16 Imagery and Hallucinations

IMAGERY

In the 1880s Galton asked some of his friends to imagine their own breakfast tables, complete with food, utensils and so on (45). He was surprised to find that while some described vivid 'mental pictures' complete with the colour of the table cloth and the smell of bacon and coffee, others could only tell him they were thinking about it. Since some of his scientist friends were in the latter group he concluded that vivid imagery was not a necessity for scientific work.

In 1906 Betts developed a questionnaire to assess the vividness of people's imagery. He asked them to imagine sights, sounds and familiar tastes and smells, and for each item the respondent had to rate the image that came to mind on a scale from 1 to 7. This questionnaire has since been modernized and shortened and is still used today (133a, b). Although there is great variation between people in this respect, Galton's conclusion seems to be confirmed; there are few, if any skills which correlate closely with the vividness of imagery. Some have recently been developed, but on the whole if we want to find out how vivid is a person's imagery we have to ask him. We may wonder whether vivid imagery has any function. Children seem to have more vivid imagery and lose it as they grow older; is it a useless skill which can be dispensed with?

Part of the answer is that we must not confuse the vividness of imagery with its use. It appears that we can use a mental image as a means of organizing material in memory, and in thinking without necessarily having a vivid representation come to mind. Along with verbal coding, imagery is one of the most important ways in which we organize and categorize information. Using verbal coding everything is labelled in words and relationships between things are expressed in terms of language. Using images, different kinds of information are employed. The form, colour, taste, feeling or scent of objects and events are represented in complex images which

are often related to each other in spatial terms. It seems that everyone uses both to some extent but that extent varies, both between tasks and between people.

Different tasks lend themselves more to one mode than the other. At the extreme, learning lists of words is far easier if they are verbally coded, and remembering squiggles and coloured blobs is only interfered with by too much verbalizing. Then people vary in the extent to which they use either mode. Those who use words more are called verbalizers, while those who rely predominantly on images are called 'imagers'. There are simple tests to assess where a person lies on this verbalizer-visualizer continuum, although presumably everyone uses both modes to some extent, as well as mathematical, abstract, and emotional ways of thinking.

Without going into great detail about imagery, there are two ways in which we can assess the relationship between it and the OBE. One is to ask what mental images are like and whether they are similar to what is 'seen' in an OBE. The other is to ask whether people who have greater imagery skills are more likely to have OBEs.

Mental Images

So, first, what are mental images like? This might be very hard to answer in the abstract, but we can confine ourselves to two types of image which are especially important in the OBE: the images we have of ourselves, and those of the environment around us.

We have already met the concept of the body image, and seen that its distortions are implicated in autoscopy. Two aspects are especially relevant to the OBE : what our body looks like, and where 'we' seem to be in relation to it. Most of the time we are quite certain about where our body is, how big it is, what it is doing and that 'we' are in some sense situated inside it. In fact it is most interesting to ask people where they think they are. Most say the seem to be behind the eyes, but some say the middle of the forehead, the back of the head or even the throat or heart. The blind are presumably less likely to be behind the eyes, and in any case the perceived position varies with what one is doing. We take this for granted but actually there is no good reason why we should seem to be anywhere in particular. Presumably the reason we organize our perception in this way is because it makes it simplest to integrate the different sensory inputs in relation to the body image. However, we should

note that it is to some extent arbitrary and there is no real reason why we shouldn't decide to be 'in' our hands and feet or indeed 'out of the body' altogether.

If we recall certain OBE induction techniques, we can see that many aim to disrupt that firm sense of being 'in' the head, or wherever. In meditation'one may learn exercises which shift the apparent centre of consciousness around the body. The Christos technique deliberately confuses the sense of body position and makes one feel all head and feet. The imagery exercises are all designed to move the point of consciousness out of the body, and some non-specific aids, such as certain drugs and hypnosis, can facilitate this.

It is not surprising that rather devious techniques are required to disrupt this sense of position. As we are likely to function far more effectively in normal life if we have a stable sense of being in some place relative to our body, we would expect there to be strong pressures operating to maintain that sense of position. Some are external, inputs from the senses themselves helping to confirm the sense of position, which may be why shutting off sensory inputs can help induce an OBE. Others are internal, and we have to overcome our own long years of practice at associating ourselves with our bodies in order to achieve the feeling of being outside the body. This relates to the fear often associated with leaving the body, and to the fact that it is usually much easier to return than to get 'out' in the first place. All those tendencies which help to maintain the sense of where 'I am' are trying to get us back to where they think we should be! If we look at the OBE as involving a change in the usual sense of where 'I' am, then it seems to me that a lot of aspects start to fall into place.

Body Images

Turning now to what the image of the body looks like, one point appears particularly important. People often claim something like 'I saw myself as I should look from above even though I have never seen myself from above'; or they may say the same about their back, the top of their head or whatever. However, no paranormal powers are needed to imagine the top of your own head. The body image is not incomplete, with gaps for the parts one has never seen. This is only the same as for any other kind of image, or for what is seen in perception. If parts of an object are obscured by other objects you do not see a gap, but imagine the object carrying on behind the

obstructions. This is an essential part of organizing perception and it is the same with the body image. We imagine it with a back and top of the head which we have generalized from the feel of those parts of the body and from our knowledge of other people's backs and heads which we have seen.

If you shut your eyes and imagine yourself sitting down reading this book, you are likely to imagine the whole body and be able to 'see' it from unfamiliar angles. Of course you will know it is an image only, and it does not have the same immediacy as it would in an OBE; but it is all there. Or try another exercise. Try to remember the last time you were on a beach or by the sea. Remember what you were doing there. As Siegel has pointed out (137a) it is quite likely that you will 'see' yourself running along the sand, jumping into the water, or whatever, as though from above or from a distance, or you may see things from unusual perspectives. So you *are* used to seeing yourself in this way.

This too makes a lot of psychological sense. If we always remembered events in terms of the sensory input we experienced at the time, what we saw as we dived into the water or ran about, our memory would be unnecessarily complex. It is simplified by representing events as though from a distance, as the actions of diving, walking or jumping as seen by an observer. All this shows that we are quite familiar with thinking about our own bodies as though from outside even though we are normally quite sure that we are 'inside'. So I believe it makes sense to say that the physical body we see during an OBE is based on our own mental image of that body.

Images of the Environment

The other important part of the world of the OBE is the environment around us. We all have a very complex image of the world we know called a 'cognitive map': this is similar to a map in some respects because everything seems to be laid out in position. If I asked you to imagine the route you would take in going to the shops you would probably see the roads or paths laid out as though below you, but the cognitive map is very different from any physical map. For a start it is three dimensional. It includes representations of stairs, hills and bridges, and buildings, walls and living things have more or less solid forms. This three dimensionality is also associated with a kind of transparency. It is possible to look* in your imagination, through the walls of your house or the buildings along a street. Try

to imagine you are seeing into the next room to see what I mean. Of course nothing is actually seeing through the wall; you are just using your cognitive map to construct a picture of what you know, or think, to be there. But it does give the impression of a world with transparent objects.

The cognitive map is also very complex. Hundreds of details of shape, colour and position are represented and associated with feelings, emotions and memories of people and events. Yet it is also simplified. There is a tendency to straighten curves, turn odd angles into right angles and to flatten out unnecessary contours. Those parts which are important to you, or which you use in finding the right street or turning, will be included in more detail and others simplified down to their bare bones. All this is known from studies in which people are asked to draw maps, to trace routes on existing maps or to guide people about and so on. This leads to some odd features. For example you may be able to 'see' the windows of a building but not to count them, or know there is writing but not be able to read it.

You can use your cognitive map in many different ways. It is flexible and grows with experience. You can imagine new things in it, change parts of it or try out new routes in your imagination. You can also move through it in different ways. For example you can 'move' as though really walking down the street, seeing all the buildings from street level as you pass by but this is slow and entails a lot of detail. Alternatively you can imagine 'flying' past at any height and speed you like. Doing this you can see the buildings pass by below, changing in perspective as they go; you can see the streets laid out in patterns; you can even add cars and people moving about. If you don't recognize these two methods then try imagining you are going to work (or any place you choose). You should be able to imagine each step of the way, or to 'fly' the route more quickly.

You can also pass through walls. Try to imagine you are moving through your own house, to see what I mean. Of course nothing is actually moving. You are just shifting an imaginary viewing point around your cognitive map of your house. Finally, of course, you can leap from place to place. Routes you know well you may pass along in stages, but you can equally well cut out the intermediary stages and jump from imagining the surroundings of your own home to those of the last place you visited on holiday.

Does all this sound like the OB world? It seems very much like it

to me, in almost every detail. Of course imagining you are in some place, using your cognitive map, is not like having an OBE. There is not the same sense of immediacy and 'reality'. On the other hand the nature of that map, and the nature of the world of the OBE, seem quite remarkably similar. In my opinion - though many will undoubtedly disagree with me - it makes most sense to see the world of the OBE as a world of the imagination, or cognitive map. And so to my mind this makes sense of all that has been said about the astral world. For it is a 'thought-created world', a 'world of images', a 'world of illusion'.

The second question concerning imagery and its relationship to the OBE is whether people who have better imagery are more likely to have an OBE. Todd and Dewhurst (149) suggested that autoscopy was especially likely to occur in people with super-normal powers of imagery. They cite the case of a man on a lone walking tour who not only saw nonexistent fruit hanging on the barren trees but also '. . . saw his own image moving towards him as though it was slowly unfolding itself from the ground.' The image was said to be like that seen in a mirror, and Todd and Dewhurst add that the man was only mildly surprised because he was such a strong visualizer anyway.

Is the OBE also more likely to occur in those with good imagery? This might be expected if the experience is one constructed entirely from the imagination. However, it is not obvious just which aspects of imagery ability should be most important for the OBE, nor whether different skills would be required for deliberately inducing an OBE or for having one spontaneously. As we have already seen there are many different tests of imagery ability. Some test vividness, others control of imagery and others habitual cognitive modes. Although research on imagery and OBEs is only just beginning, all of these types of test have been used.

Irwin (65a, c) was interested in whether OBEers differ from other people in terms of certain cognitive skills or ways of thinking, including imagery. From his survey of Australian students he found 21 whom he categorized as OBEers and to these he gave the 'Ways of thinking questionnaire' (WOT), the 'Differential personality questionnaire' (DPQ) and the 'Vividness of visual imagery questionnaire' (WIQ). For each he compared the scores of the OBEers with those expected from studies of larger groups of the population. Although this is a perfectly adequate comparison to make, note that

it is different from comparing the scores of OBEers and non-OBEers from the same sample.

The imagery questionnaire is a self-rated measure of vividness of just visual imagery. If the subjects knew what was expected of them they might answer accordingly; so Irwin made sure that there was no stated connection between this and the OBE questionnaire, and gave it some months after the other tests. The scores of these few OBEers were unexpectedly found to be lower than normal, and significantly so. It seems that they had less, not more, vivid imagery than the average.

Irwin concluded that these results were inconsistent with the theory that the OBE is a form of hallucination and weakened the psychological theories of the OBE. Palmer (HOe) subsequently pointed out that no psychological theory specifically predicted a relationship between vividness of imagery and a predisposition to OBEs, arguing that intentionally generated imagery may not be relevant for a spontaneous OBE. Irwin replied (65b) that spontaneous and intentionally generated imagery are closely related and cannot be separated, so Irwin concludes that the psychological theories are weakened, while Palmer believes the findings have little bearing on them.

The next test, the WOT, aims to test the verbalizer-visualizer dimension of cognitive style. Twenty of Irwin's OBEers filled this in and they obtained scores no different from the average known to be gained by students at that University. So there was no evidence that OBEers are either specially likely to use visualization or verbalization.

