its reliance on a God's eye view of truth which assumes that it is independent of cognition.

Metaphor in the contemporary view plays a central role in cognition. Thought is predominantly figurative in nature and metaphor is the master trope but other figurative forms such as metonymy and irony are also related to this position. These are used to structure and communicate experience in a bootstrapping process not unlike that considered by some as central to modern physics. 'Metaphor' is perhaps an unfortunate term to adopt in discussing this general imaginative pattern of cognition because it tends to continuously return us to language, while as Lakoff and Johnson (1980) emphasise, every time they use the term 'metaphor' it should be read as metaphorical cognition or as conceptual metaphor.

From this position, figurative language is a means of tuning into the underlying cognitive constructions. It is likely that this correspondence between metaphorical language and thought is not a superficial relationship; it may well be fundamental to the biology of thought. Recent expositions of brain structure tend to suggest that such imaginative relationships as metaphor are underpinned by biological structure (Edelman, 1994). Metaphor as a cross domain mapping process is comparable with other syncretic activities such as synesthesia. In fact metaphor may be usefully thought of as a specific linguistic instance of syncretic processes.

It was with this mind that a consideration of specific metaphor usage

was examined, in a particular case study of two mediums who discuss the role of energy in psychic reading and in a spiritual interpretation of reality in general.

Introduction

In order to examine the metaphors underlying ostensible paranormal experience in detail a cognitive semantic analysis was undertaken of the discourse of two mediums. Wendy is a professional medium living in Skelmersdale, Lancashire — she had contacted the Society for Psychical Research to request that she be tested for psychic ability. I undertook to devise a set of tests and as part of the preliminary discussion of the nature of these tests interviewed the medium and her partner Gill (who is also training to be a medium) for three hours regarding possible testing procedures as well as her experiences as a medium. The first one and half hours, which contained most of the information about her experience of psychic reading, were transcribed fully and sections of this transcript are presented below.

The interview was primarily aimed at gathering information regarding preferences of possible testing procedures. The interview was partially structured in terms of the specific issues needing to be covered regarding possible testing paradigms but open ended enough to allow Wendy and Gill to spontaneously elaborate upon their experiences and voice their ideas upon the kinds of processes involved in psychic reading, mediumship and channelling. Wendy contributes most in this discussion but Gill also contributes and sometimes there is some cross conversation between the two.

A number of themes developed in the course of the interview. The dimension of true versus false mediumship was presented as well as an idea of pathological aspects of mediumship. The main area which is dealt with here revolves around the concept of energy: how it relates to accuracy in psychic reading and how it also relates to the nature of 'spirit' (a term used to designate a spiritual dimension). The concept of energy as presented in

the text is very close to the notion of *transmissions* — one of the core metaphors presented in chapter 8.

Brief outline of case

Wendy was born and grew up in Manchester. Her acquaintance with mediumship began in the spiritualist churches where she eventually 'learned' how to heal through the 'laying on of hands'. She became a friend of a male medium who said that she had 'something special about her'. He taught her how to meditate. She moved to Southport following some criticism by locals who called her a 'white witch'. Here she met up with another friend and started attending spiritual churches and eventually she founded a business with this friend, carrying out psychic readings. She carried out this work at a variety of settings including a fairground, where she gave fast readings of 3-4 minutes to 'coachloads' of tourists. This business was generally successful and functioned as her only form of employment. At one point Wendy visited London and was told at a spiritualist organisation that she was 'very psychic' and that her name would go up in lights. This amounted to the proof that Wendy needed to be 100% sure about her abilities and safeguard against 'leading people on'. When she was told this it put her mind at rest. Prior to the London visit she had started automatic writing and through meditation she discovered that she was a trance medium. She also worked in development circles to help other people find this gift. She found that this was completely 'draining her' and also she thought that other mediums were abusing her gift and she felt that it was better to "lock it away in a cupboard". The abuse of Wendy's gift by other mediums was due them 'not taking on board what was said to them' according to Wendy and Gill. This suggests some disagreement perhaps on philosophical matters and also preferences for future predictions over and above the teachings which Wendy was channelling. According to Gill these communications were stopped by the entity or entities that guide Wendy.

Wendy continued giving readings around Merseyside and also took up

a GCSE course in psychology because she likes to 'extend herself', and particularly when this helps other people. She met a number of people through her gift, including businessmen whom she helped to plan their futures on various business deals. She peaked with a show at Southport Arts Centre. As a result of this she was invited to lead a closed workshop at a local development circle. She enjoyed this experience immensely and found everybody there to be on the 'same level' as her.

The *Ormskirk Advertiser* ran a story which generated quite a lot of work for Wendy. *The Weekly News* also published a piece on Wendy following a press release sent out by Wendy and Gill. Wendy has also received some attention following the successful location of a missing local boy. She was approached by a policewoman who had previously been to Wendy for a reading. Wendy told the police that she felt that the boy was underground, somewhere dark. As a result of this information the boy was later located in a disused mine shaft of which there are a number in that particular locality.

Wendy and Gill currently run a fairly successful business based on Wendy's abilities. Wendy has in the past undertaken both trance mediumship as well as more traditional 'stand up' psychic readings (although she does not carry out trance readings for customers and is generally concerned about the kind of people who see her in trance). She enjoys working with lots of people rather than one-to-one, single individual basis.

Her aspirations for her work are mainly focussed upon her becoming more publicly known for her abilities. In mentioning this she also makes comparison between herself and the medium Doris Stokes but in a very modest way, noting that she doesn't want to present herself as a replacement for her. One of her reasons for wanting to be tested was in order to provide some form of empirical evidence for the book that she and Gill are writing. The book is predominantly about the psychic abilities that Wendy possesses but also deals with information which is channelled directly in trance from Wendy's guides. Wendy no longer had access to the test results

as provided by the spiritualist organisation when she had been tested in London. These test results, which would have been included in the book, had been kept by Wendy's previous partner with whom she fell out. Wendy has also recently been hypnotised and regressed to previous lives, this again has provided material for inclusion in the book.

Both Wendy and Gill are middle-aged. Wendy presents herself as somewhat nervous and tense and at an early stage in the first meeting became slightly agitated and defensive over my switching on a cassette recorder even though she had previously agreed to being recorded. Both Wendy and Gill seemed somewhat wary at first and were obviously curious as to what form this testing process would take. They seemed to adapt themselves reasonably quickly to the situation and any sense of the initial wariness they displayed seemed to have dissipated during the first hour of the first meeting.

Two types of psychic reading

Wendy claims that she has been psychic from an early age although these abilities were developed in the context of the traditional mediumship sitting circles. Wendy can carry out readings in two modes: firstly in a traditional 'stand-up' mediumship where she usually interacts with a small audience in a house party or frequently on a one-to-one basis at her own home. Less frequently she engages in channelling. This practice is always private between Wendy and Gill, with Gill taking notes, and seems to occur predominantly when Wendy and Gill themselves are looking for information which provides a meta-perspective on the process of mediumship. As such, trance mediumship or channelling (terms which are exchangeable in the accounts of Wendy and Gill) is a private and more pure mode of reading compared to the normal mode.

No I don't do the trance in the readings I mean nobody knows about the trance. I wouldn't do it publicly. I'm not I don't want to I

couldn't do it in front of an audience and I couldn't do it in front of a church because to me you couldn't really get people on the same level.

The discourse which describes the two forms of reading covers much the same ground. By far the most frequent metaphor used in discussing psychic abilities is that of 'energy'. This energy metaphor seems to be used for a number of reasons, perhaps primarily because it is a rather vague concept which is malleable enough to cover a wide range of phenomena. One could also conjecture (perhaps somewhat critically) that another reliable characteristic of this concept is its untestability.

It is likely that the energy metaphor is based on primary schemas related to force. All organisms are subject to various physical forces such as gravity, radiation, and wind (air pressure), to name but a few natural sources. This is in turn projected onto various domains of human activity and the subjective experience of personal physical energy also helps to describe this.

Beyond the actual demonstration of energy or force in terms of physical movement and pressure, a metaphorical connotation (perhaps the largest domain) exists. This can be seen for instance in discussion of gaze in which the activity is described as a force. A gaze can be 'penetrating' or 'intrusive' and it seems likely that older traditions of the evil eye have their origins in the metaphorical projection of an energy or force emanating from the gaze of an observer.

Zusne and Jones (1988) describe how these descriptions of energetic events are related to the patterns of causation in which energy is transferred or seen as causal in everyday and scientific phenomena. They assume that the use of such terms in relation to anomalous phenomena is an example of magical thinking. They give the example of natural energy events which originate in the person being used to produce energy events in the environment. For instance a normal account of energetic events might include such

examples as kicking a ball or warming another person's hands with one's own. An anomalous account could include accounts of magical touch or miraculous healing.

Many traditional societies employ energetic concepts which play a similar role to those used in discussion of psychic events. For instance the term 'mana' is used among Hawaiian Kahunas to describe a potent magical energy which can be transmitted and stored in objects. There are many other examples available in a wide range of cultures.

The energy metaphor can also be seen as fundamental to early notions of hypnotism as exemplified by Mesmerism and in the beginnings of the spiritualism movement.

The energy concept is a fundamental concept and as such can be seen as operating widely in psychopathological experience. Often energies play a role in schizophrenic hallucinations and delusions, often focussed on influencing machines and manipulating entities. Sass (1992) discusses Tausk's (1919) paper *On the origin of the influencing machine in schizophrenia* in which the patient Miss Natalija A., believed that she had been under the influence of an electrical machine located 'elsewhere'. According to Tausk, Natalija felt that her movements, sensations, and desires were all controlled by a distant external force. Presumably this was mediated through some form of energy transmission.

A psychic's account of 'energy'

Wendy describes how she prefers working with a number of clients giving multiple readings rather than single readings in 'one to ones'. This is because more people increase the 'energy'. This we shall see is related to the concept of gathering 'evidence' or verifying aspects of the reading.

I enjoy working with more people than just the one to ones because the energies are quicker. Y'know you're getting thoughts all the time like I could come to this lady and then I give you a message and then I'd go to someone else and it's quicker.

The receptivity of the psychic to energy in these situations can be tiring:

Now when I go down [to] people's houses you feel exhausted because you have to pick up that energy to make them understand what you've got to say and you're draining yourself you're taking you're building up their energy as well for them to communicate back to you. So you take a lot out of yourself doing seven or six people. Then more or less in the pub if someone says no to me a few times I say 'oh, I'm leaving you I'll come to someone else. Because then the lady will probably say afterwards 'well Wendy I understand what you say' but it's too late then because it's gone. Y'know if they keep on saying no to me and the messages that I'm getting from my guides say 'well leave that one Wendy because you're wasting your time'. And they'll move me on to someone else. A lot of the ladies and the people that I dealt with in the pub they have 'oh I should have said yes shouldn't I?' But when you finish, you just want to finish really but they all sort of come over and say 'Wendy I should have said yes'. But you can't go back to say an hour before hand because it's gone.

On occasions the energy can be so abundant that the reading flies by in no time and instead of tiring Wendy, it boosts her own energy levels.

sometimes I'm watching for the time to go and sometimes the time the readings just go so well that I can't remember do you understand what I mean. So it's er what I'm trying to say to you it must be the certain energy. Like sometimes I can erm work in a pub or a house and I could work there all night I could work there to 4 or 5 o'clock in the morning because the energy is there and I feel so pleased and with the energy being high it's giving me a boost as well.

A good illustration of the malleability of the energy concept as used by the psychic is presented in the next extract. Often Wendy and Gill used the term 'energy' in relation to entities. The entities included Wendy's guides as well as spirits and people 'on the other side'. Gill provides an account of energy in relation to a man who had reported that his bed often vibrated when he lay on it, this was interpreted as the message of some spirit or energy.

Well I said there is no problem coming out and removing a spirit from the house it can be done no problem. It might take a couple of days because obviously you've got to go in and find that energy in the home and like y'know Wendy's guides will automatically

remove it if it's there and if it's not there and it comes back later that night when you've left or it comes back the next day. They would know anyway and they would still remove the energy from the house y'know the entity from the house.

It is noticeable that one of the main functions of the guides is to provide a conduit for energies. The psychic reading can be exhausting but the guides can replace lost energies.

so in the end I got frustrated with myself I didn't get frustrated with my guides because they are very good because they I mean if I feel absolutely shattered when I get to that house they can lift me up.