Although not directly relevant to imagery the results of the DPQ were interesting. One of the various dimensions of cognitive style which it measures is 'Absorption'. This relates to a person's capacity to become absorbed in his experience. For example, someone who easily becomes immersed in nature, art or a good book or film, to the exclusion of the outside world, would be one who scored highly on the scale of 'Absorption'. Irwin expected OBEers to be higher on this measure and that is what he found. His OBEers seemed to be better than average at becoming involved in their experiences. Irwin confirmed this when he found higher absorption scores in a group of OBEers as compared with non-OBEers, and showed that high absorption subjects were more susceptible to a procedure for inducing OBEs (65c). This makes sense from a psychological point of view because in an OBE one needs to become involved in the new per-

spective to the exclusion of the usual view, from 'inside' the body, and needs to be able to ignore all those sensory inputs which tell you just where your body is, and are trying to re-establish the normal sense of where one is.

I was also interested in imagery and gave some of my students a shortened form of the Bett's QMI 'Vividness of imagery scale'. In this self-report questionnaire subjects rate the vividness of images in all sensory modalities, not just visual images. I compared the total score for the OBEers and non-OBEers and found that both were roughly the same. However, with the Bristol students I used a different test, a slightly modified and extended version of Gordon's 'Control of imagery' questionnaire. This asks the respondent to imagine a car standing outside his house, then to imagine it changing colour, driving along, going up a hill, lying upside down and finally all old and dismantled in a car-cemetery. At each stage the subject has to say whether or not he can imagine the scene described. Students who had had an OBE did no better on this test than the others. So neither control of imagery, nor its vividness, seems to be important for an OBE.

Obviously we cannot draw any firm conclusions on the basis of such a small amount of research. Certainly OBEers do not seem to have more vivid or more controlled imagery, nor do they tend to be habitual visualizers rather than verbalizers, but there is some evidence that they score higher in 'absorption'. More research is needed on these aspects.

Before leaving the topic of imagery I would like to mention a fascinating example of the experiences of a good visualizer. 'The story of Ruth' is told by Morton Schatzman, an American psychiatrist living in London, to whom Ruth went when she was seriously troubled by apparitions of her father (130a). Schatzman had never met a case like Ruth before, for she seemed to have extraordinary powers of imagery. At first she was plagued by the apparitions, complete with her father's looks, voice and smell. If he sat on her bed she would feel the movement and see the indentation in the bed. He seemed to appear when he, not she, chose; and he terrified her with recollections of the time he had tried to rape her as a child. Eventually he appeared in her husband's place in bed, with obviously alarming consequences.

Schatzman tackled Ruth's problem not by asking her to abolish the apparition when it appeared, but to make it appear for herself.

At first this terrified her, but she was later able to make the apparition appear on command and finally to create and control apparitions of friends, relatives and other people. But of most interest here is that she was able to produce an apparition of herself.

On her first attempt it took Ruth two hours to produce a brief vision but on later attempts she could see herself sitting in an empty chair opposite, wearing the same clothes, and with the same ring on her left hand. Since Ruth was also wearing the ring on her left hand the apparition was *not* a mirror image and in this sense was more like the doubles seen in OBEs than the mirror images common in autoscopy. Ruth's double told her to 'Go inside me' and doing this she found she could go back to any time in her past, but of most interest here is that she could have OBEs. She was able to 'go into' the apparition and see things as though from that position (130b). However, Schatzman found no evidence of any paranormal abilities in Ruth and a photograph of an apparition showed nothing.

What Ruth was able to do is very much like what is advocated in some methods for inducing the OBE: that is, creating an image of oneself and when that is as clear as possible transferring consciouness into it. This is just what Ruth seems to have done.

This case provokes many questions. Should we see her experience as throwing light on the whole mechanism of OBEs, or was she having an hallucinatory experience with little in common with spontaneous OBEs? It might even be argued that what she saw before her was her astral body. The questions which arise are similar to those considered in the case of lucid dreams. Here, too, I am tempted to conclude that the simplest and most appealing conclusion is that both Ruth's experiences and other OBEs are based on the same processes, those of imagination and hallucination.

HALLUCINATIONS

So what about hallucinations? What are they, and are they related to the OBE? We have already come across some of the problems which arise in discussing hallucinations. There is no single accepted definition and it is not clear just how hallucinations relate to sensory perception, illusion, dreams and imagination. However, let us define an hallucination as an apparent perception of something not physically present, and add that it is not necessary for the hallucination to be thought 'real' to count. Into this category come a wide range of experiences occurring in normal people, not suffering from any

mental or psychiatric disturbance. Hallucinations may occur just before going to sleep (hypnagogic), on first waking up (hypnopompic) or they may be induced by drugs, sensory deprivation, sleeplessness, or severe stress. They may take many forms, from simple shapes to complex scenes. Any general discussion of hallucinations would be out of place here; but I would like to mention those features which are relevant to the OBE.

Although it is possible to have an hallucination of almost anything, it has long been known that there are remarkable similarities between the hallucinations of different people, under different circumstances. Hallucinations were first classified during the last century during a period when many artists and writers experimented with hashish and opium as an aid to experiencing them. In 1926 Klüver began a series of investigations into the effects of mescaline (derived from the peyote cactus) and described four constant types. These were first the grating, lattice or chessboard, second the cobweb type, third the tunnel, cone or vessel, and fourth the spiral. As well as being constant features of mescaline intoxication in different people Klüver found that these forms appeared in hallucinations induced by a wide variety of conditions.

In the 1960s, when many psychedelic drugs began to be extensively used for recreational purposes, research into their effects proliferated. Leary and others tried to develop methods by which intoxicated (subjects could describe what was happening to them, but since the visions changed very rapidly and were hard to put into words, this was not easy. Eventually Leary and Lindsley developed the 'experiential typewriter* with twenty keys representing different subjective states. Subjects were trained to use it but the relatively high doses of drugs used interfered with their ability to press the keys and so a better method was needed.

A decade later Siegel gave subjects marijuana, or THC, and asked diem simply to report on what they saw. Even with untrained subjects he found remarkable consistencies in the hallucinations. In the early stages simple geometric forms predominated. There was often a bright light in the centre of the field of vision which obscured central details but allowed images at the edges to be seen more clearly and the location of this light created a tunnel-like perspective. Often the images seemed to pulsate and moved towards or away from the light in the centre of the tunnel. At a later stage the geometric forms were replaced by complex imagery

including recognizable scenes with people and objects, sometimes with small animals or caricature people. Even in this stage there was much consistency, with images from memory playing a large part.

On the basis of this work Siegel constructed a list of eight forms, eight colours, and eight patterns of movement, and trained subjects to use them when given a variety of drugs (or a placebo) in a controlled environment. With amphetamines and barbiturates the forms reported were mostly black and white forms moving aimlessly about, but with THC, psilocybin, LSD and mescaline the forms became more organized as the experience progressed. After 30 minutes there were more lattice and tunnel forms and the colours shifted from blue to red, orange and yellow. Movement became more organized with explosive and rotational patterns. After 90-120 minutes most forms were lattice-tunnels; after that complex imagery began to appear with childhood memories and scenes, emotional memories and some fantastic scenes. But even these scenes often appeared in a lattice-tunnel framework. At the peak of the hallucinatory experience subjects sometimes said that they had become part of the imagery. They stopped using similes and spoke of the images as real. Highly creative images were reported and the changes were very rapid. According to Siegel (137a) at this stage 'The subjects reported feeling dissociated from their bodies'.

These remarkable consistencies are not confined to the experimental situation. Siegel showed that the Huichol Indians, who use peyote, experience similar hallucinations, and anthropological research has long revealed an apparent consistency in the form of hallucinations, along with a diversity of interpretation. Intoxicated and hyper-excited states are variously described as entering a different reality, visiting heaven and hell, communicating with the Gods and leaving the body; but many anthropologists, among them Weston la Barre (75), have argued that all these 'supernatural' or 'psychic' states are best understood in terms of the hallucinatory activity of the brain. The similarities are due to similarities in the brains and nervous systems of different people.

The parallels between the drug-induced hallucinations and the typical spontaneous OBE should be obvious. Not only did some of the subjects in Siegel's experiments actually report OBEs, but there were the familiar tunnels and the bright lights so often associated with near-death experiences. There was also the 'realness' of everything

seen; and the same drugs which elicited the hallucinations are those which are supposed to be conducive to OBEs.

There have been many suggestions as to why the tunnel form should be so common. It has sometimes been compared to the phenomenon of 'tunnel vision' in which the visual field is greatly narrowed, but usually in OBEs and hallucinations the apparent visual field is very wide; it is just formed like a tunnel. A more plausible alternative depends on the way in which retinal space is mapped onto cortical space. If a straight line in the visual cortex of the brain represents a circular pattern on the retina then stimulation in straight lines occurring in states of cortical excitation could produce a sensation of concentric rings, or a tunnel form. This type of argument is important in understanding the visual illusions of migraine, in which excitation spreads across parts of the cortex; and it also leads to the interesting research in which the forms of hallucinations can be used as an indication of the structural organization of the visual system.

Another speculation could be that the tunnel has something to do with constancy mechanisms. As objects move about, or we move relative to them, their projection on the retina changes shape and size and we have constancy mechanisms which compensate for this. For very large objects distortions are necessarily a result of perspective and yet we see buildings as having straight walls and roofs. If this mechanism acted inappropriately on internally generated spontaneous signals it might produce a tunnel-like perspective, and any hallucinatory forms would also be seen against this distorted background.

Whether or not these speculations turn out to be correct, it still remains likely that the tunnel will be accounted for in purely physiological terms which require no psychoanalytic analogies with the birth canal, nor any mention of astral bodies, silver cords, or separation from the body. And those would be applicable to OBEs just as much as to drug-induced hallucinations and near-death experiences.

I mentioned that in drug-induced hallucinations there may come a point at which the subject becomes part of the imagery and it seems quite real to him, even though it comes from his memory. The comparison with OBEs is interesting because one of the most consistent features of spontaneous OBEs is that the experiencers claim 'it all seemed so real'. If it were a kind of hallucination similar

to these drug-induced ones then it would seem real. Put together the information from the subject's cognitive map in memory, and an hallucinatory state in which information from memory is experienced as though it were perceived, and you have a good many of the ingredients for a classical OBE.

But what of the differences between hallucinations and OBEs? You may point to the state of consciousness associated with the two and argue that OBEs often occur when the person claims to be wide awake, and thinking perfectly normally. But so can hallucinations. With certain drugs consciousness and thinking seem to be clearer than ever before, just as they often do in an OBE.

You may argue that an important difference is that in the OBE the objects of perception are organized consistently as though they do constitute a stable, physical world. But this is not always the case. Amongst the SPR's collection of cases and in my own there are many which involve experiences beyond anything to be seen in the physical world. One described friendly little animals and people, another a mountain caf6 where she met deceased friends and another a strangely coloured lake. Some OBEs, like my own, develop into experiences in which extreme distortions and bizarre imagery predominate, or they turn into some sort of mystical experience. So it is wrong to think of the OBE as always discrete and separate from any obviously hallucinatory aspects.

So where does all this lead us? Consideration of imagery and hallucinations might provide some sort of framework for understanding the OBE. It would be seen as just one form of a range of hallucinatory experiences. But, and this is a big but, if the OBE is basically an hallucination and nothing leaves the body, then paranormal events ought not necessarily to be associated with it. People ought not to be able to see distant unknown places or influence objects while 'out of the body*; yet there are many claims to that effect. Are these claims justified? I shall devote the next few chapters to finding out.

17 Extrasensory Perception in the OBE

In April 1916, during World War I, a certain Dr *X.* was flying out of Clair Marais aerodrome to help an injured pilot when his own plane crashed and he was thrown clear of the cockpit. He landed on his back, ending up with spinal concussion, but was not unconscious. He says, 'Suddenly I was looking down on my body on the ground from some 200 feet vertically above it.' He describes how he lost all fear at finding himself obviously about to crash, and instead wondered, in a detached sort of way, how the plane would touch the ground. When he saw the pilot and two others rushing towards his body he wondered why they were bothering with it and even wished they would leave it alone!

Dr *X.'s* body was lying on the ground in a hollow from which it was impossible to see the hangars and other buildings. But from the vantage point of 'himself far above, he watched the Crossley tender, used as an ambulance, come out of the hangar in which it was kept, and then stop; apparently its engine stalled. The chauffeur ran out, started it again with the handle and then jumped back in and carried on. Again it stopped, this time for the Medical Orderly to run to a hut to bring something. All the while Dr *X.* wondered why they were going to so much trouble, and he began on a journey to further places. He was only brought back, and with a 'pop', to find neat sal volatile being poured down his throat. He told the orderly not to do this, but to wait until a Medical Officer came to take him to hospital. Only when he reached the hospital did Dr X. realize that it would have been quite impossible for him to have seen all the events described. So he told the whole story to the CO. who verified that everything had taken place as he had seen.

This story was published in the *Journal* of the SPR in 1957, by F. J. M. Stratton who includes the account written by Dr *X.* in 1956, and a statement by Dr G. Abrahams, the doctor who moved him to hospital (142). It is just one of many stories in the literature which

tell of a person, out of his body, being able to see or hear things that his body could not possibly have perceived. In other words it seems that the double extrasensory perception; ESP.

If this is true it is of enormous significance. Theories of the OBE would have to account for it, theories of ESP would need to incorporate this version of the phenomenon, and our usual models of man would be found to be limited and deficient. Just how important this is we shall see when considering the theories in more detail in Chapter 21. But is it true? Can people when having an OBE really see at a distance? In this chapter and the next I shall consider the evidence.

This comes from several sources. Most important are the anecdotal material, surveys, and experiments. Starting with the anecdotal reports and case histories it is obvious that there are many claims for ESP during OBEs. There are tales in which the story depends for its interest on the veridicality of the vision and many books on OBEs stress these cases. But they are not always adequately researched, as we shall see.

ANECDOTAL EVIDENCE

Much of the early material on OBEs concentrated on apparition cases, which I shall consider later, but there are also some including ESP. Muldoon and Carrington (97b) probably give the largest selection of OBE accounts claiming perception at a distance, but many of these were collected long after the event and the authors made no attempt whatever to check up on them.

Rather better evidence is provided by Hart (60a). Since he was particularly concerned with evidential cases he took pains to include those which had been investigated at least to some extent. I have already described the rating scale he used and I gave then an account of one of his high scoring cases, the Apsey case. Here we saw the curious mixture of correct and incorrect infortnation which seems to characterize so many OBEs.

Green also gives some examples and makes the important claim that 'in no case of an involuntary nature has it been yet observed that the information obtained was incorrect' (49c p. 142). This is interesting, if true, and might indicate a difference between involuntary and induced OBEs, but it does not seem to stand up to the evidence. I have already discussed spontaneous cases producing a mixture of correct and incorrect information and I shall shortly

describe one in which all the information was apparently wrong. Even Green's own evidence is less than convincing. She made no attempt to check up on "the claims and her respondents may well have failed to mention it if they 'saw' anything wrong. She concedes that in certain cases the information might have been gained normally and in some this would include the possibility that an 'unconscious' person heard what was going on.

Perhaps her most impressive case concerns a woman in hospital who apparently saw, while out of the body, 'a big woman sitting up in bed with her head wrapped in bandages; and she is knitting something with blue wool' (49c p. 143). This other patient was as described and was in bed round the corner of the L-shaped ward. Neither woman had been allowed out of bed. But in this case we are not told whether the first woman had to pass by the other bed on her way into the ward when she first arrived, nor whether she could have overheard discussions about the other patient. Nor are we given any kind of corroboration of the story from others present.

All this raises the question of what sort of evidence would be acceptable. How far should we go in criticizing any cases and just how good does the evidence need to be? To make this clearer I shall consider some of the confounding problems of investigating spontaneous OBEs.

There are several such problems. First, the events often occurred a long time before the story is told and this makes it hard for an investigator to check the facts. Second, memory is fallible and there are many reasons why any 'correct' information would be remembered and recounted in preference to the 'incorrect'. Third, we are often told that everything was confirmed., or found to be 'just so', but it is hard to find out just what this means. And fourth, it can be hard to disentangle all the normal ways in which the information may have been gained.

Taking the first problem, the difficulties facing the investigator depend both on how long ago the events occurred and how long was the gap between them and their telling. In the case of Dr *X.*, the gap was just over forty years. This is a long time for the memory to become distorted or embellished. This would not be such a problem if we had the testimonies of all the other people involved, but we do not. Stratton tried to trace them but unfortunately the pilot (the CO.) and adjutant were killed a few weeks later and of the others involved only the doctor who transported him to hospital could be traced

and gave a brief account. To add to the confusion this Dr Abrahams states that the accident occurred on the morning of April 16th, 1916, while in Dr *X.'s* own account the date is given as April 21st, 1916. This in itself may be quite unimportant but it indicates the nature of the problem.

The second major difficulty is the fallibility of memory. Not only is memory often inaccurate, but it tends to bias things in particular directions. With time a remembered story will often become simpler and shorter, make more sense and fit in better with expectations or desires. In many ways you remember what you want to remember. All this may mean that the ESP aspect gets exaggerated. It makes more sense of the experience and it makes a better story.

Dr *X.* tells us that soon after his experience he was asked to tell it to at least six different people, including Sir Oliver Lodge, Lord Balfour and others. These people would have been especially interested in the ESP side of the story and one could not blame Dr *X.* if he emphasized it in the telling. Repeated telling can bias any story and it is a short step from telling a slightly biased tale to believing it oneself.

Although everyone's memory is fallible it is tempting to forget this. Stratton prefaces the story of Dr *X.* with this encouragement to the reader to believe it.

> To give an idea of his. [i.e. Dr *X.'s]* reliability and trustworthiness as an observer I should say that he is a "retired consultant physician, a Doctor of Medicine, a Fellow of the Royal College of Physicians and that he was created a Commander of the Order of the British Empire as a recognition of his consultative services to the Royal Air Force (142 p. 92).

If this makes you more inclined to believe the ESP side to the story it should not. One may have confidence in the man's education, his knowledge of medicine and so on, but none of these achievements qualifies him to be a reliable observer, nor to have an especially good memory for the relevant details.

Of course some of these problems do not apply if the OBEer records his impressions or visions before they are checked against the facts (as is the case, of course, in most experiments). The early investigators realized this and Myers was careful to try to get independent records of this kind, but since most of these cases involved apparitions rather than ESP I shall discuss them later. The ideal would be that the OBEer recorded all he saw immediately after the experience and gave this record to someone else before it was

checked. Checks could then be made and the details compared. But even today there are few cases in which this is done, and fewer still in which the other conditions are fulfilled and the details do prove to be correct. More often the details are partially correct or mixed and the conditions frustratingly fall short of the ideal. But do note that I am not trying to say that there is no sound evidence, only to point out how difficult it is to establish it.

Finally on this topic, there is one more confounding psychological factor. The OBE is usually such a vivid experience and everything looks so very real that it is hard for the experiencer not to be convinced that what he saw was really there, even if he didn't check the facts. Green (49c) gives examples of people who were convinced they could have seen anything they wanted although they did not check on this ability. In my own surveys I found that very few people actually bothered to check what they saw. Palmer (HOd) found that only 14% of OBEers (in 5% of experiences) claimed ESP during their OBEs but he does not say whether any of them were checked.

The third problem concerns the confirmation of details. In an ideal case specific details would be recalled and recorded before being checked with the facts, and would subsequently be found to be correct, or mostly correct. But this is rarely the case. More often a few correct details are given and we have no idea how many others were excluded. Alternatively the story takes the form, 'I visited my friend's house where I had never been, and when I went there to check I found everything just as I had seen it.' In Dr *X.'s* case he said that the C O. verified everything he had seen. But what exactly does this mean?

I helped to investigate a case which led me to be very wary of such statements. A Canadian architect (we may call him Mr C.) seemed to leave his body and travel across the Atlantic, to London. His flight and visions were dramatically vivid. Judging from the clothing and environment, he seemed to be in the London of 1840-1860 and he described in great detail a shop window with leaded panes and wares outside, and the curve of the cobbled street along which people were hurrying to a near-by square. Across the street were three-storey houses with narrow windows and tidy front yards. From his clear recollection of the bends in the river Mr *C.* was able to pinpoint the spot on a map; he was sure it was a certain street in Fulham. He had never been to London but he asked an English colleague to describe this area. Apparently this colleague 'proceeded

to describe the character of the street, the buildings, the style, the building setbacks and entrance yards-all exactly as I had seen them!'

I was able to investigate this area of Fulham (and other possible candidates) in some detail. In 1840-1860 there were only scattered houses in this area and a map of 1862 shows green fields where Mr *C.* thought he saw his street. When the extension of the railways brought development to Fulham it was of two-storey workmen's houses. These are there to this day and look nothing like the houses Mr *C.* saw. From slides I sent him he matched his visions with eighteenth century townhouses of a type which never existed in that area. My disappointing conclusion was that wherever Mr C.'s vivid images of London came from it was not from any actual London scene. His claim that his colleague described everything just as he had seen it proved to have been worthless. Only a proper investigation of the details claimed can provide the sort of evidence that is needed.

Finally we come to the thorny question of normal means of gaining information. Memory is again important here. It is perfectly possible to see or hear something, forget about it entirely and then dredge the information up again many years later. This phenomenon, known as cryptomnesia, has often been discussed in relation to mediumship and clairvoyance. Most recently the historian Ian Wilson (157) has demonstrated how powerfully people may use forgotten information and unsuspected dramatic skills to construct convincing, but bogus, 'past lives' when regressed under hypnosis. The same processes may well be at work in OBEs.

Another possibility often overlooked is that a person may be behaviourally unconscious but capable of hearing, and our ability to construct a vivid mental picture from what we hear is extraordinarily effective — as we know from listening to the radio. As an example take the case of Dr *X.* again. We do not know whether he could hear the engine of the ambulance starting up, stalling and starting again. But if he could he could easily have imagined the scene as though from above. This is just another of the possibilities which have to be taken into consideration.

So how good is the anecdotal evidence? I can only leave you, the reader, to make up your own mind. You may protest that I have unfairly stacked my evidence with weak cases but in my experience they are in the vast majority. My own opinion is that the evidence

is inconclusive and that there are very few cases which stand up to detailed scrutiny, but beyond that I cannot say.

Of course the anecdotal evidence does not stand alone, but is backed up by other types. The evidence from surveys, limited as it is, suggests one interesting fact; that the ESP aspect of OBEs is not important to the average experiencer. Very few claim to have seen things at a distance, and fewer still bother to check up on the details. It seems that it is not one of the most striking aspects of the experience for most people. There is little more to add about surveys except that the cases gathered in this way have to be subjected to the same kind of tests as all case histories. Rather different, and far more extensive, is the evidence from experiments.

EXPERIMENTAL EVIDENCE

Experiments on ESP in OBEs are not just a recent venture. Towards the end of the last century experiments were carried out on the 'exteriorization of sensibility'. It was thought that under certain circumstances a person could feel a touch, prick or other stimulus, at a point outside the body rather than at its surface. Most commonly the special circumstances were that a medium was put into a hypnotic or mesmeric trance.

Nowadays hypnotism is an accepted piart of medicine and psychology. It is investigated, as are the mechanisms of suggestion and conformance, in psychological experiments, and is used in medicine and as an aid to such tasks as losing weight or giving up smoking. Although the processes involved are not entirely understood and there is much argument as to whether any special state is involved, few people associate hypnosis itself with anything mysterious or occult. But a hundred years ago hypnosis had not freed itself from its ancestors, mesmerism and animal magnetism, and many still believed that the 'sleep' was induced by the passing of some fluid or magnetic substance from hypnotist to subject. The process itself therefore seemed to involve invisible and strange substances. So it seemed no great jump to suppose that a sensitive substance could be drawn from the medium in trance, or that a double could be exteriorized and asked to travel about the room or elsewhere.