Gill explains this a little more vividly:

They connect their energy to yours it's like having an electrical charge they boost your energy back up again.

Wendy often communicated during the interview a desire to help people and also to make them feel as comfortable as possible during the reading process. She speculates that some people might interpret her holding someone's hand during a reading as 'taking their energies'.

I like to be intimate with them I'm not a stand-offish person with them like I might touch them or get hold of a hand. Well people might say you're doing that to get their energies well I'm not doing that to get their energies it's just to comfort them.

Energy is related to the validation process (as mentioned above), sometimes Wendy refers to this as finding a link (a concept relate to the connections metaphor).

Now like if I say to a person "who's a Pisces?" and she says "me" then I've got that link. And then I'll get something else. But if I say to her "who's Gemini?" I have to find something else to open up that link you see do you understand what I mean? You've got to open up an energy. And if someone keeps on saying "no" to me and "no" to me which I don't like because I know what I'm getting you know they might say might walk away and say well Wendy I didn't understand that then they'll ring me up a few months later and say yeah because it's on tape you see.

The energy and links are for Wendy partly mediated through mental

images:

Anyway when I'm going into houses and that I can feel by just going into a house whether it's going to be a good house or a bad house y'know what the energies are going to be like errm I also can see now a lot of mediums psychic mediums I get like pictures say for instance that your picture had passed away I get a picture of your father in my head.

Gill explains that this can also be mediated through physical representations or sensations; interestingly both Wendy and Gill showed a certain antipathy to this kind of mediumship and they considered it of lower value than mental mediumship.

You can say to somebody like you can get a pain in your leg or knee and you can say to that person "did your mother suffer with her legs" because you've automatically picked up on that pain (claps) but as soon as they've said "yeah" that pain's left you cos that's the way you're trained you don't walk away with that negative negativity you're not limping out the house it automatically leaves you as soon as they say "yes".

Gill extends the energy metaphor to include 'vibration'. This term is used in as a comprehensive a way as 'energy' and is related to the reading process and the verification of the reading. These vibrations are related to responses such as verbal affirmations from a client as well as feedback from inanimate objects.

It's all done with vibration it's the vibration in your voice it's the vibration on a piece of jewellery it's that person's vibration. You've held something and then pass it on to Wendy your vibrations are on it so everything you work with is done with vibration. So if somebody is going (gestures — indicating a non-responsive person) you can't work with them.

Gill uses the energy metaphor to describe different types of entities in the spirit world. It is noticeable that in addition she also uses a vertical schema with different levels. Those entities on lower levels have lower energy levels or negative energy while those on the higher levels are associated with higher and more positive energy.

The spirits are on different levels as well. I mean it's if a spirit does-

n't want to move on it wants to stay around the family unit it is classed as a low level spirit cause it hasn't got as much energy. Once they start using their energy for better things like to visualise what they want in the spirit world they move up in levels now if you've ever read books it'll say the seven planes that spirit move to move up to well they move up with energy so if they want to stay in the pub that they used to drink in they will do if they want to stay in the home they lived in they will do y'know. And that's what I'm saying we've got to be so protected that is a low level energy and that will feed off your positive energy y'know. So when we go to houses there's like me and Wendy and Wendy's guides and of course they it's a four way communication you're the spirit you're passing your message on to the guide the guide's passing the message on to me the medium and I'm passing it on to you. And that's the way it works.

The underlying schema is widely used in relation to normal phenomena where good is seen as up, and more is up (Lakoff & Johnson, 1980). The account of energies also draws on Indian philosophical and yogic traditions where subtle energies are mediated by certain centres in the body (chakras).

this happened to me when I started doing the errm the automatic writing some of the things that the other partner had then and some of the things she was told were so unbelievable I mean we were told that something was going to happen on the night we went out and it happened y'know it was so incredible and because people were getting that information so quickly the evidence was happening you know the future was happening so quickly it was like fascinating at first y'know what I'm saying very fascinating. And errm it's like how can I say when I used to do the circles in Southport they told me that they could see the energy going through my hands y'know like you've got five energy points they could see the energy coming out of your stomach area and it was a shame with that because my other partner then she used to write all this down and because we fell out now I don't know what she's done with that information for now you see for this book that we are doing but in the end she was using my trance for her own future of her own gains really and really she abused it in the end so we did part friendships because some of the evidence then when I first started going into trance was more incredible I mean I mean some of the things that Gill's to write down in the book y'know it's very hard to believe but because I've done psychology and energies and this that and the other I can understand it a lot more than probably than the average person who is walking in the street.

Gill provides further information on the nature of energy. She likens the energy to electricity and spontaneous emissions of this spiritual or psychic energy can be found in the operation of domestic appliances as well as

in static electricity.

You see when Wendy's been in trance also I mean when Wendy is in trance the heat from Wendy's body and she can be sitting there freezing but as soon as he starts to channel through her the heat is phenomenal in her hand (claps) and you can touch her it's like touching a hot water bottle that is his energy (the guide) transmitting through Wendy. And also like if I was to touch Wendy not every time but sometimes because my energy is so high you know when you take your clothes off and you've got static y'know click click click well that's what me and her are like cos the energy is there and if you went into the kitchen and went oww! because you've got so much energy in your body and I don't know whether you have it in your own home y'know most people say to us "the television keeps clicking and it hasn't been on" that is spirit that is energy because spirit'll come because they work on a much higher level of energy spirit'll come into your home and they'll connect to your electricity point which is a higher level energy than what you are bodily-wise so y'know the television will click whether it's off or it's on it's still an energy the lights switches that's why you'll get a lot of people will say we've got a poltergeist in the house the lights are flickering the bulbs are conking. The spirits are connecting to that energy electricity because we all know that we are made up of so much water and so much electricity spirit are no different. But that's what it's like for us it's just like static I mean I was out with my sister one day and in the end she said to me I can't come near you because every time I touch I get an electric shock off you. But that's another thing that happens when she's in a trance is the heat which is the energy from him [the guide].

Wendy describes how this energy was also in evidence when she was a child. She mentions her unusual behaviour, as a small child, of rocking although she does not make the explicit connection between this behaviour and her channel of psychic energy it does seem to be implicit in her account.

when I was young I used to rock y'know rock myself in the chair or in bed I used to rock myself. And my mum even took me to a hospital because I was three months premature I was only like a bag of sugar when I was born and I had to go and have check ups every so often from the hospital check my reflexes and errm did little tests like they do with little children y'know putting in little squares and that because they didn't think I was developing properly at first. And then she was saying to me and I've only just recently found this out that she used to put me in a pram at one end of the street and by the time she'd come out of the shop (I would be at the other end) I used to rock in the pram. So when I was there I asked this errm this person what is that caused by and they said well you had so much energy then Wendy as a child you couldn't get rid of it so you were rocking to get rid of the excess energy. It's like I always remember when I used to go and stay with my grandma there was one room I didn't like that I couldn't sleep in. Now they didn't give me any

answers for that but they said that I've been psychic had the energy since I was a child. I spoke to my mother the other day she said well one of my great aunts was psychic well not psychic she used to read tea leaves and someone else did so there's two people in my family who've had this type of gift.

Occasionally, these energies can make themselves visible as lights. Gill relates an account of one such occasion. It is worth taking note here of how central the notion of communication is to these phenomena — flashing lights communicating with each other through something like Morse code.

It's like people say to us y'know "what do you see and what do you hear?" We go to bed like every night and in my bedroom above my bed there is a light every night and it's not a reflection because there's nothing to reflect and that light is there and that light is spirit cos I've asked "I've said "what's that light?" and they said it's spirit watching over you it's your guide watching over you. Also I mean Wendy has woken on occasions to go to the loo in the middle of the night and I've been wide awake and I've said to her she's said to me "what's that?" and it's like a pale blue light they all work with different colours they all radiate different colours some might be darker in colour and some might be lighter in shade different shapes there's two lights on the ceiling and the flickering like off and on off and on off and on like Morse code y'know like reflecting off the wall like someone doing that with a torch (gestures flashing a torch) "what's that Gill" "it's spirits they're communicating with each other" y'know and they communicate telepathy as we well know you know telepathically (that's how they communicate) so they don't use so much energy so that's them. Because she's been in trance and I've asked them what is that light in my bedroom you know what are those lights flicking on and off in my bedroom.

Wendy goes on to describe a recent experience where she woke up in the middle of the night to see a female figure sitting across the room. The figure was unknown to her and she was somewhat disturbed by this and especially by the fact that the apparition was in colour.

I mean errm a few months ago I mean I did used to see spirit I did used to see when I first opened up psychically I did see more than I do see now. I was in bed and I just woke up and there was a woman beside me on a stool and I kept on blinking and thought I was dreaming y'know and she just sat there watching me y'know and I thought "oh God who's this" because I couldn't recognise her I mean errm like I've never seen anyone I'd love to see someone in my family like my grandma or grandfather y'know anyone related to my family that's passed away but they don't come to me y'know well when I woke up and I woke Gill up because I thought who is it I

don't know who the person is. It's like you sat there but you're constantly staring at me. Now (3) I mean am a 100 99% honest I mean a 100% honest really and I couldn't really understand who it was y'know but like I say you can go in people's houses and this is very strange this I was in a persons house and sometimes you can see the spirit walk in (3) when you walk in you can see the spirit following you if you walked in this room and say your it's your grandfather or father walked in after you I could see it or I could see it in my head. It depends on the house again you see this is what I'm saying there is a lot to do with ley lines (.2) energies under the ground.

According to Gill this event was unusual because the figure was seen in colour whereas energy is usually black or white.

I mean I asked Wendy's guide who that lady was because Wendy actually saw that lady in colour she had a shocking pink blouse on and a skirt now normally you don't see that y'know it would be like (2) it would be like black and white or whatever because that's energy (2) and he said to me because they're here they constantly protect us so when we're sleeping at night when we've been working in houses and we've come home they cleanse us while we're sleeping and cleanse all your energies and take all the negative energies that might have clung on to you from them people in the houses (2) and I said to them who's the lady sitting in the corner y'know and they said she's a lady from around this area and she'd not long passed away she was just walking through the gardens she was crying she was upset he said so I brought her in here and I said sit there a minute while I get somebody to take you back to transport you and he said that's why with being so psychic she's woke up and seen that and I said it frightened her more so because she (1.5) i.e. she couldn't recognise the lady she was sitting in the corner where the stool was there and she wasn't actually sitting on the stool and that's what upset it upset Wendy actually and she said to me was " what I can't understand is she wasn't actually sitting on the stool cos the stool wasn't there she was sitting in the corner. And in the corner of the bedroom is like a dressing table and it goes round like that like a V and she was sitting there like as though a she was on a stool but there was no stool and it upset her and I thought well I've got find out about this because she's so upset. So she went into trance and I asked what was going on who was that? Now had she recognised the spirit it wouldn't have upset her and also because she'd seen the lady in colour she kept saying shocking you were really upset that night weren't you she had this shocking pink blouse on y'know which I found (1.5) really (2) strange for Wendy because she's seen that many things and I said to her why is upsetting you for why are you getting so worked up about that it's only a spirit and you've seen that many of them and she said "yeah but I've never seen one in colour before actually sitting in a vivid shocking pink blouse"

Two other points in the two passages above are worthy of brief mention. Wendy notes that these energies are associated with certain places and

she concretises the notion of ley lines into something like electrical currents running underground. In the second passage Gill refers to the role of the guides in cleansing the psychic during sleep. This is necessary because the psychic may be contaminated by the negative energies absorbed during readings or contact with other energies or entities.

Gill relates how these energies also have identifying colours which are linked to familial ties.

spirit can recognise you as belonging to them is because you all radiate a certain colour energy now your passed over relatives have got that colour that's why I said to you before all spirit works in different colour they recognise your colour and they say "oh" it's like recognising your aura "there's our Carl", "there's our Carl there" even in a room of 500 people that's how they recognise you by your colour. Your energy is you know when your born and you've got the cord coming from you to your mother well it's the same thing with spirit that's still there y'know you've read about books and they say oh the silver cord what's the silver cord well that's just a terminology that they use for the same thing that is your energy that colour.

This discussion of energy provides a lay theory account of the kinds of models associated with psychic experience from a mediums point of view.

Although this was a personal account, it is likely that there are broad areas of overlap between this and other accounts. It is also interesting to note that often there is more than a passing similarity between formal theories and lay theories of a particular phenomena. In this particular example the formulation of the psychic 'energy' concept relies on metaphorical projections from both the embodied experience of energy as well as from technical and scientific accounts of energy. Parapsychologists also employ similar constructs (see chapter 8).

Summary

This chapter focussed on the lay theoretical explanations of 'energy', a term used by a working psychic. This term provided a flexible means of describing a range of phenomena. Energy was used in a similar way to the transmissions metaphor and frequently showed overlaps with both the

intrusions and connections metaphors. The psychic in the account presented above uses the energy concept as a primary way of conceptualising her relationship with an otherwise invisible other world.

Chapter 10

Conclusion and future directions

The research reported here attempts to describe an alternative to the usual bias-ridden descriptions of unusual and exceptional experiences. This has largely been afforded by developing an argument based on new views of cognition as deriving from emotion, embodiment and experience as well as being understood and communicated through imaginative structures such as preconceptual image schemas and metaphorical projections.

Evidence was gathered which indicated that experiencers of the paranormal relied on an experiential cognitive style, that is, a mode of thinking which is focussed on holistic methods of understanding the world and altered states of personal relationship to the phenomenal world. It was suggested that both ostensible psi and subjective paranormal experience may have their origins in this form of cognition. This cognitive style also broadly resembles in form and content psychotic experiences. Indeed reasonable evidence of relationships between these two types of experiences were found in earlier chapters.

The recent research on conceptual metaphor provides a basis for understanding these experiential cognitions and perhaps describes how paranormal and psychotic experiences may arise from changes in the experience of the phenomenal self. Consciousness is often treated as an object but in fact it is much better thought of as arising out of relationships between the individual and the environment. Changes in consciousness associated with discrete altered states such as sleep offer different metaphors of the function of mind and following the lead of contemporary metaphor these may suggest actual experiential descriptions of real changes in the form of mind. Jahn and Dunne (1986) explore this idea somewhat in their discussion of the everyday idioms of 'far reaching thought' and 'mind wandering'. From an experiential perspective these may be real events in

the sense that mind may under certain circumstances be able to, in Jahn and Dunne's terms, escape to 'free wave status'.

These descriptions of changes in cognition offer a rich and meaningful account of the 'movement of the mind' and provide a fundamental means of understanding this through metaphors and images based on the enactive and embodied phenomena themselves.

It is becoming more obvious that language and thought are not abstract algorithmic systems, they are fundamentally grounded in experience. The vehicle which clearly communicates this, the vehicle which links reason, embodiment and imagination is the metaphor.

This spontaneous use of metaphor demonstrates not only that that human beings are naturally aware of the structural resemblance uniting physical and non-physical objects and events; one must go further and assert that the perceptual qualities of shape and motion are present in the very acts of thinking depicted by the gestures and are in fact the medium in which the thinking itself is taking place.
(Arnheim, 1969 p118)

It is in exploring these metaphors that we begin to understand how we generate meaning.

For Bohm (1987), meaning arises out of the soma-significant tension existent in the unfolding of reality. Meaning is not something inherent, it is something achieved through subtle recognition of ever increasing levels of complexity. Multiple meanings are available in the tensions created by conceptual metaphor and a deep change of meaning alters the physical nature of the brain.

Bohm suggests that if we could:

... sustain a perception and realise this perception signifying that the world is an unbroken whole with a multiplicity of meanings, some of which are fitting and harmonious and some of which are not, a very different state of affairs could unfold. For then there could be an unending creative perception of new meanings that encompass the older ones in broader and more harmonious wholes which would unfold in a corresponding transformation of the overall reality that was thus encompassed. p96

This suggests that:

Therefore each perception of a new meaning by human beings actually changes the over-all reality in which we live and have our existence — sometimes in a far-reaching way. This implies that this reality is never complete. In the older view, however, meaning and reality were sharply separated. Reality was not supposed to be changed directly by perception of a new meaning. Rather it was that to do this was merely to obtain a better 'view' of reality that was independent of what it meant to us, and then to do something about it. But once you actually see the new meaning and take hold of your intention, reality has changed. No further act is needed. p94

In this account an attempt has been made to address the role of meaning in understanding unusual experiences. Metaphor has played a significant role in this endeavour. Although the metaphors described here may be viewed simply as convenient figurative depictions of certain inherently subjective experiences which have little to do with reality, this can really only be judged properly when it is apparent how much our Western conceptions are formed through metaphorical projections and imaginative structures in every sphere of life, including science!

If this was accomplished, scientific and lay thinking would embrace Bohm's notion of meaning changing reality. It would also bring an end to the endless turning over of viewpoints in favour of alternative equally limited singular perspectives as Berman (1990) remarks:

Part of our goal, undoubtedly, is to learn what it means to live without paradigm, but I also sense a much more complex possibility, viz., developing a radical new code that is itself about coding, and is not merely a shift in coding.

... only our need for truth is true, and the problem arises when any one of these tools or codes, is mapped onto our entire ontology. Reflexivity is about breaking away from this vertical, binary pathology, for it does not (necessarily) say, "Have no codes," but only requires a deliberate awareness of constructing and using a code, and the having of that awareness as part of your code. p313

In a sense, quantum theorists have already faced this problem. Bohr's notion of complementarity insists 'that a single consistent description will never exhaust the meaning of what is happening at a quantum level',

requiring instead 'a number of complementary, mutually contradictory descriptions' (Peat, 1995, p.264). The view from Bohm's work on quantum physics and from the contemporary metaphor theory is that reality is infinitely subtle in its representations by humans and is inexhaustible in terms of the metaphors, images and constructions which we use to picture it.

Paranormal experiences provide a testing ground for originating metaphors of reality. Chadwick (1992) called the psychotic paranoid state the 'borderline', the point at which reality is hammered out; paranormal experience is also a borderline, a liminal phenomenon which draws on our imaginative efforts to derive meaning. As a consequence it informs on the process of constructing reality. Paranormal phenomena such as ghosts highlight familial tensions and domestic politics, they are welcome messengers and unwanted intruders. ESP is a sudden connection, link or evidence of a strong bond, or it is a communication process where information or energy is transmitted. These phenomena can be understood in a number of ways through the metaphorical relations in which they inhere.

Metaphorical thought is very similar to magical thinking, both of these conceptual frameworks demonstrate ideas of unusual connection and subtle interactions. Both magical and metaphorical thinking show an extended sense of relationship and participation. Where objectivist images of the world do not share this vital connection we tend to insert it.

This metaphorical and magical perception of the world is likely to be more prominent in some personalities and may arise in certain situations which incur stress and force adjustments in the envelope of thought.

In the clinical literature there has been a good deal of focus on magical thinking. This is defined as a tendency to engage in thoughts related to forms of causation which are not recognised by science. This is an outgrowth of an imaginative tendency which has been formally addressed in terms of the concept of schizotypy. It is these unusual and often unacceptable forms of causation which are debated in discussion of paranormal

experience. Where these unusual forms of causation have received validation it has often been in terms of regressive, child-like fantasies of control. In this respect they are often ways of trying to attain control over difficult to control situations (Irwin, 1991). Schumaker (1991) sees them as nothing less than conceptual devices promoting survival.

Magic, religion, and all forms of reality distortion are simply species-specific responses unique to the human animal. These act in our service. Paranormal belief did a great deal for us: it did nothing less than save us from extinction. (p..26)

Birth was given to the paranormal believer in a brilliant evolutionary tactic that allowed intelligence to remain the mechanism for our survival. It was to be a maneuver quite unlike the usual adaptations observed in nature. It was necessary for us to use an amplified state of consciousness to function within the realities of our situation. Simultaneously, however, it was also essential that we avoid perceiving reality for what it was — chaos followed by oblivion. That is as difficult as asking someone to see and be blind at the same time. We had to retain all the advantages of our new intelligence while being usefully “ignorant” enough of the same reality of which we needed to be aware. That sounds, and is, contradictory. But that is exactly what was required — namely, a creature of contradictions, of opposites. We became the genius ignoramus, the wise fool, the truth-hating seeker of truth, the chimera as we now exist. p. 26-27.

Of course the association with mental illness persists, Spiro (1965) identified three areas of distortion that suggest that paranormal beliefs are an “impairment of psychological functioning”.

1. cognitive distortion in which logically unfounded beliefs are held to be true
2. perceptual distortion in which stimuli are perceived as something other than what they are
3. affective distortion and the hyper-affectivity (or hypo-affectivity) that is often associated with paranormal belief and experience.

Interestingly Schumaker suggests that in order to become paranormal believers we had to be suggestible and that in our normal waking state we are not fully awake. According to Schumaker we have developed the ability to believe and not believe at the same time:

...on one level, we all weigh up available evidence about the world around us and arrive at accurate conclusions. When the puffy, overweight businessman who masquerades as a religious healer touches and "heals" the sick, the faithful followers "know" that it is a sham. They also believe that a miracle has taken place. Again, the trick is how to know and not know, to see and not see, to believe and not believe at the same time. p. 56.

There are a number of mental health advantages for the believer according to Schumaker for instance, people with religious paranormal beliefs are generally happier and more satisfied with their lives. He suggests that mental illness is more prevalent in non-believers than believers.

These positions all suggest a rather unfortunate consequence of believing in the paranormal and of holding illogical (metaphorical) beliefs. This is not always the case, this kind of belief and experience can be empowering. Peat (1995) in his comparison of Western attitudes to unusual experiences quotes a psychopathological utterance from the diagnostic manual of the American Psychiatric Association (APA, 1980).

Parents are the people that raise you. Parents can be anything — material, vegetable or mineral — that has taught you something. A person can look at a rock and learn something from it, so a rock is a parent. p. 287

Peat notes that this is a pathological account from the perspective of modern psychiatry but it is precisely the kind of thinking a native American or aboriginal Australian might believe, for them it is a reality — rocks may be ancestors. Peat asks whether it is our own society, with its rigid compulsive grip upon a single (and perhaps literal) dimension of reality, that has become abnormal.

Perhaps the fluidity of the metaphorical and experiential is a consequence of this rigidity and at the same time a release from it to a world which is more connected and natural for us.

Future directions

This multi-modal approach and a recognition of figurative thought in both formal and lay expression of unusual experiences has provided a basis for understanding the context in which these experiences occur and presents a possible framework for developing an interpretative approach to such anomalous experiences based on metaphor and conceptual schemas. This approach would contain benefits for understanding unusual experiences in both psychopathology and parapsychology.

The approach presented in this work is as yet rather crude and lacking in sensitivity but further exploration and development of a rudimentary cartography of this experiential realm is much needed. It may afford a valuable window on anomalies and unusual experience which is currently lacking because of our neglect of the imagination and its role in constructing reality.

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Appendix

- 1. Sample pages from questionnaire for study 2**
- 2. Hearing voices survey questionnaire**
- 3. Sample picture series from the picture identification task**

Please Read These Instructions Carefully

This questionnaire is intended to measure personality characteristics related to particularly vivid mental experiences. It seems likely that these experiences are more common than was originally thought and that most people will experience such events at some time in their lives. These experiences may be related to individual differences in decision-making, creativity, and imagination. We hope to gain a number of insights about the relationship of these experiences and personality characteristics.

The questionnaire begins with a section on paranormal beliefs and experiences followed by a number of questions related to personality characteristics.

Please remember that:

When you complete this questionnaire please answer the questions honestly and quickly (without too much deliberation). There are no right or wrong answers, the answers received will be expected to vary quite a lot from person to person. Answers will always involve ticking a relevant box although the numbers of options will sometimes vary (instructions will be given at the beginning of each section).

Please do not discuss your answers to any of these questions with anyone else (especially anyone else completing the questionnaire). We suggest that you complete it in private and at a time when you are likely to be uninterrupted.

We understand that the questionnaire is quite long, we estimate that it should take around 30-40 minutes to complete. We need to include such a large number of questions in order to properly assess the relationships between the personality characteristics being measured. The questions included in this questionnaire have been used extensively in the past to assess personality and by completing this questionnaire you will be adding important information to this body of knowledge.