Subjects in hypnosis were encouraged to 'see' distant scenes, pick up other people's thoughts and influence distant objects (see 47b). Two types of experiment carried out with hypnosis are relevant here: The 'exteriorization of motivity', which involves the double

affecting objects at a distance, will be considered later. The 'exteriorization of sensitivity' involved a kind of ESP, for the subject was supposed to sense things that his or her body could not, apparently, detect.

Two French psychical researchers, Dr Paul Joire (69) and Colonel Albert de Rochas (29a, b), studied the exteriorization of sensibility. De Rochas hypnotized several mediums, taking them to a state in which they could no longer feel a touch on the skin, and then found that apparently they were sensitive to a touch a little away from the skin. Sensitivity appeared to have been displaced by a few centimetres and pricking or burning the air at that point hurt the subject. If he then continued the 'magnetism' he found that a new sensitive layer appeared at double the distance from the skin of the first, and then another, and so on. These layers, he said, extended to two metres, but each was less sensitive than the one inside it. The subjects themselves could apparently see the layers as luminous strata (143).

This led de Rochas to even more curious experiments. He believed that under magnetism a fluid was drawn out of the medium's body in two different rhythms which set up stationary layers of greatest vibrations. He tried distorting the layers with a plaster prism and placed glasses of water near the subject's body so they could become charged with the fluid. He was deeply interested in occultism and magic, and thought that he had discovered a mechanism for sympathetic magic.

If the subjects really were sensitive to distant stimuli then this would be ESP, but there are many reasons for doubting de Rochas's conclusions. Most important is that the pricking and heating of the air took place only a few inches from the subjects. They could therefore hardly fail to know what was going on and may have responded to the stimuli because de Rochas suggested it and either unconsciously or consciously they wanted to be helpful or to be a 'good' subject. Even at the time of the experiments, when experimental controls were nothing like they are now, many other researchers suggested that these results were all due to suggestion.

Muldoon (97a) tried to test this effect with his own 'pricker'. He fixed a board with several needles sticking out of it above his bed and when he projected found that he passed through without feeling. He concluded that the hypnotic state was responsible for the previous results.

De Rochas was not alone in these studies. Dr Lancelin also wrote , on astral projection and believed that in certain sensitive people, especially those of a nervous temperament, there was a greater outflowing of the nervous force, or, as he called it 'externalization of neuricity'. He used specially constructed instruments such as the biometer and Sthenometer to measure these forces (17b) and even wrote on the structure of the astral body detected in this way.

Hector Durville was a French hypnotist and psychical researcher, and at one time general secretary of the Magnetic Society of France (32a, b). He worked both with de Rochas, and on his own, using several different mediums. Among them were Mesdemoiselles Marthe and Nenette and Mesdames Francoise, Edmee and Leontine. These ladies came to his study, sometimes with their husbands or other gentlemen, and sat in armchairs among the bookcases, desk and heavy tables, to be put into the 'magnetic sleep'. They were all able, when submitted to a 'vigorous and prolonged magnetic action' to externalize the self. According to Durville this took place in the form of emanations from various parts of the body, causing a disagreeable sensation, and sometimes even pain to the subject. Then a double condensed to one side taking on the subject's form. The subject herself could see it as slightly luminous while others could only see it according to their degree of sensitivity, some seeing just a faint white light, while others saw different colours in different parts. This double was connected to the medium's body by a cord, as thick as a little finger and usually running from navel to navel. The subjects even described little swellings along the cord which were thought to nourish it when the double was projected, and they could apparently watch the circulation of a luminous fluid to and fro along the cord.

Of course these are just the descriptions made by mediums when hypnotized. Regardless of the fascinating details, and the correspondences one can see with other descriptions, they must be taken as no more than that. Durville all the time asked them what they saw, and may well have suggested certain details to them. For example he need only have asked, 'Does anything connect your body and the double?' to elicit descriptions of cords. We cannot know just what he did say to them and so cannot judge the origin of the descriptions.

Once the double was well consolidated the medium's normal senses appeared to become totally inhibited and the double seemed to be the more real of the two. Durville says 'In all subjects the

double is the complete individual, and the physical body as nothing. "The double is myself", said Lcontine, 'the body is only an empty bag" ' (32a p. 337). This can be compared with the many spontaneous cases in which the experiencer views his body with detachment, and it seems very unimportant, hardly a part of him, or of concern to him at all. Indeed, Dr *X.,* whose story was told at the start of this chapter, said 'Why are these people bothering about my body? I am entirely content where I am.' Like so many other OBEers he apparently found that only his double seemed real, not the body.

It is certainly the case that during an OBE the double *feels* the more real, but the important question is whether it can actually feel things, or whether this is just an illusion. Durville tested this in many ingenious ways; He repeated experiments like those of de Rochas and found that every subject tested seemed not to feel pinches or pricks on the body, but only those where the double apparently was. To test vision he took a paper with large letters printed on it and placed it first before the subject's eyes, and then her neck, head and so on. The subject said she could see nothing. He then placed it in front of the eyes of the double; again nothing. But when heplaced it before the nape of the neck it could* read 'without hesitation'. Do we conclude then that the double could read through the neck? I think jiot, for as far as one can tell the same paper was placed first in front of the half open eyes of the subject. She could then have seen, either consciously or unconsciously, what was written thereon, and so 'read' it later when the paper was held before the double. If Durville had suggested to his hypnotized subject that she could not read and the double could, this is just what we should expect! And the same can be said of his experiments with hearing in which Edmee could hear a watch placed by her ear, but only by the double's ear.

Durville also concluded, 'The projected double can see, but rather confusedly, from one room into another.' He described experiments in which other people were asked to go into a different room and there to perform some simple and easily described movements. The double then went to watch and reported on what it saw. In the four cases reported the medium described reasonably accurately what was happening, Mme Fournier was sitting on the table, the three people were gesticulating with their hands and so on. But before accepting that this was ESP we should have to know whether only the best

examples were reported, and how the people chose what actions to perform.

If we were to carry out this experiment today we should probably write down a limited number of actions, seal them in numbered envelopes, ask an independent person to select one envelope by some random means and give that to the people who were to do the acting. They would be locked into the other room before they opened the envelope, so that no one in the room with the medium would know what it contained. In this way simple errors would be ruled out. But Durville did not take any such precautions and we cannot rely on his results.

These poor subjects, in addition to having watches held by their ears, and even put between their teeth, were given horrible substances to taste and smell. Bitter aloes chewed by the subject was found to have no taste, but when placed in the invisible mouth of the double the subject declared it was bitter. The same was done for quassia, sugar, quinine, salt, and even a piece of orange. With the odours of Bergamot and Ammonia, the subject declared she could smell nothing; only the double could smell them.

Durville was aware of the problem of suggestion but declared that it was not involved because when he suggested to the subject that she must be able to smell the ammonia he was holding in front of her nose she still said she could not. However, this does not rule out suggestion. The subject might have been well aware that the required result was that only the double should be sensitive, and so she would stick to this whatever Durville said. As far as one can tell from the report of the experiments the subject could always see what was going on and this would be the first thing to rule out if we did similar experiments today.

These are just some of the experiments carried out three quarters of a century ago, on the exteriorization of sensibility. It would be nice to be able to explore how the methods developed and progressed and to describe experiments since. But this is not possible since studies of this kind just seemed to stop. Many scientists of the time thought that the results were all due to suggestion, and most were not sufficiently interested to want to take them any further. The study of hypnotism gradually developed and became part of psychology, and psychical research turned towards the more statistically based methods introduced by the Rhines in the 1930s. There were some isolated studies of exteriorization, but there was no real

progress until just over ten years ago when work began again on out-of-the-body experiences. When this happened the emphasis was different and quite different techniques were used, as we shall see in the next chapter.

18 Experiments on OB Vision

In the late 1960s Charles Tart began the first laboratory tests with subjects who could have OBEs voluntarily (146a, b). We have already considered his findings on the physiological states of these subjects, but he also tested their ability to see a target hidden from their normal sight.

Before the formal tests began his first subject, Miss Z., was asked to try a simple exercise at home. She wrote the numbers one to ten on slips of paper and put them into a box beside her bed. Each night she took one out without looking and placed it where it could be seen from above. Then when she was out of her body she tried to see which number it was. She reported back to Tart that she had succeeded on every occasion.

This encouraged Tart to try proper experiments in which the subject slept in the laboratory and he placed a target on a shelf about five and a half feet above the bed where she lay. Miss Z. could not sit up or leave the bed because of electrodes connecting her to the EEG apparatus, and she could not see over the shelf, of course. The target was a five-digit number prepared in advance by Tart and placed on the shelf in Miss Z.'s presence but without her being able to see it.

Miss Z. slept in the laboratory on four occasions. On the first she had no OBE; on the second, she managed to get high enough to see the clock, but not the shelf top, and on the third night she had an OBE but travelled elsewhere and did not try to see the number. However, on her fourth and last night she awoke and reported that she had seen the number and it was 25132. It was 25132. She was right on all five digits which has a probability of only one in 100,000 of being right by chance. So we can reasonably rule out the idea that it was just luck. So what was it? Had some part of Miss Z. left her body and seen the number? Or could it have been ESP ?

Tart himself seemed reluctant to conclude that it was paranormal.

He pointed out that Miss Z. could, although he personally thought it was very unlikely, have cheated using mirrors or some sort of periscope contraption concealed in her pyjamas. Alternatively it was thought possible, although extremely difficult, for her to have read the number reflected in the black plastic surface of the clock above. All this may sound far-fetched, but when one is testing for the occurrence of the paranormal one has to be very sure that other possibilities are completely ruled out. Also, on this occasion the EEG record was obscured by a great deal of 60-cycle interference. Parker (114 p. 103) has suggested that this would be expected if Miss Z. had tried to move so as to see the target. More research would have helped, but Miss Z. had to return to her home some distance away and so no further experiments with her were possible.

Tart's second subject was Robert Monroe who came to the laboratory for nine sessions, but, as we have heard, he was only able to induce an OBE in the penultimate session, and then he had two. During the first OBE he seemed to see a man and a woman but did not know who or where they were. In the second, as stated in Chapter 12, he made a great effort to stay 'local' and managed to see the technician, who was supposed to be monitoring the apparatus. With her he saw a man whom he did not know was there and whom he later described. It turned out that this was the husband, of the technician, who had come to keep her company. This appears at first sight to be evidential but in fact is of little value since Monroe might have heard the man arrive or learned about his presence in some other normal way, and he only gave a description of what he had seen after he had asked to meet him. Since Monroe did not manage to see the target number no real test of ESP was possible.

In 1971 Karlis Osis began to plan OBE research at the American SPR(92). One of the first subjects to be tested there was Ingo Swann who went to the laboratory two or three times a week where Janet Mitchell tested him to see whether he could identify targets placed out of sight. Swann has described his own experiences of being a subject in these experiments (144).

A platform was suspended from the ceiling about 10 feet above the ground and divided into two. On either side of a partition various objects were placed and Swann was asked to try to travel up and see them. The reason for the partition was to see whether Swann would identify the correct target for the position in which he claimed to be. Many changes had to be made in the lighting and

the kind of objects used. Bright colours and clear familiar shapes seemed most successful and glossy pictures or glass were not liked. The targets used eventually included a black leather holder for a letter opener, some scissors on a red heart, and a paper bull's eye. After his OBE Swann usually made drawings of what he had 'seen'. Although these drawings were far from perfect renderings of the original objects, they were similar enough that when eight sets of targets and responses were given to an independent judge she correctly matched every pair; a result which is likely to happen by chance only once in about 40,000 times (92).

The results of all these experiments were most encouraging. From Tart's results especially it seemed that although it was very hard for the subject to get to see the number, if it was seen it was seen correctly. If OB vision were reliable, however difficult it was to achieve it, then this would be a great advance. One of the major findings of parapsychology, if it can be called a finding, has been that ESP is extremely erratic and inaccurate if it occurs at all, and it is more or less impossible to distinguish a genuine ESP 'hit' from a chance hit. If OB vision were found to be accurate, even if very rare, it would be far easier to investigate than the elusive ESP.