Thank you very much for taking part in this research.

Please return to:

Carl Williams Psychology Department,
7 George Square,
University of Edinburgh.
EH8 9JZ.

Answers = Scale 0-4
0= Extremely uncharacteristic
1= Generally uncharacteristic
2= Equally uncharacteristic and characteristic
3= Generally characteristic
4= Extremely characteristic
(circle one)

- | | | | | | |
|---|---|---|---|---|---|
| 20. I'm always trying to figure myself out. | 0 | 1 | 2 | 3 | 4 |
| 21. I'm concerned about my style of doing things. | 0 | 1 | 2 | 3 | 4 |
| 22. Generally, I'm very aware of myself. | 0 | 1 | 2 | 3 | 4 |
| 23. It takes me time to overcome my shyness in new situations. | 0 | 1 | 2 | 3 | 4 |
| 24. I reflect about myself a lot. | 0 | 1 | 2 | 3 | 4 |
| 25. I'm concerned about the way I present myself. | 0 | 1 | 2 | 3 | 4 |
| 26. I'm often the subject of my own fantasies. | 0 | 1 | 2 | 3 | 4 |
| 27. I have trouble working when someone is watching me. | 0 | 1 | 2 | 3 | 4 |
| 28. I constantly scrutinize myself. | 0 | 1 | 2 | 3 | 4 |
| 29. I get embarrassed very easily. | 0 | 1 | 2 | 3 | 4 |
| 30. I'm self-conscious about the way I look. | 0 | 1 | 2 | 3 | 4 |
| 31. I find it hard to talk to strangers. | 0 | 1 | 2 | 3 | 4 |
| 32. I'm generally attentive to my inner feelings. | 0 | 1 | 2 | 3 | 4 |
| 33. I usually worry about making a good impression. | 0 | 1 | 2 | 3 | 4 |
| 34. I'm constantly examining my motives. | 0 | 1 | 2 | 3 | 4 |
| 35. I feel anxious when I speak in front of large group. | 0 | 1 | 2 | 3 | 4 |
| 36. One of the last things I do before I leave the house is look in the mirror. | 0 | 1 | 2 | 3 | 4 |
| 37. I sometimes have the feeling that I'm off somewhere watching myself. | 0 | 1 | 2 | 3 | 4 |
| 38. I'm concerned about what other people think of me. | 0 | 1 | 2 | 3 | 4 |
| 39. I'm alert to changes of my mood. | 0 | 1 | 2 | 3 | 4 |
| 40. I'm usually aware of my appearance. | 0 | 1 | 2 | 3 | 4 |
| 41. I'm aware of the way my mind works when I work through a problem. | 0 | 1 | 2 | 3 | 4 |
| 42. Large groups make me nervous. | 0 | 1 | 2 | 3 | 4 |

Answers = Scale 1-4
1= No sound/noise at all
2 = Vague sound/noise
3 = Moderately clear sound/noise
4 = Very clear sound/noise
(circle one)

Consider the following items. Rate them according to how well you can manage to imagine the sound/noise.

- | | | | | |
|---|---|---|---|---|
| 43. Imagine the sound of car driving in the road in front of a house | 1 | 2 | 3 | 4 |
| 44. Imagine a monotonous beep-like sound like in a telephone. | 1 | 2 | 3 | 4 |
| 45. Imagine the sound of footsteps coming up a stair. | 1 | 2 | 3 | 4 |
| 46. Imagine the sound of water dripping. | 1 | 2 | 3 | 4 |
| 47. Imagine the sound of snapping twigs. | 1 | 2 | 3 | 4 |
| 48. Imagine the noise of conversation as if there was a party taking place next door. | 1 | 2 | 3 | 4 |
| 49. Imagine your favourite piece of music. | 1 | 2 | 3 | 4 |

Answers = Scale 1-5

1 = No image at all

2 = Vague and dim

3 = Moderately clear and vivid

4 = Clear and reasonably vivid

5 = Perfectly clear

(circle one)

For items 1-4, think of some relative or friend whom you frequently see (but who is not with you at present) and consider carefully the picture that comes before your mind's eye.

- | | | | | | |
|---|---|---|---|---|---|
| 50. The exact contour of face, head, shoulders and body. | 1 | 2 | 3 | 4 | 5 |
| 51. Characteristics poses of head, attitudes of body, etc. | 1 | 2 | 3 | 4 | 5 |
| 52. The precise carriage, length of step, etc., in walking. | 1 | 2 | 3 | 4 | 5 |
| 53. The different colours worn in some familiar clothes. | 1 | 2 | 3 | 4 | 5 |

Visualize a rising sun. Consider carefully the picture that comes before your mind's eye.

- | | | | | | |
|---|---|---|---|---|---|
| 54. The sun is rising above the horizon into a hazy sky. | 1 | 2 | 3 | 4 | 5 |
| 55. The sky clears and surrounds the sun with blueness. | 1 | 2 | 3 | 4 | 5 |
| 56. Clouds. A storm blows up, with flashes of lightening. | 1 | 2 | 3 | 4 | 5 |
| 57. A rainbow appears. | 1 | 2 | 3 | 4 | 5 |

Think of the front of a shop which you often go to. Consider the picture that comes before your mind's eye.

- | | | | | | |
|--|---|---|---|---|---|
| 58. The overall appearance of the shop from the opposite side of the road. | 1 | 2 | 3 | 4 | 5 |
| 59. A window display including colours, shapes and details of individual items for sale. | 1 | 2 | 3 | 4 | 5 |
| 60. You are near the entrance. The colour, shape and details of the door. | 1 | 2 | 3 | 4 | 5 |
| 61. You enter the shop and go to the counter. The counter assistant serves you. Money changes hands. | 1 | 2 | 3 | 4 | 5 |

Finally, think of a country scene which involves trees, mountains and lake. Consider the picture that comes before your mind's eye.

- | | | | | | |
|---|---|---|---|---|---|
| 62. The contours of the landscape. | 1 | 2 | 3 | 4 | 5 |
| 63. The colour and shape of the trees. | 1 | 2 | 3 | 4 | 5 |
| 64. The colour and shape of the lake. | 1 | 2 | 3 | 4 | 5 |
| 65. A strong wind blows on the trees and on the lake causing waves. | 1 | 2 | 3 | 4 | 5 |

*Answers = True or False
(circle one)*

- | | | |
|--|------|-------|
| 66. A problem has little attraction for me if I don't think it has a solution. | True | False |
| 67. I am just a little uncomfortable with people unless I feel that I can understand their behaviour. | True | False |
| 68. The way to understand complex problems is to be concerned with their larger aspects instead of breaking them into smaller pieces. | True | False |
| 69. I get pretty anxious when I'm in a social situation over which I have no control. | True | False |
| 70. Practically every problem has a solution. | True | False |
| 71. I sometimes have had the feeling that some parts of my body are not attached to the same person. | True | False |
| 72. I have never had the passing feeling that my arms or legs had become longer than usual. | True | False |
| 73. It bothers me when I am unable to follow another person's train of thought. | True | False |
| 74. I have always felt that there is a clear difference between right and wrong. | True | False |
| 75. It bothers me when I don't know how other people react to me. | True | False |
| 76. Nothing gets accomplished in this world unless you stick to some basic rules. | True | False |
| 77. Occasionally I have felt as though my body did not exist. | True | False |
| 78. Sometimes people whom I know well begin to look like strangers. | True | False |
| 79. There's a right way and a wrong way to do almost everything. | True | False |
| 80. I would rather bet 1 to 6 on a long shot than 3 to 1 on a probable winner. | True | False |
| 81. Often I have a day when indoor lights seem so bright that they bother my eyes. | True | False |
| 82. I have felt as though my head or limbs were somehow not my own. | True | False |
| 83. I have never felt that my arms or legs have momentarily grown in size. | True | False |
| 84. At times I have wondered if my body was really my own. | True | False |
| 85. I have felt that my body and another person's body were one and the same. | True | False |
| 86. Before an examination, I feel much less anxious if I know how many questions there will be. | True | False |
| 87. The best part of working a jigsaw puzzle is putting in that last piece. | True | False |
| 88. Sometimes I rather enjoy going against the rules and doing things I'm not supposed to do. | True | False |
| 89. Sometimes I have felt that I could not distinguish my body from other objects around me. | True | False |
| 90. Now and then when I look in the mirror, my face seems quite different than usual. | True | False |
| 91. It has seemed at times as if my body was melting into my surroundings. | True | False |
| 92. I don't like to work on a problem unless there is a possibility of coming out with a clear-cut and unambiguous answer. | True | False |
| 93. I like to fool around with new ideas, even if they turn out to be a total waste of time. | True | False |
| 94. Perfect balance is the essence of all good composition. | True | False |
| 95. I have sometimes had the feeling that my body is decaying inside. | True | False |
| 96. Sometimes when I look at things like tables and chairs, they seem strange. | True | False |
| 97. I have had the momentary feeling that things I touch remain attached to my body. | True | False |
| 98. I can remember when it seemed as though one of my limbs took on an unusual shape. | True | False |
| 99. If I were a doctor, I would prefer the uncertainties of a psychiatrist to the clear and definite work of someone like a surgeon or X-ray specialist. | True | False |
| 100. If I were a scientist, it would bother me that my work would never be completed (because science will always make new discoveries). | True | False |
| 101. I have had the momentary feeling that my body has become misshapen. | True | False |
| 102. Sometimes I have the feelings that I am united with an object near me. | True | False |
| 103. Sometimes I feel like everything around me is tilting. | True | False |
| 104. Sometimes I have had the passing thought that some part of my body was rotting away. | True | False |
| 105. I sometimes have had the feeling that my body is abnormal. | True | False |
| 106. Vague and impressionistic pictures really have little appeal for me. | True | False |
| 107. I have sometimes felt that some part of my body no longer belonged to me. | True | False |
| 108. The boundaries of my body always seem clear. | True | False |
| 109. Ordinary colours sometimes seem much too bright for me (without taking drugs). | True | False |
| 110. I have felt that something outside my body was a part of my body. | True | False |

111. For several days at a time I have had such a heightened awareness of sights and sounds that I cannot shut them out.	True	False
112. Sometimes I have had the feeling that a part of my body is larger than it usually is.	True	False
113. Occasionally it has seemed as if my body has taken on the appearance of another person's body.	True	False
114. I sometimes have to touch myself to make sure I'm still there.	True	False
115. I have sometimes had the feeling that one of my arms or legs is disconnected from the rest of my body.	True	False
116. My hearing is sometimes so sensitive that ordinary sounds become uncomfortable.	True	False
117. Parts of my body occasionally seem dead or unreal.	True	False
118. Sometimes part of my body has seemed smaller than it usually is.	True	False
119. My hands or feet have never seemed far away.	True	False
120. I have sometimes felt confused as to whether my body was really my own.	True	False
121. I have heard the voice of the devil.	True	False
122. The people in my daydreams seem so true to life that I sometimes think they are.	True	False
123. I have sometimes had the feeling of gaining or losing energy when certain people look at me or touch me. Sometimes my thoughts seem as real as actual events in my life.	True	False
124. I have sometimes felt that strangers were reading my mind.	True	False
125. Things sometimes seem to be in different places when I get home, even though no one has been there.	True	False
126. I can be deeply moved by a sunset.	True	False
127. At times I have felt that a professor's lecture was meant especially for me.	True	False
128. I have occasionally had the silly feeling that a TV or radio broadcaster knew that I was listening to him.	True	False
129. I have felt that there were messages for me in the way things were arranged, like a store window.	True	False
130. My thoughts often don't occur as words but as visual images.	True	False
131. Textures — such as wool, sand, wood — sometimes remind me of colours and music.	True	False
132. I think I could learn to read others' minds if I wanted to.	True	False
133. It is sometimes possible for me to be completely immersed in nature or in art and to feel as if my whole state of consciousness has somehow been temporarily altered.	True	False
134. Some people can make me aware of them just by thinking about me.	True	False
135. I have sometimes had the passing thought that strangers are in love with me.	True	False
136. Sometimes thoughts and images come to me without the slightest effort.	True	False
137. Good luck charms don't work.	True	False
138. Different colours have distinctive and special meanings for me.	True	False
139. I often hear a voice speaking my thoughts aloud.	True	False
140. I have worried that people on other planets may be influencing what happens on earth.	True	False
141. Sometimes I feel as if my mind could envelop the whole world.	True	False
142. I like to watch cloud shapes change in the sky.	True	False
143. I can be greatly moved by eloquent or poetic language.	True	False
144. When introduced to strangers, I rarely wonder whether I have known them before.	True	False
145. I have never had the feeling that certain thoughts of mine really belonged to someone else.	True	False
146. I often know what someone is going to say before he or she says it.	True	False
147. People often behave so strangely that one wonders if they are part of an experiment.	True	False
148. If reincarnation were true, It would explain some unusual experiences I have had.	True	False
149. Sometimes a passing thought will seem so real that it frightens me.	True	False
150. I have had the momentary feeling that someone's place has been taken by a look-alike.	True	False
151. I have never doubted that my dreams are the products of my own mind.	True	False

152.	I have sometimes sensed an evil presence about me, although I could not see it.	True	False
153.	I can sometimes recollect certain past experiences in my life with such clarity and vividness that it is like living them again or almost so.	True	False
154.	If I stare at a picture and then look away from it, I can sometimes "see" an image of the picture almost as if I were still looking at it.	True	False
155.	I have wondered whether the spirits of the dead can influence the living.	True	False
156.	On occasions I have seen a person's face in front of me when no one was in fact there.	True	False
157.	I have felt that I might cause something to happen just by thinking too much about it.	True	False
158.	I often have "physical memories"; for example, after I have been swimming I may still feel as if I am in the water.	True	False
159.	The crackle and flames of a wood fire stimulate my imagination.	True	False
160.	The government refuses to tell us the truth about flying saucers.	True	False
161.	No matter how hard I concentrate, unrelated thoughts always creep into my mind.	True	False
162.	I think I really know what some people mean when they talk about mystical experiences.	True	False
163.	I have had the momentary feeling that I might not be human.	True	False
164.	I have sometimes been fearful of stepping on sidewalk cracks.	True	False
165.	At times I somehow feel the presence of someone who is not physically there.	True	False
166.	Sometimes I can change noise into music by the way I listen to it.	True	False
167.	When listening to organ music or other powerful music I sometimes feel as if I am being lifted into the air.	True	False
168.	Numbers like 13 or 7 have no special powers.	True	False
169.	In the past I have had experiences of hearing a person's voice and then found that no one was there.	True	False
170.	Horoscopes are right too often for it to be a coincidence.	True	False
171.	I have been troubled by voices in my head.	True	False
172.	It is not possible to harm others merely by thinking about bad thoughts about them.	True	False
173.	When I listen to music I can get so caught up in it that I don't notice anything else.	True	False
174.	I can often somehow sense the presence of another person before I actually see or hear her/him.	True	False
175.	Things that might seem meaningless to others often make sense to me.	True	False
176.	The sound of a voice can be so fascinating to me that I can just go on listening to it.	True	False
177.	The hand motions that strangers make seem to influence me at times.	True	False
178.	At times I perform certain little rituals to ward off negative influences.	True	False
179.	If I wish I can imagine that my body is so heavy that I could not move it if I wanted to.	True	False
180.	Some of my most vivid memories are called up by scents and smells.	True	False
181.	While watching a movie, a TV show, or a play, I may become so involved that I may forget about myself and my surroundings and experience the movie as if it were real and as if I were taking part in it.	True	False
182.	I often take delight in small things (like the five-pointed star shape that appears when you cut an apple across the core or the colours in soap bubbles).	True	False
183.	I am able to wander off into my thoughts while doing a routine task and actually forget that I am doing the task, and find a few minutes later that I have completed it.	True	False
184.	I almost never dream about things before they happen.	True	False
185.	In the past I have heard the voice of God speaking to me.	True	False
186.	In my daydreams I can hear the sound of tune almost as clearly as if I were actually listening to it.	True	False
187.	If I wish I can imagine (or daydream) some things so vividly that they hold my attention as a good movie or story does.	True	False
188.	Some music reminds me of pictures or changing colour patterns.	True	False
189.	I find that different odours have different colours.	True	False

- | | | |
|---|------|-------|
| 190. While acting in a play I think I could really feel the emotions of the character and "become" her/him for the time being, forgetting both myself and the audience. | True | False |
| 191. I have noticed sounds on my records that are not there at other times. | True | False |
| 192. The sounds I hear in my daydreams are usually clear and distinct. | True | False |
| 193. Sometimes I feel and experience things as I did when I was a child. | True | False |
| 194. I sometimes "step outside" my usual self and experience an entirely different state of being. | True | False |
| 195. Sometimes I experience things as if they were doubly real. | True | False |
| 196. I don't like to make decisions quickly, even simple decisions, such as choosing what to wear, or what to have for dinner. | True | False |
| 197. I often get into trouble because I don't think before I act. | True | False |
| 198. Many times the plans I make don't work out because I haven't gone over them carefully enough in advance. | True | False |
| 199. I rarely get involved in projects without first considering the potential problems. | True | False |
| 200. I am good at taking advantage of unexpected opportunities, where you have to do something immediately or lose your chance. | True | False |
| 201. I often make my mind up without taking the the time to consider the situation from all angles. | True | False |
| 202. I like to take part in really fast-paced conversations, where you don't have much time to think before you speak. | True | False |
| 203. I have often missed out on opportunities because I couldn't make my mind up fast enough. | True | False |
| 204. People have admired me because I can think quickly. | True | False |
| 205. I try to avoid activities where you have to act without much time to think first. | True | False |
| 206. Often, I don't spend enough time thinking over a situation before I act. | True | False |
| 207. Most of the time, I can put my thoughts into words very rapidly. | True | False |
| 208. I am uncomfortable when I have to make up my mind rapidly. | True | False |
| 209. I will often say whatever comes into my head without thinking first. | True | False |
| 210. I enjoy working out problems slowly and carefully. | True | False |
| 211. I frequently make appointments without thinking about whether I will be able to keep them. | True | False |
| 212. I frequently buy things without thinking about whether or not I can really afford them. | True | False |
| 213. Before making any important decision, I carefully weigh the pros and cons. | True | False |
| 214. I don't like to do things quickly, even when I am doing something that is not very difficult. | True | False |
| 215. I would enjoy working at a job that required me to make a lot of split-second decisions. | True | False |
| 216. I like sports and games in which you have to choose your next move very quickly. | True | False |
| 217. I am good at careful reasoning. | True | False |
| 218. I often say and do things without considering the consequences. | True | False |

Are male or female?

Male Female

How old are you?

Which department and faculty are you in?

Survey of members of the Hearing Voices Network.

This anonymous survey is an attempt to learn more about the experience of hearing voices: who hears them, when they are heard, and what they are like. If many people participate the results will provide rich information for understanding these experiences. Once all the results have been analysed the findings of the survey will be published in the Hearing Voices Newsletter. Please complete the questionnaire when you are unlikely to be interrupted. Each answer will take the form of ticking one or more boxes. It would be very helpful if you could provide fuller information where requested by writing a description in the spaces provided and by continuing overleaf if necessary. Please answer the questions as accurately as you can, there is no need to deliberate extensively over each question, as there are no right or wrong answers and peoples' answers are likely to vary a lot.

1. Male Female Age

2. What kinds of unusual sounds have you experienced? (Please note as many as you like and feel free to describe them in as much detail as you can.)

The categories below are to be used as a guideline (tick as many as appropriate):

The sound is:

- a) Unidentifiable
- b) Identifiable but not a voice
- c) An unintelligible voice
- d) An intelligible voice but not personally meaningful
- e) A personally significant message
- f) A voice with which you have conversed

Description:

Continue overleaf as needed

3. When you have these experiences of sounds do you see, smell or feel anything unusual at exactly the same time?

- a) Always
- b) Sometimes
- c) Unsure
- d) Never

Description:

Continue overleaf as needed

4. How many voices do you hear? (tick as many as appropriate)

- a) One voice
- b) Two voices
- c) Three voices
- d) More than three voices

Description:

Continue overleaf as needed

In these questions tick one of the boxes in the scale ranging from one extreme to another e.g., from pleasant to unpleasant, the middle of the seven boxes indicates a neutral position e.g., neither pleasant nor unpleasant.

10. a) Are the voices you usually hear? Pleasant Unpleasant
 b) Are the voices you usually hear? Friendly Hostile
 c) Do the voices upset you? Never Always
 d) Can you control the voices? Never Always
 e) Have you tried to control the voices. How?

Description:

Continue overleaf as needed

11. Have your experiences led you to receive medical care at any time? Yes No

12. If you have been given a psychiatric diagnosis at any time what is it?

Description:

Continue overleaf as needed

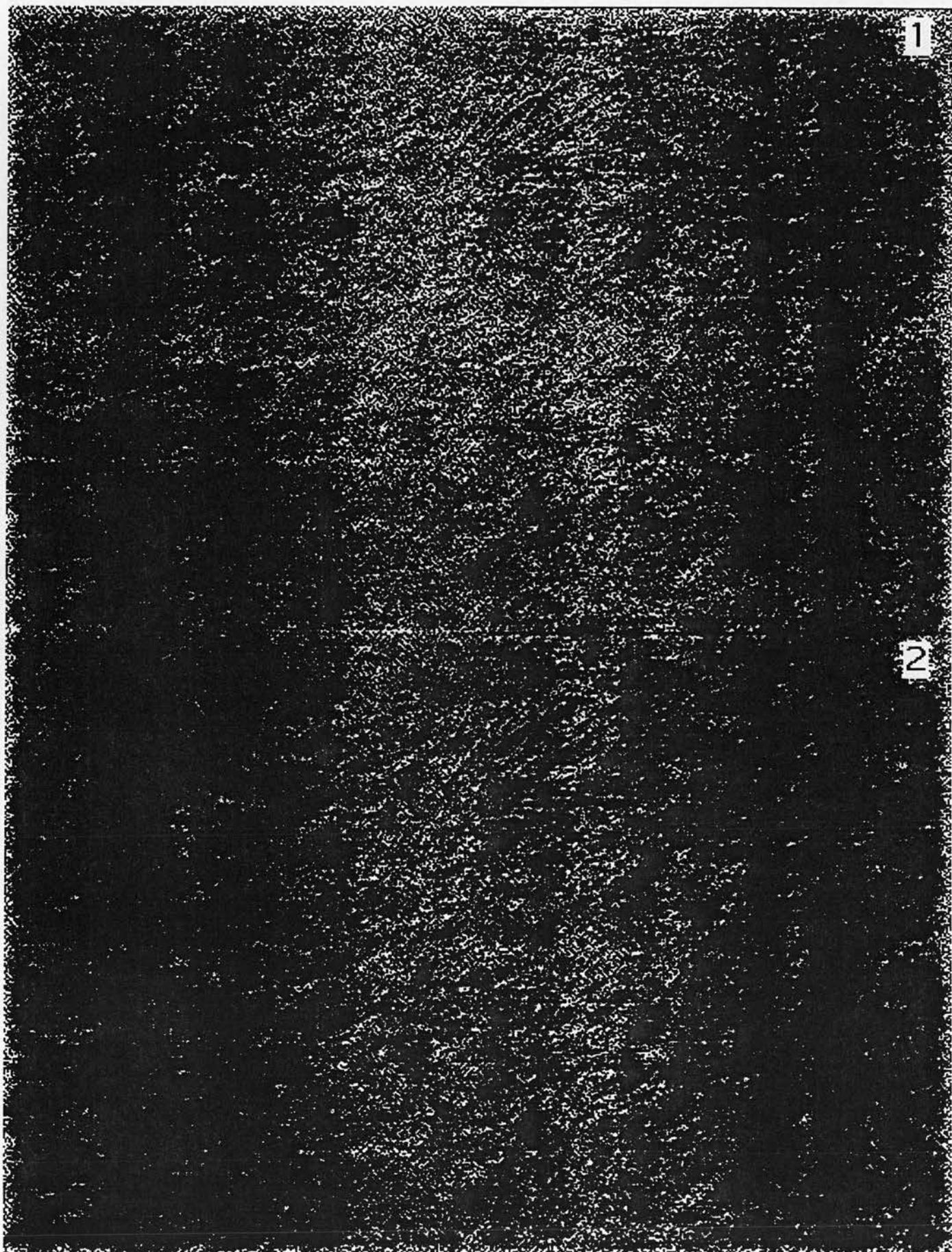
13. What is the best explanation that you have found for your experiences?