But this earlier hope has been dashed. Further research showed that OB vision could be just as confused and erratic as ESP has always seemed to be. For example Osis (103c) advertised for people who could have OBEs to come to the ASPR for testing. About one hundred came forward and were asked to try to travel to a distant room and to report on what objects they could see there. Osis found that most of them *thought* they could see the target but most were wrong. They were deceiving themselves.

Osis concluded that the vast majority of the experiences had nothing to do with bone fide OBEs. But this conclusion means that Osis was using the ability to see correctly as a criterion for the occurrence of a genuine OBE. This raises a difficult problem. Questioning the subjects did not lead to two clearly distinct types of experience, one of which could be called an OBE and the other something else. It did seem that 'vision' was more successful when the subject claimed to have left his body suddenly, arrived instantly at the target room and reported clear vision, but these were only informal observations and could not serve as firm criteria for distinguishing two types of experience. The only obvious difference was that some got the target right and others did not. But this is useless as a criterion because

some may have got it right by chance; indeed with a large number of subjects, this is only to be expected.

Parapsychology has long faced the apparently insoluble problem of trying to separate out the chance hits from the true ESP hits and it has not found a reliable way. Similarly it does not seem realistic to think one could separate a genuine 'seeing' OBE from a chance hit combined with some other sort of experience. Hart faced this problem in his case collections (60a) and now we meet it again in connection with the experiments. I think we can only conclude that if there are two types of experience, the genuine OBE, and something else, then no one knows how to distinguish them. For this reason I prefer to stick to the definition of the OBE as an *experience* and then we have to accept that in some OBEs vision seems to be accurate, but in most it is not.

Much of the recent research on OBEs has been directed towards that important question; does anything leave the body in an OBE? On the one hand are the 'ecsomatic' or 'extrasomatic' theories which claim that something does leave. This something might be the astral body of traditional theory or some other kind of entity. Morris (95) has referred to the 'theta aspect' of man which may leave the body temporarily in an OBE, and permanently at death. On the other hand, as we have seen, there are theories which claim that nothing leaves. Some of these predict that no paranormal events should occur during OBEs, but the major alternative to consider here is that nothing leaves, but the subject uses ESP to detect the target. This has been referred to as the 'imagination plus ESP' theory.

This theory is problematic. The term ESP is a catch-all, negatively defined, and capable of subsuming almost any result one cares to mention. How then can it be ruled out? And given these two theories how can we find out which, if either, is correct? In spite of the difficulties several parapsychologists have set about this task.

Osis, for example, suggested that if the subject in an OBE has another body and is located at the distant position then he should see things as though looking from that position, whereas if he were using ESP he should see things as though with ESP. This general idea led him to suggest placing a letter 'd' in such a way that if seen directly (or presumably by ESP) a 'd' would be seen, but if looked at from a designated position a 'p' would appear, reflected in a mirror (103). Following this idea further Osis developed his 'optical image device' which displays various different pictures in

several colours and four quadrants. The final picture is put together using black and white outlines, a colour wheel, and a series of mirrors. By, as it were, looking into the box by ESP one would not find the complete picture. This can only be seen by looking in through the viewing window (103d, 107).

Experiments with this device were carried out with Alex Tanous, a psychic from Maine who claimed to have had OBEs since he was five years old and who showed signs of promise in Osis's tests with the one hundred volunteers. Tanous lay down in a soundproofed room and was asked to leave his body and go to the box containing the device, look in through the observation window and return to relate what he had seen. Osis recounts that at first Tanous did not succeed, but eventually he seemed to improve (103d).

On each trial Tanous was told whether he was right or wrong and so was able to look for criteria which might help to identify when he was succeeding. On those trials which he indicated he was most confident about his results 'approached significance' on the colour aspect of the target. Osis claimed that this aspect was most important for testing his theory because some of the colours were modified by the apparatus and would be very hard to get right by ESP. The next tests therefore used only a colour wheel with three pictures and six colours. This time overall scores were not significant but high-confidence scores for the whole target were significant and in the second half of the experiment Tanous scored significantly on several target aspects, especially the one which Osis claimed required 'localised sensing'.

All this sounds encouraging to the ecsomatic theory until you remember several important facts. First, the scores were divided into first and second halves. Osis expected that Tanous's scores would decline, as they had done in previous experiments. If the first half scores had been better this would have been evidence of a decline; but if the second was better, of learning, as was the case. Either way there is a 'finding'. Also it is not clear how many analyses were carried out, but it must have been a large number. The whole target was scored and then each individual aspect; each of these was scored for first and second half and divided into low and high confidence trials. The more analyses one carries out the more likely one is to get a 'significant' result by chance. Finally there were not only very many analyses but the results were said to 'approach significance'.

All in all this is not convincing evidence that Tanous was scoring any better than chance would predict.

Even if Tanous had scored better would this have confirmed the ccsomatic theory of OBEs? I think not, because I do not think it is possible to rule out the operation of ESP. Osis certainly tried very hard to do so. First he excluded the possibility of telepathy by ensuring that no one knew what the target was, it was selected on each trial by machine. He tried to rule out clairvoyance by the design of the box, by making it so that to get the answer right the subject would have to detect the right colour, the right picture and the position of all the mirrors and so work out the final effect. This is difficult all right, but is it impossible? I would say that we know so little about ESP that we cannot be sure. In fact the little evidence we do have suggests that psi may be independent of task complexity (see 71, 131, 140). If so then this task might be performed by clairvoyance just as well as any other, and so any subject who succeeded could be said to have used imagination plus ESP.

Finally, there is the possibility that the subject could use precognition to see into the future to the time when the target was looked at and scored. Osis tried to rule this out using a method based on Ehrenwald's tracer effects. He showed that mood scales completed by the subject were more closely related to the ESP scores than were those of the scorer. This is indirect evidence that the ESP did not operate at the time of scoring.

All this great effort went into designing an experiment which would rule out ESP. But when it comes down to it this is simply impossible. It is impossible because of the way ESP is defined - that is, negatively. We only know what ESP is not, not what it is In fact I do not think we know anything about it which would allow us to rule out the possibility of its acting in any experiment.

This is a serious problem for research, not only on OBEs. So however ingenious Osis's experiments were, they could not succeed in ruling out the possibility of ESP. The same arguments apply to psychokinesis (PK). If a person during an OBE affects some object then we could say that this was done by PK, and not by an exteriorized aspect of the person. It is not possible to rule out either ESP or PK. However, it might be possible to test whether OB vision is more like ESP or like localized sensing. What is needed is a comparison between two conditions. In one the person could try to use ESP (or PK for that matter) and in the other he could have an OBE. If

differences were obtained this might indicate that more than just psi was involved in the OBE, but so far such comparisons have not been made.

Osis went on to further experiments with Alex Tanous. In many of these Tanous was asked to try to influence sensors placed at the remote location. These results will be considered later, but in these same experiments Tanous was led to believe that his main task was to see the target as before. This time there were four possible colours, four quadrants in which the picture could appear, and five different line drawings. A hit was scored if *any one* of the aspects was correctly perceived (105a, b, c). Osis says that in 197 trials there were 114 hits. This sounds rather good although Osis does not state anywhere whether this result was significant or not. If you work it out for yourself you will see that with so many target aspects there is .55 probability of a hit on each trial and so 108 hits would be expected by chance. Now 114 does not sound so good and so again the results provide no evidence for accurate perception in the OBE.

Blue Harary, who has provided so much interesting information about the physiology of the OBE, was tested for perception during his OBEs, but according to Rogo (124e) he was only 'sporadically successful' on target studies and so research with him concentrated on other aspects of his experience.

Apart from all these experiments there is really only one more approach which is relevant to the question of ESP in OBEs and that is work done by Palmer and his associates at the University of Virginia in Charlottesville. They tried to develop methods for inducing an OBE in volunteer subjects in the laboratory and then to test their ESP.

One can understand the potential advantages of such a programme. If it were possible to take a volunteer and give him an OBE under controlled conditions, when and where you wanted it, half the problems of OBE research would be solved. It would be possible to test hypotheses about the OBE so much more quickly and easily, but alas, this approach turned out to be fraught with various problems.

First Palmer and Vassar (113a, b) developed an induction technique based on traditional ideas of what conditions are conducive to the OBE. Using four different groups of subjects in three stages, the method was modified to incorporate different techniques for muscular relaxation and disorientation. Each subject was brought

into the laboratory and the experiment was explained to him. He was then taken into an inner room to lie on a comfortable reclining chair and told that a target picture would be placed on a table in the outer room which he had already seen.

The first stage of the induction consisted of nearly fifteen minutes of progressive muscular relaxation with the subject being asked to tense and relax in turn groups of muscles all over his body. Next, he heard a pulsating tone both through headphones and speakers which served to eliminate extraneous noises and produce a disorientating effect. At the same time he looked into a rotating red and green spiral lit by a flashing light; this lasted a little under ten minutes. In the final stage he was asked to imagine leaving the chair and floating into the outer room to look at the target, but here several variations were introduced. Some subjects were guided through the whole process by taped instructions while others were simply allowed to keep watching the spiral while they imagined it for themselves. For some the spiral was also only imagined and for some there was an extra stage of imagining the target.

When all this was over the subject filled in a questionnaire about his experiences in the experiment and completed an imaginary test (a shortened form of the Betts QMI). Then five pictures were placed before him. One was the target but neither he nor the experimenter with him knew which it was. When he had rated each of the pictures on a 1 to 30 scale the other experimenter was called in to say which was the target.

One of the questions asked was, 'Did you at any time during the experiment have the feeling that you were *literally* outside of your physical body?' Of 50 subjects asked this question 21, or 42%, answered 'yes'. As for the scores on the targets, overall scores were not significantly different from chance expectation. Of course it might be expected that those who had OBEs would do better at seeing the target, but when the scores were compared for the 21 OBEers and the others there was no significant difference between them. The OBEers did get significantly fewer hits than expected by chance but this is difficult to interpret. Could it be that those subjects who claimed to have been out of their bodies were sensing the correct target by ESP and then choosing a different picture? However one interprets this result I think it is clear that those subjects who claimed to have had an OBE were not better able to see the target.

Why was this so? The first problem is to decide whether the subjects were *really* having an OBE. I ask this question but actually it means nothing, for we cannot distinguish two kinds of OBE, the real and not-real, as I have already explained. Since we define the OBE as an experience, if a subject says he felt 'literally outside' his physical body then we have to say he was having an OBE regardless of any doubts we may entertain about the nature of his experience. Palmer and Vassar added in the word 'literally' to try to exclude some purely imaginary experiences but although this may reduce the numbers a little it cannot get round the basic fact that the OBE is an experience which we cannot objectively record. So we cannot ask whether they were *really* having an OBE.

Could we ask something else? For instance we might ask whether these OBEs are anything like the spontaneous OBEs reported by ordinary people, or like those achieved in the laboratory by such adepts as Blue Harary or Ingo Swann. But even this we cannot answer. If a subject had both had a spontaneous OBE and taken part in this procedure then he could be asked to compare the two experiences, or the experimenter himself could do this. But this would not help much because it could be that people who have had previous OBEs react differently to the procedure. In the same way adepts might find that an OBE was induced more easily by the procedure than might other people. Essentially these studies lead one face to face with the biggest problem in OBE research: that the experience is private and an experimenter can never be sure when it is happening. This is not an insuperable problem. After all dreams are private in the same way and yet dream research has progressed in leaps and bounds in the past few decades. But it is a real problem, and we shall confront it again and again.

Palmer and Lieberman (112a, b) took the techniques a stage further. Forty subjects were tested but this time they had a visual ganzfeld : that is, half ping-pong balls were fixed over their eyes and a light shone at them so as to produce a homogeneous visual field. Half the subjects were given an 'active set' by being asked to leave their bodies and travel to the other room to see the target, while the other half were given a 'passive set' being asked only to allow imagery to flow freely into their mind.