Description:

Continue overleaf as needed

ESP refers to extrasensory perception, that is, communication through as yet, unknown channels. It is usually characterised as gaining information which you could not have gained through normal senses such as sight, hearing etc. The terms 'psychic' and 'telepathy' refer to the ability to use ESP to acquire information by paranormal means. Each of these questions is answered by ticking **one** of the three boxes on the scale in the panel to the right. Each answer may take the form of False, Uncertain or True.

- | | False | Uncertain | True |
|---|--------------------------------|------------------------------------|-------------------------------|
| 14. ESP exists. | False <input type="checkbox"/> | Uncertain <input type="checkbox"/> | True <input type="checkbox"/> |
| 15. I have had personal experience of ESP. | False <input type="checkbox"/> | Uncertain <input type="checkbox"/> | True <input type="checkbox"/> |
| 16. I am psychic. | False <input type="checkbox"/> | Uncertain <input type="checkbox"/> | True <input type="checkbox"/> |
| 17. I have had at least one hunch that turned out to be correct and which was not just a coincidence. | False <input type="checkbox"/> | Uncertain <input type="checkbox"/> | True <input type="checkbox"/> |
| 18. I have had at least one premonition about the future that came true and which was not just a coincidence. | False <input type="checkbox"/> | Uncertain <input type="checkbox"/> | True <input type="checkbox"/> |
| 19. I have dreamt at least one dream that came true and which was not just a coincidence. | False <input type="checkbox"/> | Uncertain <input type="checkbox"/> | True <input type="checkbox"/> |
| 20. I have had at least one vision that was not an hallucination and from which I received information that I could not otherwise have gained at that time and place. | False <input type="checkbox"/> | Uncertain <input type="checkbox"/> | True <input type="checkbox"/> |
| 21. Life after death exists. | False <input type="checkbox"/> | Uncertain <input type="checkbox"/> | True <input type="checkbox"/> |
| 22. Some people can contact spirits of the dead. | False <input type="checkbox"/> | Uncertain <input type="checkbox"/> | True <input type="checkbox"/> |
| 23. I have had at least one experience of telepathy between myself and another person. | False <input type="checkbox"/> | Uncertain <input type="checkbox"/> | True <input type="checkbox"/> |