As expected more of the 'active' subjects reported having felt out of their bodies: 13 out of 20 as opposed to only 4 in the passive condition. The active subjects also reported more vivid imagery

and more effort expended in trying to see the target but when it came to the ESP scores both groups were found to have scores close to chance expectation and there were no differences between them. However, those subjects who reported OBEs did do better than the others and significantly so. This result is quite different from the previous ones and is the opposite of what Palmer and Lieberman predicted, but it is what one would expect on the hypothesis that having an OBE facilitates ESP.

Palmer and Lieberman put forward an interesting suggestion as to why more subjects in the active condition should report OBEs. It is related to Schachter's theory of emotions, which has been very influential in psychology. Basically this suggests that a person experiencing any emotion first feels the physiological effects of arousal, including such things as slight sweating, increased heart rate, tingling feelings and so on, and then labels this feeling according to the situation as either 'anger', 'passionate love', 'fear' or whatever. In the case of these experiments the analogy is that the subject feels unusual sensations arising from the induction and then labels them according to his instructions. If he was told to imagine leaving his body and travelling to another room he might interpret his feelings as those of leaving the body. Of course this suggestion has far wider implications for understanding the OBE than just these experiments.

In the next experiment Palmer and Lieberman tested 40 more subjects, incorporating suggestions from Robert Monroe's methods for inducing OBEs. There was no ganzfeld and instead of sitting in a chair the subjects lay on beds, sometimes with a vibrator attached to the springs. This time 21 subjects reported OBEs; and, interestingly, these scored higher on the Barber suggestibility scale, but they did not gain better ESP scores.

Why then did the subjects in the previous experiment get significant scores? One factor which Palmer noted was that he spoke very briefly to the subjects after he already knew what the target was. As he explains (112c) it was extremely unlikely that this affected the scores, and I can agree since all my attempts to produce spurious ESP scores (including having slight sensory contact between subject and agent) have met with little success. However, this is a slight flaw which marred the only experiment in which significant scores were obtained by the OBEers.

In the final experiment in this series 40 more subjects were tested, 20 with ganzfeld and 20 just told to close their eyes (110c). This

time 13 in each group claimed to have had an OBE, but whether they did or not was not related to their ESP scores. This time EEG recording was also used but it showed no differences related to the reported OBEs. All in all it seems that these experiments were successful in helping subjects to have an experience which they labelled as out of the body, but not in getting improved ESP scores or in finding an OBE state identifiable by EEG.

These studies raise the difficult question of the relationship between experimentally induced and spontaneous OBEs. Are they entirely different, or do they fall along some sort of continuum? In an experiment designed to look at the effect of religious belief on susceptibility to OBEs, Smith and Irwin (138) tried to induce OBEs in two groups of students differing in their concern with religious affairs and human immortality. The induction was similar to that already described, but in addition the subjects were given an 'OBE-ness' questionnaire and were asked to try to 'see' two targets in an adjacent room. Later their impressions were given a Veridicality score for resemblance to the targets.

No differences between the groups were found for either OBE-ness or veridicality, but there was a highly significant correlation between OBE-ness and veridicality. This implies that the more OBE-like is the experience, the better the ESP. As we have seen, this would be important if true. In this case the results are marred by the fact that the same two targets were used on each occasion. However, this question of OBE-ness deserves further study if we are to sort out the relationship between the different kinds of OBE.

All these experiments were aimed at finding out whether subjects could see a distant target during an OBE. At best there are a very few properly controlled experiments (some critics would say, none) which have provided unequivocal evidence that a subject could detect anything by other than normal means. Although the experimental OBE may differ from the spontaneous kind, a simple conclusion is possible from the experimental studies. That is, OBE vision, if it occurs, is extremely poor.

19 Apparitions, Spirits, and Visible Souls

There is a long and fascinating history of attempts to record apparitions and detect the soul, spirit, or double of man. Instruments have been devised to record their effects; photographs have been taken of apparitions and astral bodies; machines have been made to weigh the double; and thousands of animals have been killed in the search for the soul. The importance of all this for OBEs lies in the question of whether anything leaves the body in an OBE. If it does then surely, it has been argued, we should be able to see and detect it. Not only that, but this might be the same thing which leaves the body at death and goes on to survive without it. Success in detecting a double would then be relevant to the evidence for survival.

Perhaps the simplest and most obvious way in which doubles are detected is when they are seen as apparitions. The study of apparitions formed an important part of early psychical research, and many different types of apparition have been recorded, but the ones which interest us here are those in which either spontaneously or voluntarily, a person having an OBE simultaneously appeared to someone else as an apparition.

There are many cases of this kind in the early literature. *Phantasms of the Living,* Myers's *Human Personality and the Survival of Bodily Death,* and the SPR publications all include cases. Some of them are rather spectacular and they include the best-known of all cases of this kind, the Wilmot case. By 1967 Hart (60b) reported that it had been quoted no less than five times, and this was certainly an underestimate, which is reason enough for not quoting it again; but other cases are equally interesting. Hart includes several in his analysis (60a). His highest 'evidentially rating' for all cases goes to that of Miss Danvers, and because he considered it the best case I shall use it as an example. Myers (99b) asked Miss Danvers to appear to her friend Mrs Fleetwood without forewarning her and to send him a note of her intention *before* she knew whether it had succeeded. He describes several such 'experiments'. In the first, on June

17th 1894 at 12.0 A.M., Miss Danvers lay down with her eyes closed and hair down and tried to appear to her friend nine miles distant, and before she did so she made a note of the fact. Mrs Fleetwood apparently awoke at precisely the same moment to see Miss Danvers kneeling on the bedside chair, with her hair down and eyes closed or looking down. She too made a note of this and sent it to Miss Danvers.

The older cases, like this one, have been quoted again and again and a relatively small number of them really form the mainstay of the anecdotal evidence on OBE apparitions. Crookall (26a) and Smith (139) give some recent cases but they too concentrate on the older ones. Green (49c) discusses the similarities between apparitions in general and the asomatic body perceived by OBEers, but she does not give any examples from her own case collection in which another person saw the exteriorized double. By contrast, about 10% of Palmer's OBEers claimed to have been seen as an apparition (llOd) and Osis claims that from his survey OBEers 'frequently' said they were noticed by others and in 16 cases (6% of the total) he was able to obtain some verification through witnesses, although he does not expand on this. Obviously it would be very helpful if much more evidence of this sort could be collected, and recent cases thoroughly checked.

Of course the problems with assessing this type of evidence are the same as apply to any case histories. We can use the Danvers case as an example. I assume that Hart rated it so highly because Myers obtained letters from both participants written at the time of the event rather than later. However, even in this case there is room for doubt. Miss Danvers seems to have misunderstood Myers's instructions for in a later experiment she actually told Mrs Fleetwood to expect her visit, and even in the one described here she did *not* send her own account straight to Myers as requested, but sent it on later with the confirmatory note she received from Mrs Fleetwood-so thwarting Myers's good intentions.

Also note that the details of what was seen were not detailed or precise and correct details were mixed with incorrect. Miss Danvers's hair was correctly seen as down (although that would be expected at 12.0 A.M.) and her eyes 'closed, or looking quite down', but she was seen kneeling rather than lying. We have come to expect this odd mixture, but it indicates that there is no sharp dividing line between a perfect apparition and none at all-rather there seems

to be every graduation in between. One interpretation is that there are different types of OBE. Another is that imagination and memory have been at work in creating the apparition. It is not something objective projected by the OBEer, but a product of the imagination of projector, percipient, or both, and that is why it varies.

As for other problems; they are all familiar. Many of the events happened so long ago that they cannot now be adequately checked. The coincidence in time on which many depend is often not well established and in few cases can the vagaries of memory be ruled out. The perfect evidence is always elusive. Again we can only accept what evidence there is and make a reasoned judgement based on that.

Of course the evidence from case histories is backed up by a variety of types of experimental evidence. For example, de Rochas sometimes asked one of his special subjects to retire early to bed one night and to send her phantom to the place where his hypnotic experiments were carried out. There another medium was waiting and she was usually frightened to see an unexpected phantom appear. But it must be noted that although the mediums were not told that a phantom was expected, the observers present all knew.

This kind of experiment became quite a popular pastime for people interested in astral projection, and in different forms was tried many times. Haemmerle (57) describes experiments in which she apparently managed to visit her twin sister and saw the phantoms of two friends who had previously arranged to visit, but again there was no control over who knew what about the expected visits and we cannot accept the results as anything more than an interesting anecdote by today's standards.

In more of de Rochas's hypnotic experiments (29b) two doubles were simultaneously exteriorized in different rooms and one asked to go and appear to the other and to stamp on its feet, pull its hair, or some such. In most cases it is said that the medium of the affected double recoiled as though hurt, although sometimes the pain was felt in a different spot, or not at all. This effect might be something similar to 'repercussion'.

I shall discuss the related modern experiments in the next chapter, but first I want to consider some of the numerous attempts to prove the objectivity of the human double. Although not directly involving OBEs these all have a bearing on the important question of whether there is something which might leave the physical body during the experience, or at death.

WEIGHING THE SOUL

In 1906 Elmer Gates suggested a new test of death (46). He denied the newspaper reports that he had seen 'the shadow of the soul of a rat', but perhaps this was not so far from what he had hoped for. Having measured the opacity of the human body to 'electric waves' of various wavelengths, he showed that some passed more easily through a dead than a living body. This constituted his test of death. He thought this was probably due to the cessation of electric currents in the dead body, but perhaps it was not the whole explanation. There might be some entity which survived physical death and was opaque to certain rays. To detect this it would be necessary to catch the change in transparency and to observe the shadow that was there in life, leave at death. If the shadow could be seen passing away this would show that something survived. Further still Gates hoped to catch the shadow and to prove that it still had 'mind' even though it had left the physical body.

Not surprisingly, Gates never achieved all this, but his suggestions were followed by similar attempts. In 1907 Duncan MacDougall reported his notorious weighing experiments (86). He argued that if a person and his consciousness were to survive they must consist of a space-occupying substance which he thought was likely to be gravitative and detectable by weighing. He therefore weighed six people as they died, with their prior permission of course. He chose those who were dying of some wasting disease, mostly tuberculosis, to ensure that the approach of their deaths could be seen some time in advance, and that they would be too weak to struggle violently and upset his apparatus. When death seemed to be close a patient was moved to a special bed resting on a light framework on delicately balanced platform scales, and the weight was watched throughout.

The first man was observed for about four hours during which he gradually lost about one ounce per hour, presumably through the loss of water in breathing and sweating. But as he died MacDougall reported that $^{3}/_{4}$ oz. was suddenly lost and the beam end of the scales dropped with an audible stroke. What was the cause of this weight loss? MacDougall argued in great detail that neither bowel movements, urination nor breathing could account for such an effect and concluded that the loss had to be due to the departure of the soul substance.

A second patient lost a little more than $1^{1}/_{2}$ oz. and another lost $^{1}/_{2}$ oz.,

but with the three others various problems made it impossible to measure any weight loss. MacDougall was not able to carry on his work, but instead he made a comparison with animals. After all, he argued, if it is the soul which is being weighed, there should be no loss of weight when an animal dies.

Weighing 15 dogs as they died, he found no corresponding weight loss. However, the dogs were not dying of a wasting disease but were killed with drugs and MacDougall concluded that this vitiated the results. In any case why should he be so sure that a dog has no soul? Many later experiments used animals and it seems that MacDougall could have argued either way. If the dogs lost weight then this would add to the evidence from humans. If not, he could say that dogs did not have souls.

In any case much of this argument is unnecessary for there was too much wrong with his methods. He did not control or measure the loss of water vapour at death and he had no way of timing death. In one case he says that a man, dying of consumption, stopped breathing eighteen minutes before death was confirmed and weight lost. How could he then conclude that the weight was lost 'at the moment of death' ?