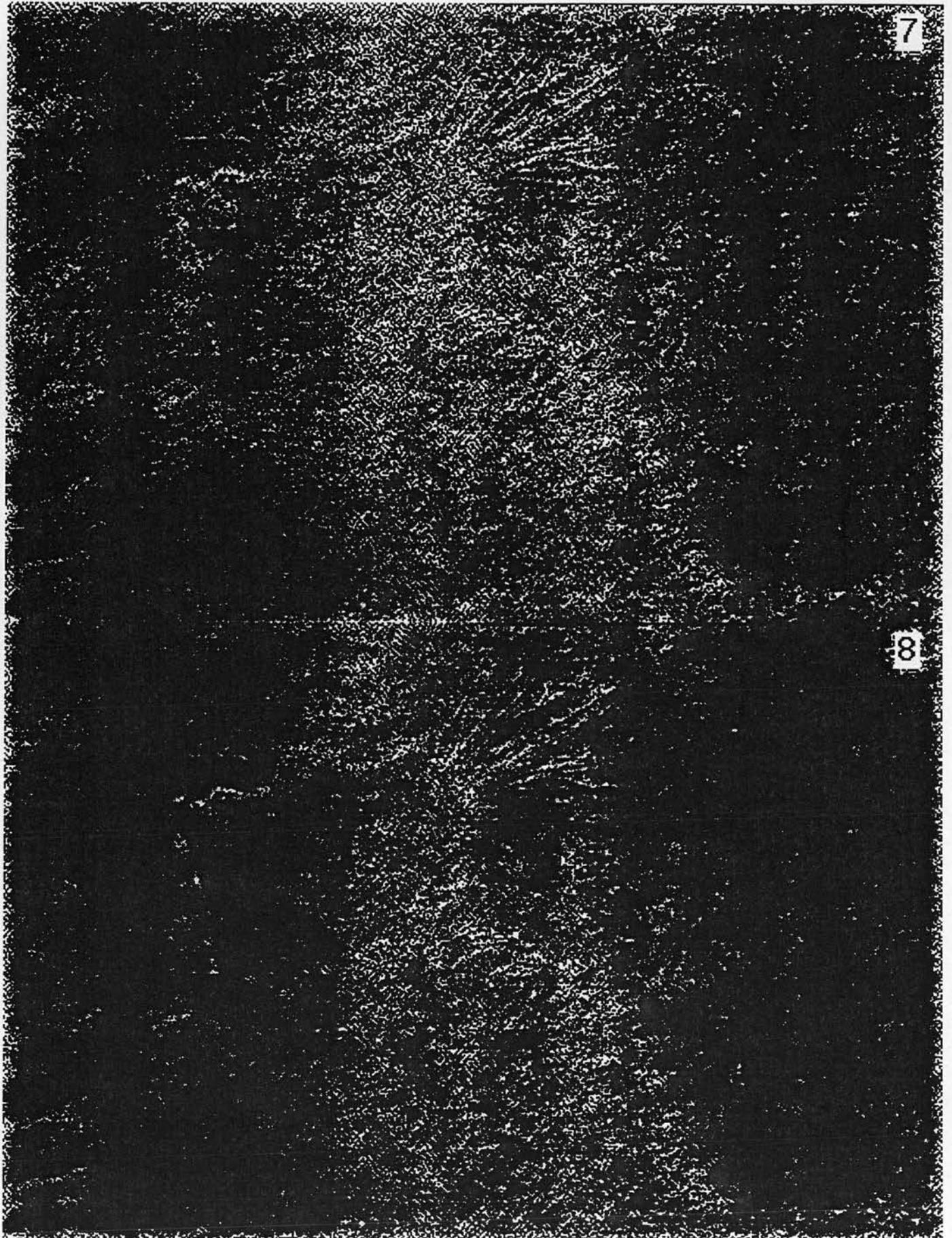


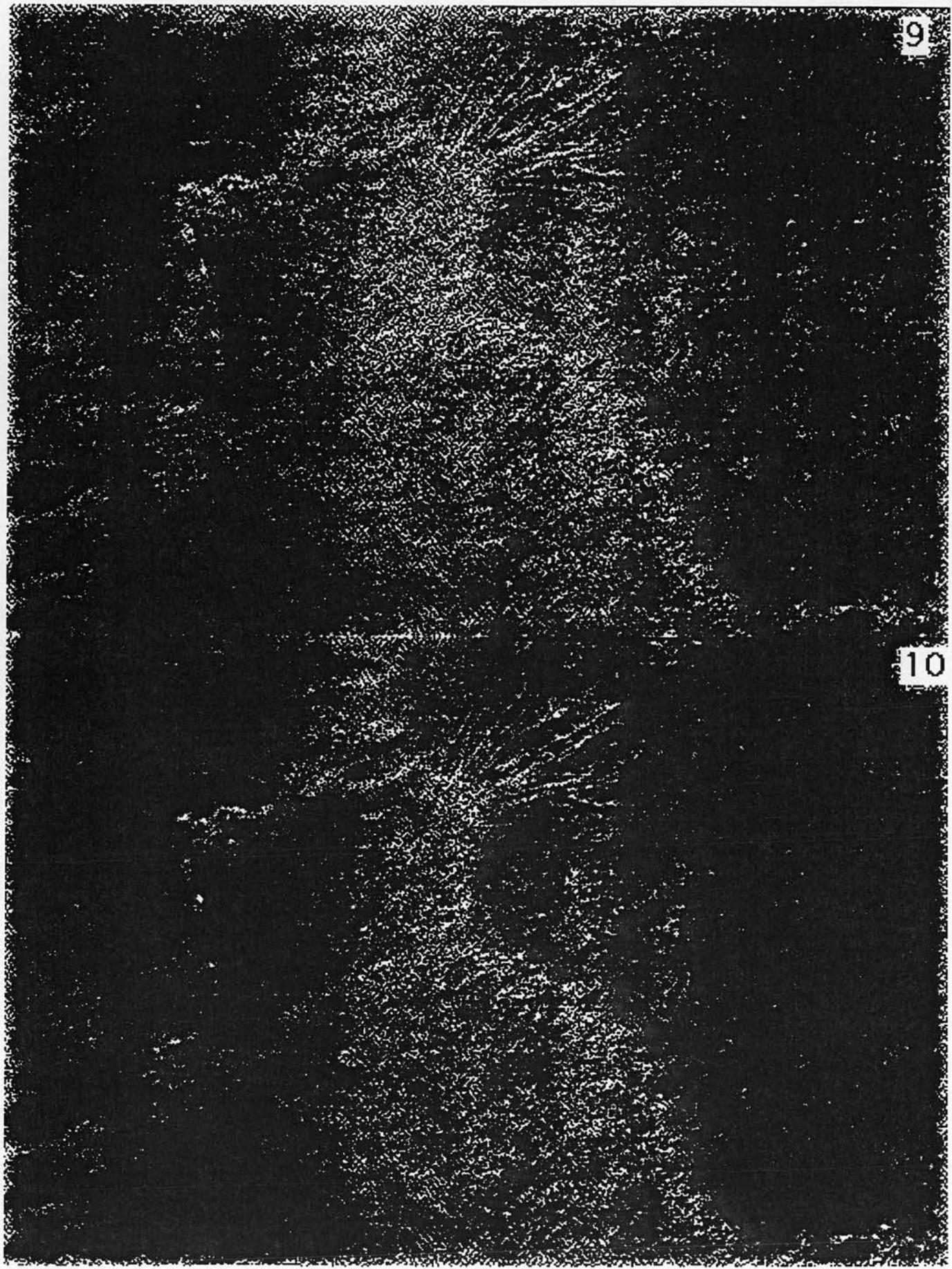
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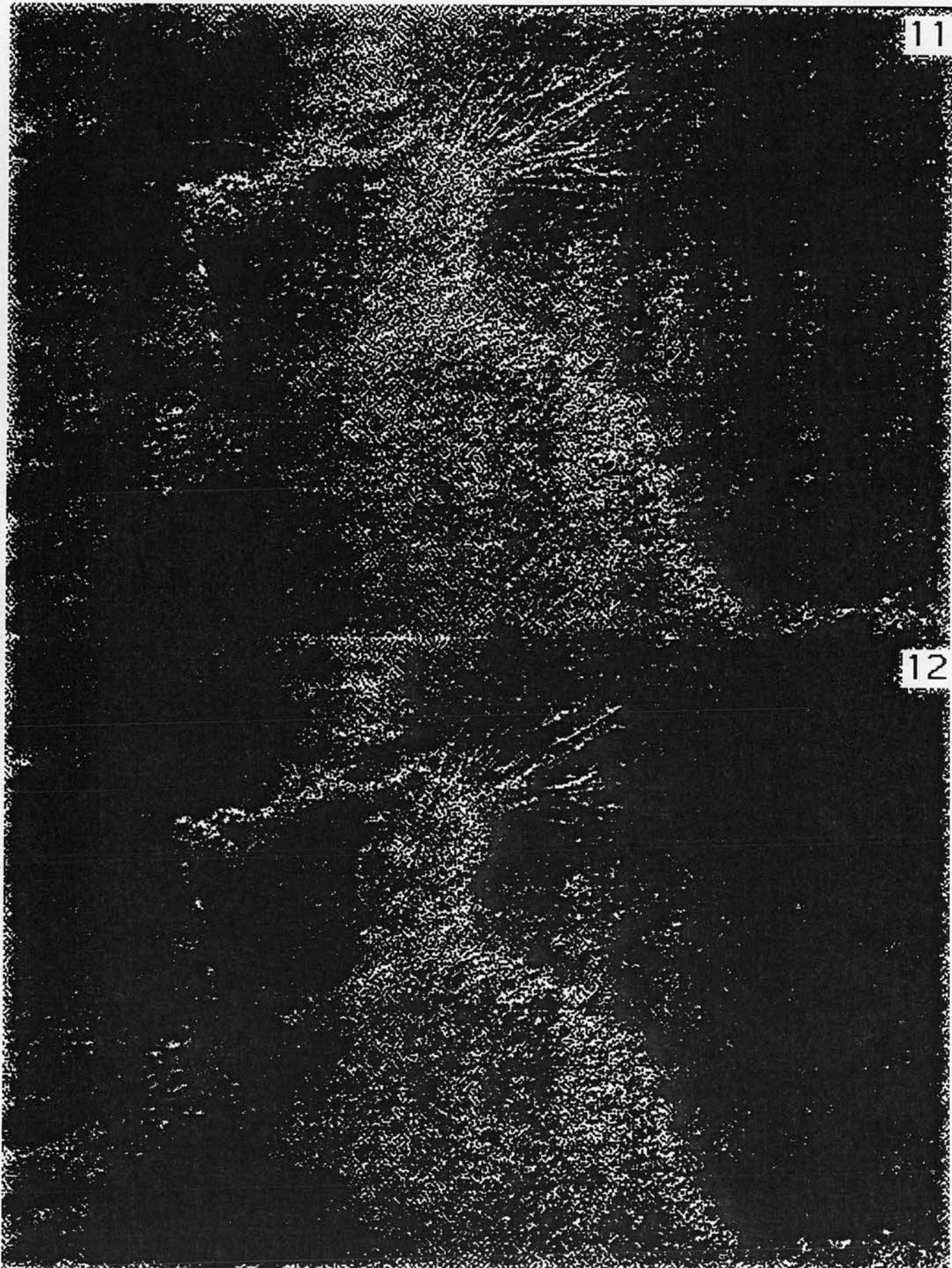
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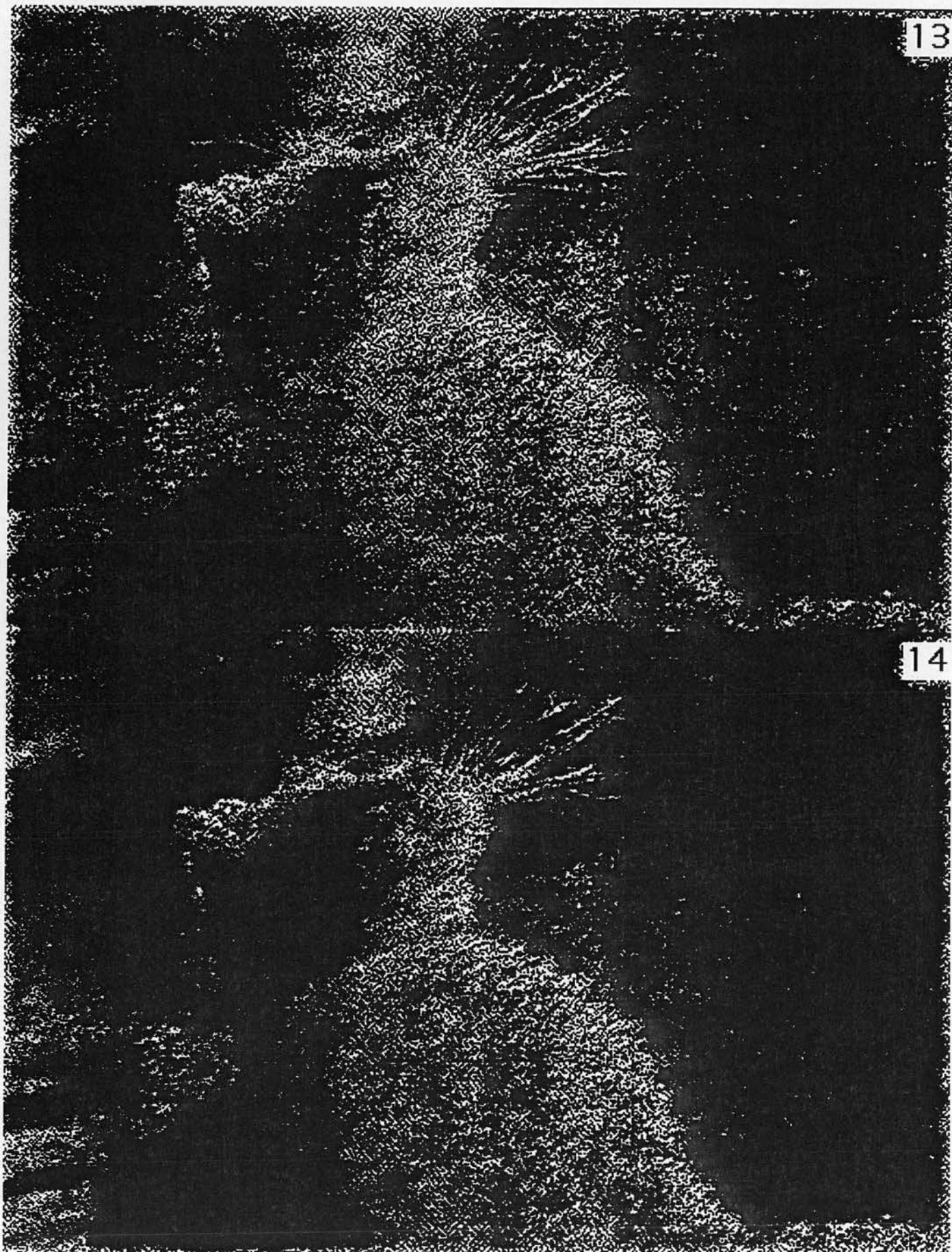
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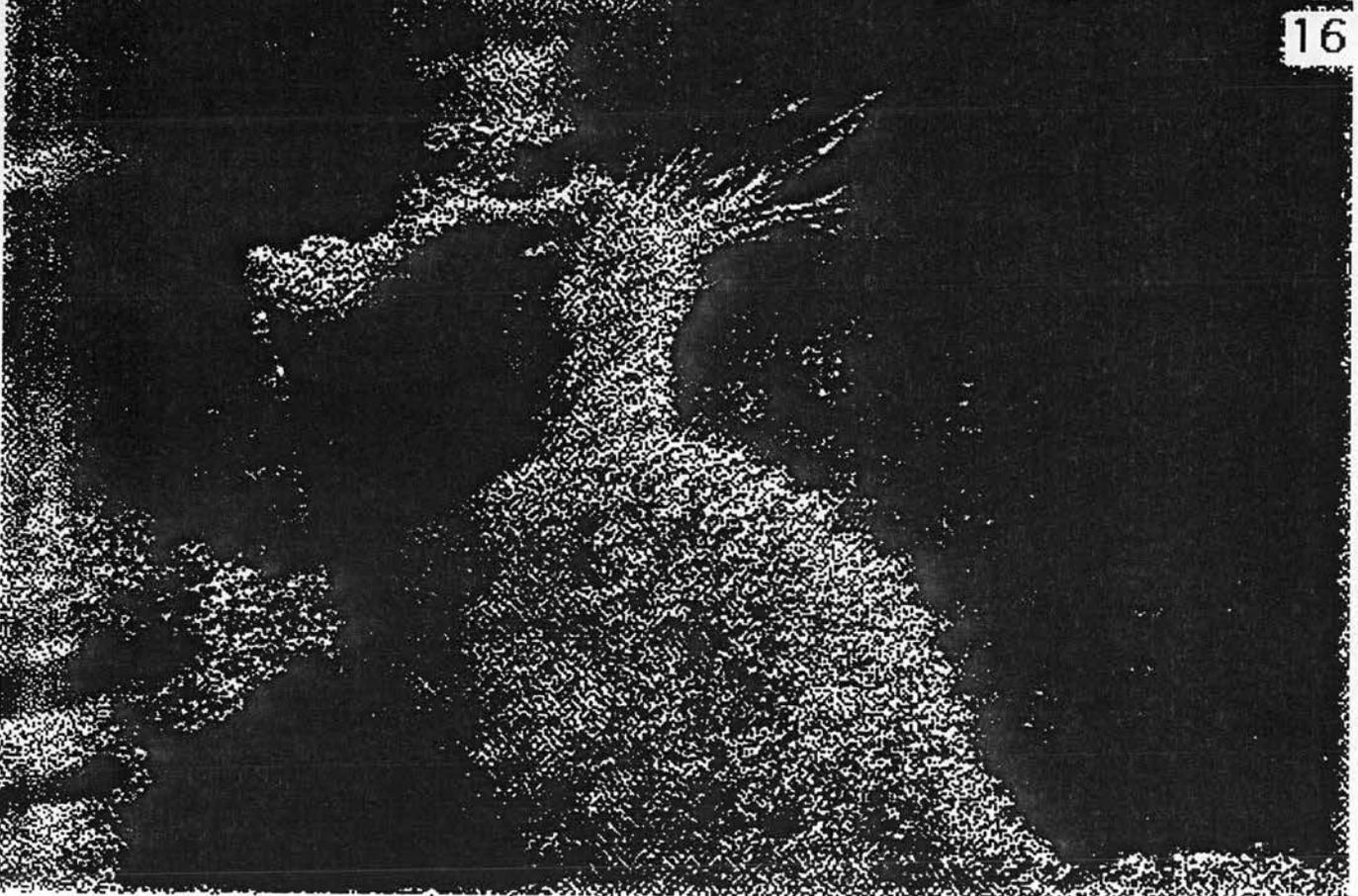
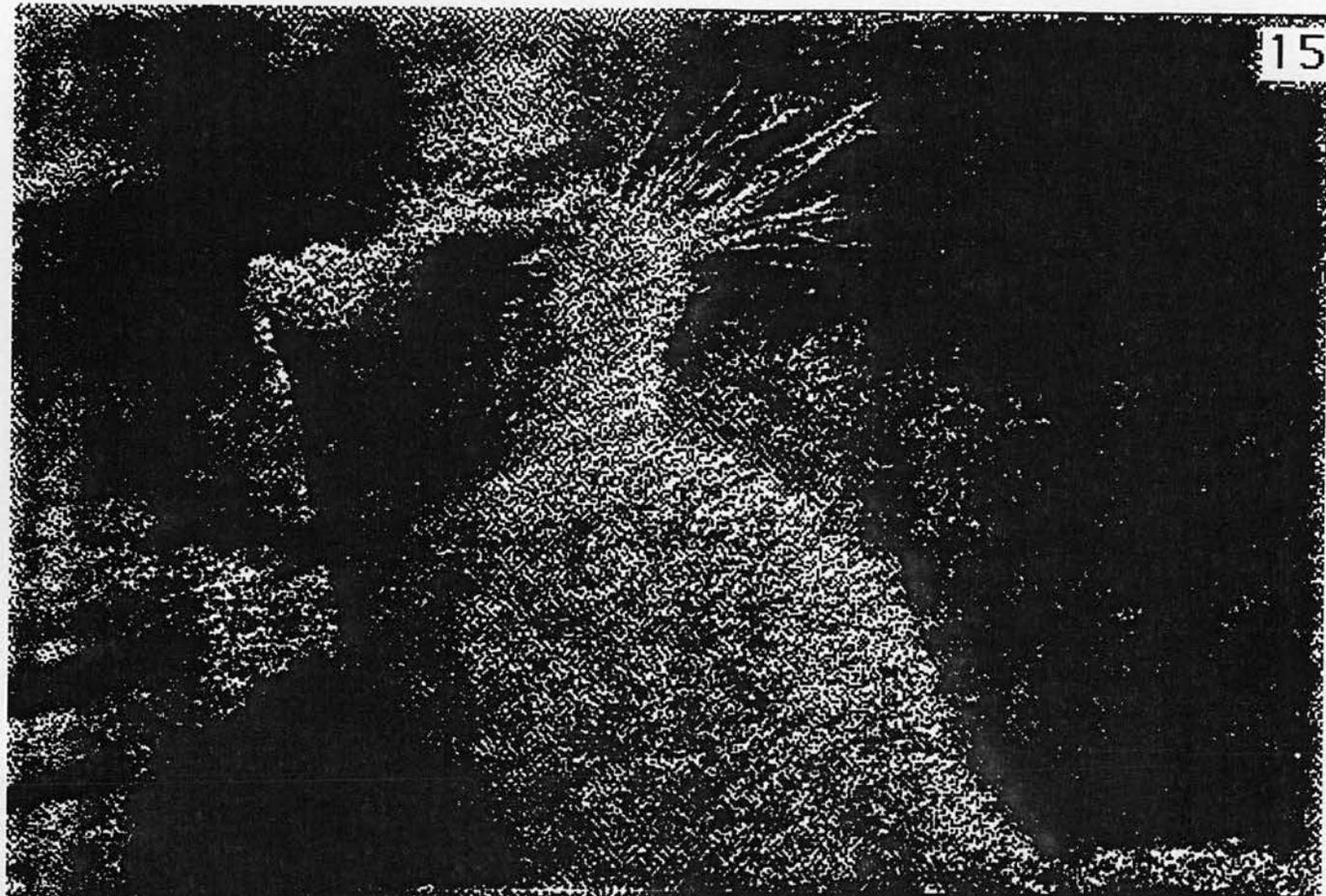
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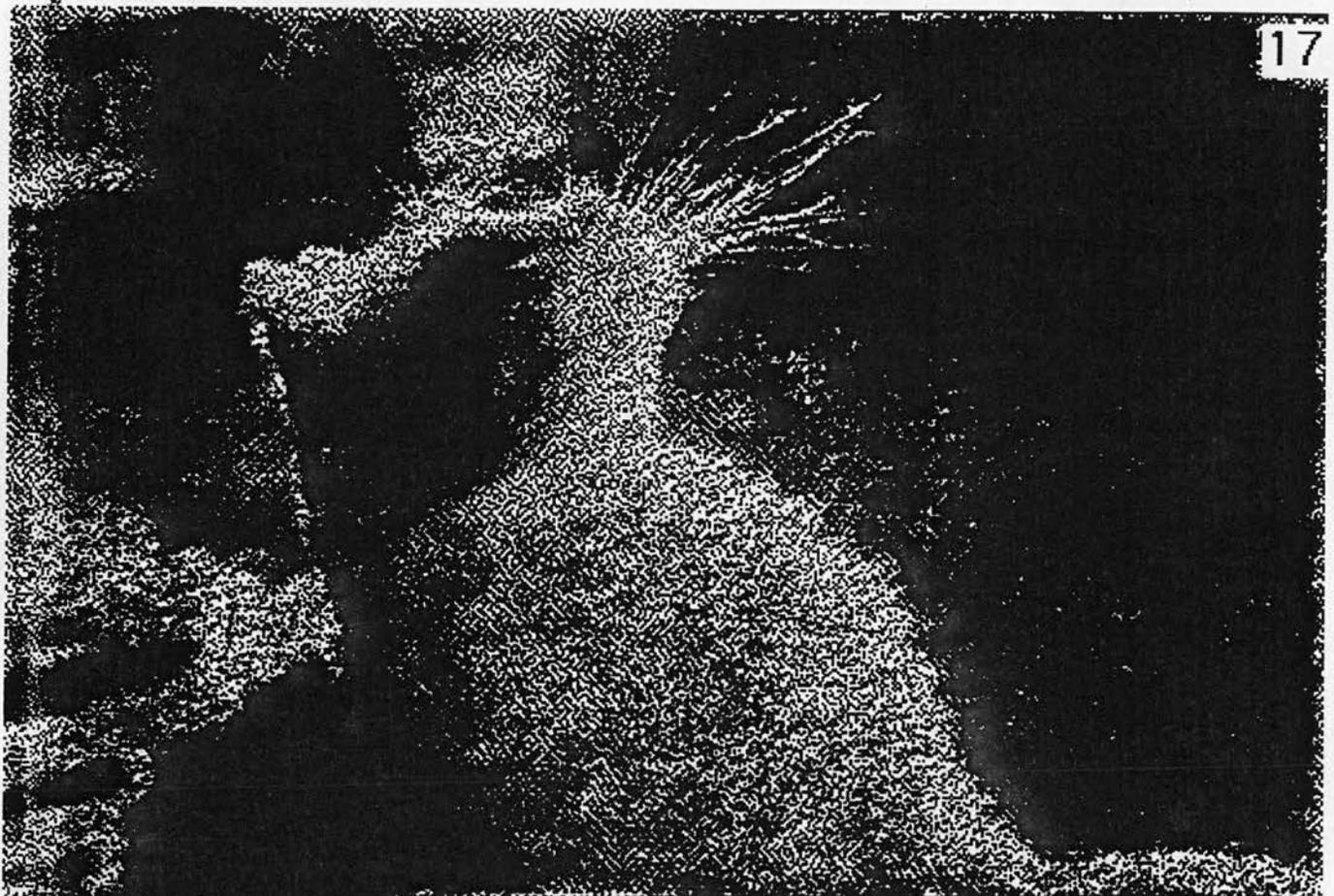
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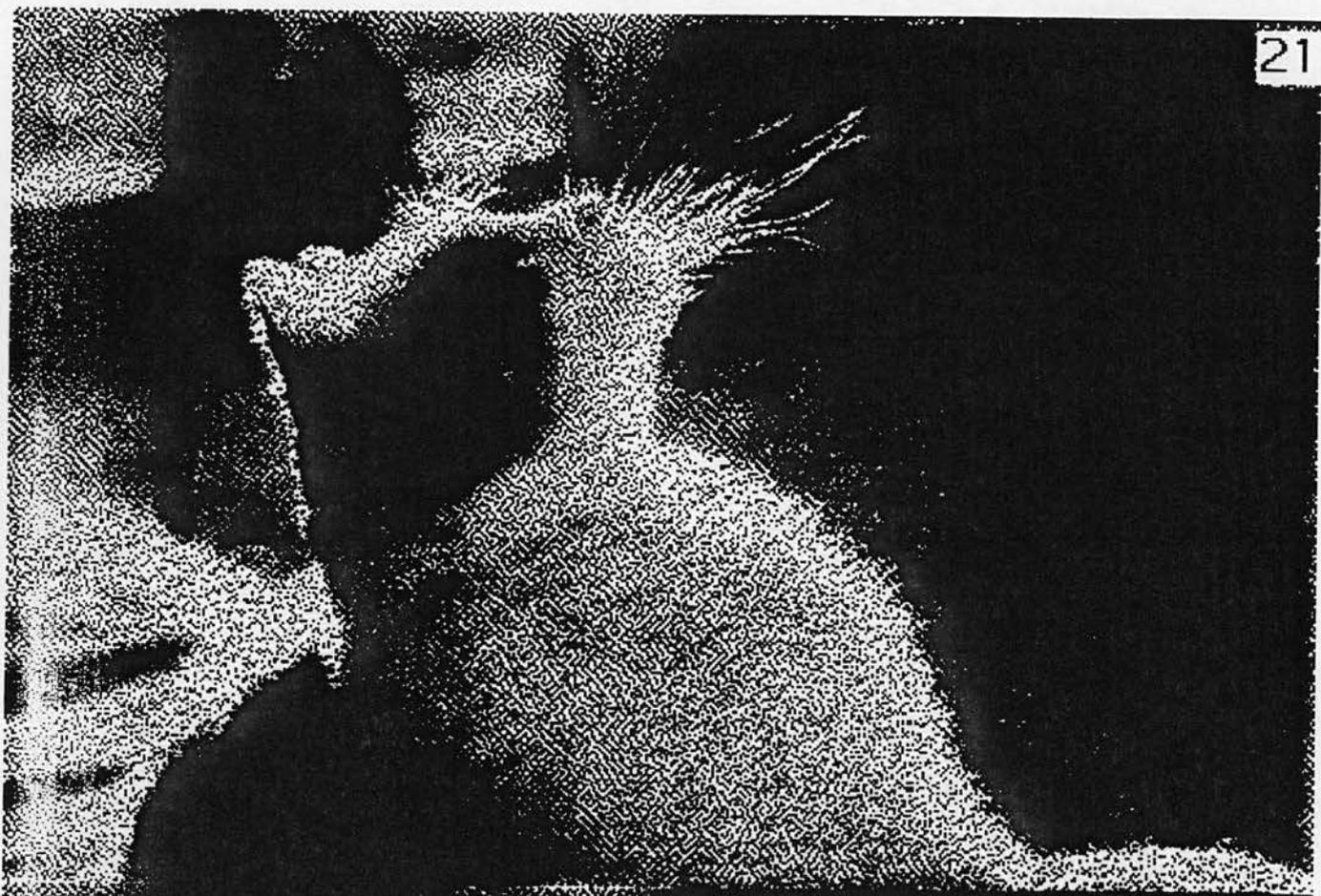