If we were to conduct such an experiment today we should have to decide in advance what criterion of death we would use. And what would that be ? Would we expect the soul to leave at the cessation of breathing, when the heart stopped beating or when the last sign of activity in the brain had ceased? Arguments could be made out for any of these and more. Of course no one conducts such experiments any more, presumably because MacDougall was mistaken, and no weight loss can be recorded at death which is not attributable to the loss of water vapour.

Some of the experiments which made this clear were carried out in the 1930s by H. L. Twining in California (17e, 152). He carefully controlled for the loss of water in several ways. First he arranged a balance with a glass beaker on either side. In one beaker was a live animal and beside each beaker a piece of potassium cyanide. The cyanide next to the animal was carefully removed from the outside to the inside of the beaker so killing the unfortunate creature, but without disturbing the balance. The animals died almost instantly and a loss of weight was observed.

Next the animal (a mouse) was sealed in a tube by heating it over a flame; the poor thing smothered and died without loss of weight.

Twining concluded that whatever the mouse lost at death could not get out of the tube, 'the suspicion is aroused that it is some kind of coarse matter with which we are acquainted that is lost, and not a soul.' When the mouse was drowned in a flask of water or some calcium chloride, which absorbs water vapour, was placed in the flask; no weight loss occurred. Twining concluded that the loss was of moisture, and that he had not weighed the soul.

These seems to be the only experiments of the kind reported, and you may wonder how I can be so sure that Twining was right and MacDougall wrong. The answer is, I think, that if there were such a thing as a weighty soul this would have become apparent in many ways and would be well accepted by now, even though three-quarters of a century ago it seemed highly unorthodox. One may speculate that it was a crucial discovery hushed up because it was unacceptable, but my guess would be that others tried to duplicate MacDougall's findings and failed; and that their failures were never publicized as their successes might have been. Whatever the correct interpretation, experiments on weighing the soul were never pursued further. The idea which once seemed so hopeful was abandoned, like so many others in parapsychology and in the study of OBEs.

PHOTOGRAPHING THE SPIRIT

A similar fascinating tale of failure can be seen in the quest for a photograph of the astral body, double or soul. In the early days of photography it seemed that the camera could never lie. If something were captured on film then surely it must exist. The temptation to try to capture the soul in this way therefore flowered.

The same process can be seen at work in the proliferation of spirit photography towards the end of the last century. 'Spirit extras' mysteriously appeared in pictures taken by mediums. Faces would surround the sitter's face, clouds, presumably of ectoplasm, might float around his head or a little child appear in his arms. Among the best-known were the photographs of Mrs Deane, William Mumler, who began the technique in the 1860s, and William Hope. But tampering with the plates, and double exposure were often uncovered (see 17b, e, 154). Gradually spirit photography became less and less popular; arguments against it abounded and today only a vestige remains in the claims of 'thoughtography', or the ability to produce pictures without exposing the film.

I do not wish to get sidetracked too far into the realms of these dubious though fascinating spiritualistic practices. I only mention this one because it is so closely associated with the attempts to photograph not the spirits of the dead, but the doubles of living. The same desire for 'proof motivated both, and the same dangers and fraudulent possibilities lurked in both. Photography was used in two main ways which are relevant to the OBE. First there were many attempts to capture on film the 'soul' or double leaving at the moment of death. And second there are photographs of exteriorized doubles of normal healthy people.

As we have seen, there have been claims that a shadowy form can sometimes be seen leaving the body shortly before or after death. Obviously if photography could capture this vision at the moment of death this would add considerably to the evidence from the weighing experiments, and would be suggestive of survival. The first photographs of this type were taken by the French psychical researcher Dr Hippolyte Baraduc. As well as trying to photograph the thoughts and emotions of living people, Baraduc took pictures of his wife and son after they had died (18). His son, Andre, died of consumption at the age of 19 in 1907. The father and son had apparently been very close and according to Carrington and Meader telepathic communication had been frequent between them. After Andrews death an apparition of the boy appeared to his father and the two conversed together. Of course we have only Baraduc's word for this, but he endeavoured to gain more concrete evidence of Andrews continued presence using the camera. A photograph taken some nine hours after his death shows, emanating from the coffin, a 'formless, misty, wave-like mass, radiating in all directions with considerable force...'

The photograph itself though is very hard to make out. However, Baraduc went on to apply the same method, with more forethought, when his wife Nadine died six months later. As she died she sighed gently three times. At this moment Baraduc took a photograph, and when he developed the plate found that it showed three luminous globes hovering above the body (see Plates 9 and 10). He took another about a quarter of an hour later and one after an hour. By this time the globes had condensed into one. Finally three and a half hours after Madame Baraduc's death her husband saw a well-formed globe above the body become separated from the body and float into his bedroom. There he talked to it and it ap-

proached him, causing him to feel an icy draught. In the next few days Baraduc apparently saw similar globes in various places around the house and was able to communicate by means of automatic writing, to learn that it was the encasement of his wife's soul, which was still alive.

We have only Baraduc's photographs as a record of these events, and they are not wholly convincing, for many reasons. As far as I know, no one else exerted any control over the procedure used. Baraduc himself took the photographs and prepared the camera. He was in a stressed state; after recent deaths of both his son and his wife this would be expected. We also know that he was conversing with globes of light and with his son's apparition. Of course this can be taken in at least two ways; either as an indication of his unusual mental state, or as evidence that his son was actually present in astral form, as he claimed. But whichever way we interpret it, he was perhaps not in the best possible state for carefully taking photographs; and of course that was not the simple procedure it is today. Finally we have to note that there are few pictures of this type. Where something as controversial as this is at stake, and when it is the only evidence of its kind, we have to be more than usually sure that we can rely on the methods used.

Fascinating as these pictures are, I prefer to reserve judgement as to what they represent: certainly they are not one set in a long history of such pictures. If anything does leave the body at death it is not easily revealed on film. Of course this fact comes as no surprise to many psychical researchers, spiritualists, or occultists. After all it is only certain people who are reputed to be able to see the astral or etheric matter out of which these forms were presumably made. There were numerous theories about what that matter might be, but one thing was agreed: that it might take special techniques to reveal the double, the 'soul' or the astral body. One of the many techniques suggested for amplifying any image was the use of the cloud chamber.

Early in this century the use of cloud chambers for photographing the paths of particles was common in physics. The technique, pioneered by Wilson, is based on a simple principle. A chamber is filled with water vapour and then a partial vacuum is created using a pump, so reducing the temperature in the chamber very quickly. If a particle then passes through the space, water droplets form along its path and the 'cloud' formed in this way can be photographed.

The particle itself may be very small but the water vapour, somewhat like the trail from a high-flying aeroplane, is easy to see.

The first to apply this technique to the search for the double, was R. A. Watters, working at the Dr William Johnston Foundation for Psychological Research in Reno, Nevada. Hereward Carrington had suggested something similar, and outlined a possible experiment, at the First International Congress of Psychical Research in Copenhagen in 1921, and the argument between these two as to who originated the idea can be read in their caustic correspondence now in the SPR archives. But in fact long before that, in 1908, E. W. Bobbett had described an experiment using a cloud chamber. In his article in the Annals of Psychical Science (11) he outlined the idea and made a plea for anyone who had the means of carrying out the experiment to contact him, for he was not able to do so himself. Whether anyone did I have no idea; but the experiment, as he described it, was never, to my knowledge, carried out.

Bobbett argued that the double was radioactive. This may seem a very odd, even an impossible idea now, but then it made some sort of sense. Radioactivity was known from the effect of radiation on photographic plates and its detection in cloud chambers but it was not well understood; and simple methods of detecting it, such as the Geiger counter, were not readily available. The double had been seen as cloud-like which led by analogy to the idea that it could consist of radioactive matter becoming visible much as radiation did in a cloud chamber. The fact that cool breezes were traditionally associated with ghosts and the appearance of ectoplasm and doubles further strengthened the analogy. Bobbett also cited the evidence that Eusapia Palladino, the famous Italian medium of the time, was able to discharge an electroscope without contact. He suggested that rays emanating from her ionized the surrounding air which became a conductor and so discharged the electroscope.

Nowadays we can simply point a Geiger counter at a medium to show that no radioactivity is involved, but this was not then possible, and in the light of the evidence above, it was perhaps understandable that many psychical researchers of the time thought of the double as radioactive. Similar ideas can be found in the writings of Findlay (38) and Yram (159), about whom I shall have more to say in later chapters.

Bobbett suggested that an animal should be placed in a cage. The cage should be placed in an aluminium box with a window in it;

and the box put inside a larger box, also with a window. The inner box was to be fitted with pipes for the admission of anaesthetizing gases, and air for the animal to breathe. These pipes should pass out into the open, not into the outer box. Finally the outer box was to be fitted with a pump to remove air from it and filled with perfectly dust-free air and water vapour.

Anaesthetics were thought to drive the double from the physical body; although OBEs are less common with modern anaesthetics, they were often reported with the use of nitrous oxide, ether, and other such gases used early this century, so the idea that the gases forced out the double then seemed natural. In this experiment the gases would be admitted to the central box, the animal would become unconscious and its double would be driven into the outer box. The air would then be removed by the pump, the temperature would fall, and the outer box would become a cloud chamber. The various types of radiation emitted by the radioactive double would be seen as clouds outlining the form of the double. Through the window photographs could be taken, and the double would be captured on film. As Bobbett himself said, 'We shall have proved the existence of this body by thoroughly reliable objective means.'

If this were successful the method could be extended to testing humans anaesthetized with chloroform. However, as it appears not to have been tried with animals, we do not know whether it would have been successful. Of course we may guess, and my guess would naturally be that it would not. I look on this venture as another one of those fascinating ideas which litter the history of psychical research but which are based on reasoning which turned out, much later, to be misplaced. But it is premature to jump to such conclusions without first considering the experiments which were carried out using a cloud chamber, those of Watters, who used a cloud chamber not because he argued that the double was radioactive, but because he thought that it might reveal the tiny particles of the double just as it revealed other particles (155a, b).

Once the idea had taken hold that matter consists of very small particles with large spaces in between, it was open to the psychical researchers and occultists to suggest that the double or astral body occupies those spaces. This seemed to solve the problem of understanding how the double could take the same form as the physical body, yet fit in with it under normal conditions. Watters suggested that the double consisted of this 'intra-atomic quantity' and that

these finer astral particles of which it was made could leave the body at death and be revealed in a cloud chamber.

In the early 1930s Watters developed a modified Wilson cloud chamber into which he placed animals which had been given sufficient anaesthetic to kill them, or at least to kill most of them. Air was withdrawn from the chamber and a photograph taken of the body of the animal. When developed these photographs showed cloudy shapes hovering above the body, and Watters claimed that they were shaped just like the frog or mouse or insect whose body was lying inert. This, he claimed, was the intra-atomic quantity, departing from the physical body at death. He also claimed that on the occasions when the animals recovered no such form was seen, proving that the entity left only at death. This is, of course, an entirely different view from that so commonly found that the double can separate from the body in life, and is only permanently separated in death. Apparently Watters did not believe that his apparatus was capable of photographing the double projected from a living being.

That Watters had photographed anything like a 'soul' is open to great doubt. First consider the pictures he produced (three are reproduced in Plates 11-13). These are pictures that Watters sent to members of the SPR, and they are now kept in the Society's archives. They may not be the best of those taken, but Watters clearly thought them adequate, and they are the best available. It would be hard to know whether they were the forms of frogs, mice or indeed men, if one had not been told.

Apart from the poor quality of the pictures there were problems with Watters's technique. He never described the apparatus in such clear detail that it would be possible for someone else to build it and duplicate the experiments. Even when requested by Carrington and Hopper, in letters now at the SPR, he was not willing to give additional details. It was suggested that he had not removed all the dust from the air he used and this could produce spurious clouds. Note that Bobbett had stressed the need for dust-free air, and in his experiment two separate boxes were to be used, so separating the animal from the clean air. Watters did nothing to assure others that he had controlled for this type of interference. Also he could give no account of why he chose to have a cellophane window in the chamber. Cellophane is not strong and it was then hard to affix to metal without modern glue. This window could have let dust in.