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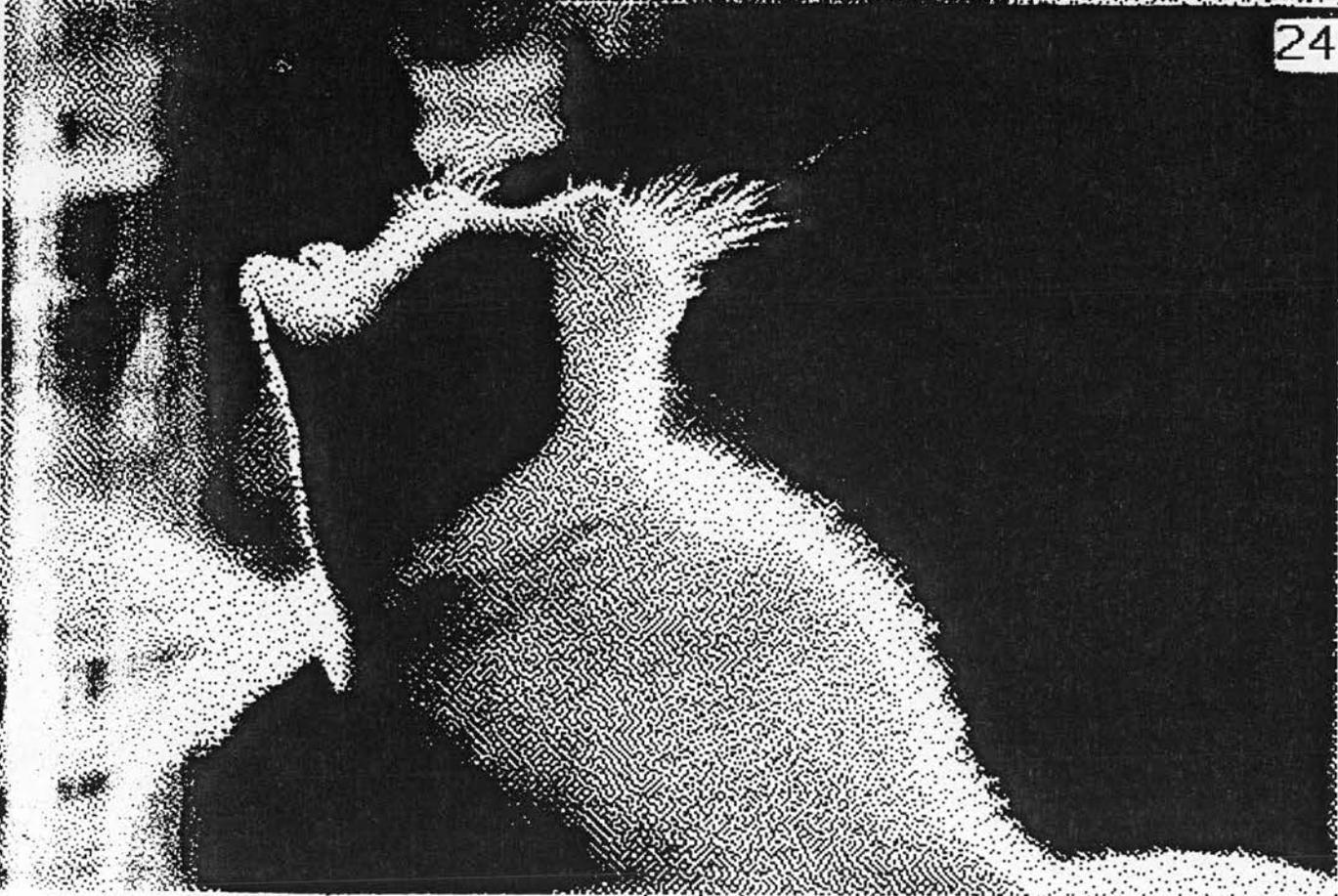
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23



24





This is the end of this series
please name the picture and
click the button below to continue.



Continue



Begin