Finally he appears not to have ensured uniform temperature in the chamber.

Even if Watters's technique was adequate, the fact remains that it did not prove possible to replicate his ifindings. His claims were potentially of such importance that as soon as they became known in England others set about trying to replicate the experiments. Most important among them was B. J. Hopper, who was a schoolteacher and physicist with an interest in psychical research and who worked for the International Institute of Psychical Research in London. With the help and advice of Nandor Fodor and a Mr Lauwerys, Hopper designed and built a cloud chamber and tried to photograph clouds (see Plate 14). He failed. No clouds resembling those of Watters were obtained. Hopper reported his negative findings in 1935 (64). In the following years he corresponded at length with Watters. One of Watters's letters to Hopper was studied by Lauwerys who concluded this about Watters: 'His language is too loose, his technique too inexact, his knowledge too incomplete, his claims too fantastic to inspire respect or confidence' (77). As had happened so many times before and since, it seems that Watters had found no more than a figment of his own imagination.

One last attempt deserves mention. In 1906 (2) there was a report of the death of Mrs Erich Muenter, whose husband, Professor of German at Harvard University, had disappeared and was wanted by the police for murder. He had supposedly perfected a means of proving the existence of a soul. The only problem was that it required the death of someone he loved in order to produce the vapour which should cling to him! I suppose we shall never know whether his method would have told us anything!

The weighing of bodies at the moment of death seemed to produce only spurious findings and the attempts to photograph the soul at death, or during anaesthesia, did not provide the solid and objective evidence hoped for. A few pictures are claimed to be those of a soul leaving the body at death but they were taken many years ago and since then the phenomenon seems to have ceased. Does all this tell us anything?

I mentioned earlier the work of Elmer Gates. He had an open-minded approach to this research and said, 'Even the failure to find evidence of man's duality by these systematic researches would have a value because it would lessen the probability that there is

such a soul-organism and would give additional probability either to some other hypothesis regarding immortality or to the belief that man does not live after death. We care not what the truth may be so we may know what the truth is' (46).

It is now clear that research has failed to find the kind of evidence Gates had hoped for and that he would have had to conclude that the probability was reduced. Following his principles, I would say that it is very unlikely that there is any substantial material and photographable 'soul' which leaves the body during anaesthesia and at death. If anything does leave it must be something far more elusive.

20 Experiments to Detect the Double

In the previous chapter we saw what attempts have been made to capture the soul at the moment of death, but what of the double leaving the body in life? There have also been many attempts to photograph that. For example in 1875 William Stainton Moses, a renowned medium of the time, had himself photographed at Buguet's studio in Paris, at a time when his body was at home in London. As in the tradition of spirit photography there was a sitter, Mr Gledstanes, and a faint image of Stainton Moses appeared on the plate when it was developed. Two photographs were reported and the second was supposed to have been a perfect likeness of the medium. The sequel sounds strange, but was in fact a fairly common occurrence in spiritualism; that is, Buguet confessed that his photographs had been faked, by using double exposure, but later he retracted this confession. (1, 42)

Among other researchers, Dr Ochorowicz, once Professor of Psychology at the Universities of Warsaw and Lemberg, worked on 'thought photography'. Like Baraduc, Ochorowicz was interested in recording on film the thoughts, emotions, and emanations from the human body. He used no camera, only held a plate wrapped in paper to the body of a medium (17b). In some of these experiments the entranced medium was asked to project her hand, or some other astral form and place it upon the plate, held at some distance in front of her. She then apparently saw, by the dim red light, a shadowy hand stretch out on a long thin arm to touch the plate. When these plates were developed the outline of the hand was distinctly visible. Ochorowicz found that the hands were sometimes much larger than those of the medium, but they seemed to get smaller as they moved further away from her body. A left hand could sometimes come from the right hand of the medium, and in doing so would, according to Ochorowicz, produce a chilly feeling in the extremities.

Colonel Albert de Rochas, whose work on the exteriorization of sensation has already been considered, also took photographs of exteriorized doubles in the late 1890s (1, 29c). He used several special subjects who were both mediums and good hypnotic subjects and among them was Madame Lambert, a French psychic, who took part in many experiments. Colonel de Rochas and Jacques de Narkiewicz-Jodko tried to photograph her 'etheric body' exteriorized under hypnosis. Two photographs of the double of Madame Lambert appear in Carrington's *Modern Psychical Phenomena* and are reproduced here (Plates 15 and 16). They show an indistinct shadowy body swaying about. At the time these pictures may have seemed like substantial progress towards the proof of the existence of the double, but if this was progress it did not continue. De Rochas changed his opinion about the validity of his own photographs when he came to doubt the integrity of his collaborator.

Opinions differed as to the validity of the earlier pictures. Henry Blackwell defended Jodko and in 1908 reported several apparently successful attempts to photograph the human double (10). But apart from the occasional isolated report this phenomenon, like so many others in psychical research, quietly disappeared.

A rather different approach was to see whether an exteriorized double could influence material subjects. As we have seen, the evidence on this from case studies is mixed. Most of the adepts claimed that if they tried to touch anything while projected their hand would pass straight through it. Muldoon tried many times to move things and failed. He exclaimed, 'This failure (to move physical objects) is one of the most aggravating things I know of (97a). However he did on rare occasions succeed both in moving objects and producing raps. Among spontaneous cases I have already mentioned (in Chapter 6) the man who struggled and failed to turn off a lamp and Green concluded that failure to interact with the environment is the rule (49c).

However, spontaneous OBEers have occasionally reported moving things. One of the best-known of such cases is that told by Lucian Landau in 1963 (76). His friend, Eileen, who was later to become his wife, was staying at his house while he was ill, and occupied a room opposite his. She claimed to have visited him one night 'out of the body'. So as an experiment he gave her his small diary and suggested that if she came again she should try to carry it with her. To make the task easier they left the doors to their rooms open. When

she tried she found she could not pick up the diary, but instead she carried a toy rubber dog of her own. Mr Landau awoke in the night to see Eileen standing there in his room, looking deathly pale. He jumped out of bed and followed the figure, which moved backwards into her room. There he saw Eileen asleep in bed, and the figure which suddenly disappeared. Going back into his room he found the toy dog on the floor.

Not too much reliance can be placed on this story. Both the doors had been left open for the experiment, and we have only the word of the two of them as to what happened, but it does suggest that it is worth trying to find out whether an exteriorized double can affect material objects.

Early experiments of this kind studied what was called 'exteriorization of mobility'. Typically, a hypnotized subject would be asked to extend some part of himself beyond the confines of his body and to affect some distant object, person or recording apparatus. Hector Durville worked with such subjects as Madame Lambert, Leontine, and Monsieur Rousseau, a commercial agent from Versailles who could project his double at will. Many of these experiments, as we have seen, were concerned with the sensitivity of the double but Durville also recorded the double's physical effects (32a, b).

This double was said to assume the form of the subject once it was sufficiently 'condensed' but it was rarely seen by others; Durville believed that only the most sensitive of people could see it. Spectators occasionally saw lights, but never the full duplicate body. However, when the 'phantom' approached them, Durville reported that 9 out of 10 could feel its presence as a coolness, or something like a breath. He allied this to the sensation received from an electrostatic machine in operation, which of course fitted in with the popular 'electric' view of the phenomenon. Others felt a moisture on the approach of the phantom or a disagreeable shivering or trembling. It was said that if a hand had been held in the phantom for some time it would, when taken out, appear slightly luminous !

What Durville does not explain is exactly how these experiments were carried out. We can imagine that something like this happened. Durville put the subject into an hypnotic sleep and asked him to project the double to, let us say, an armchair next to him. Then when he judged that the double was sufficiently solid he asked the subject to move the double around the room to different places, close to different persons, and ask those persons to touch or feel it. If this

is how it was done all the spectators would know where the double was supposed to be and it would not be surprising if they felt corresponding sensations. Possibly it was not done this way, but it seems a reasonable guess that suggestion played some part in the production of these sensations.

In further experiments Durville asked his subjects to make raps, which they did, to make impressions in flour, and to move pieces of paper suspended by threads, which they were unable to do. He even records a case in which a phantom moved the door of a bookcase and he hoped to provide more solid evidence for the double by weighing it (32b). He arranged on a table a weighing scale which was connected to an electric bell. The subject was asked to send the phantom into the pan of the scales and if any weight of as little as 2 grammes was recorded the bell would be set ringing. Madame Leontine's double was projected and asked to get onto the table. Durville reports that creakings were heard as though someone really were climbing onto it, as well as raps and .'peculiar vibrations'. Cold air currents were felt, and finally the bell began to ring.

In similar experiments with Madame Lambert her phantom could not mount the table until she was allowed to rest her hands on it. Then the scales moved but something was found to be at fault with the bell. Finally the double did succeed in ringing the bell several times, but here again Madame Lambert was allowed to touch the table. It is essential to point out, as did the editor of the *Annals of Psychical Science,* in which Durville's work was published, that the experiments with scales prove nothing since they were conducted in total darkness and the subjects were allowed to touch the table on which the scales stood.

Durville's research depends less on the weighing experiments than on those with screens. He claimed that calcium sulphide screens became illuminated when placed in the phantom. More than this, he demonstrated that when a screen was placed on the body of Madame Francois, when she was not hypnotized, it glowed; but when her double was exteriorized a screen on the body did not glow, and one placed in the phantom did. Durville claimed to have repeated these experiments with seven or eight different subjects with the same results and concluded that the double is the source of radioactivity; of N-rays, and not the physical body.

To understand how Durville might have believed he had stumbled upon a great discovery, and why it now appears that he was entirely

misguided, it is necessary to know a little about the story of the N-ray. The 1900s was a decade of discovery in the physics of radio-activity. X-rays had been described and were being investigated, and physicists were prepared to hear of more and newer rays. In this atmosphere, in 1903, the French physicist, Rene Blondlot, announced the discovery of the N-ray. During work on X-rays he had discovered an effect he could not explain and which he attributed to the new ray; called the 'N-ray' after his university at Nancy in France. N-rays had some extraordinary properties. They were transmitted by many things which are opaque to visible light, such as cardboard, wood and paper, iron, tin, and silver. In fact Blondlot made lenses and prisms out of aluminium for focusing them. Water and rock salt blocked the rays and so could be used to exclude them. They were emitted by many sources, including various types of lamp, the electric-discharge tube, the sun, and, of most relevance here, the human body. Another physicist at Nancy, Augustin Charpentier, reported particularly strong emission of N-rays from the nerves and muscles and suggested that this could be used as an aid in clinical exploration of the body.

Soon others claimed that they had been first to discover the ray and its properties. Among them were Gustave le Bon, who was also interested in thought photography, and Carl Huter, a spiritualist; but most were respected scientists who vied for recognition in this new area. In 1904 the Academy of Sciences awarded the Prix Leconte to Blondlot, at least partly for his 'new ray', and with such encouragement research increased and spread throughout the world of physics. This might have happened after the discovery of any new phenomenon; the difference here was that the N-ray was to be very short-lived.

In 1904 an American physicist, R. W. Wood, paid a visit to Blondlot's laboratory. He was one of many scientists all over the world who had tried to reproduce Blondlot's findings and failed. Now he wanted to visit Nancy to find out for himself why these peculiar rays seemed to manifest themselves there and nowhere else. He was shown experiments in which N-rays increased the brightness of a spark, but when he failed to see the: effect he was told that his eyes were not sensitive enough, just as many psychical researchers have been told that they were not sensitive enough, or their attitudes were not positive enough, to detect some psychic phenomenon. But Wood convinced himself that this was just an excuse. A hand placed

in the path of the rays should block them, and a change in brightness be seen. Wood moved his hand in and out or kept it still and asked the physicists to announce the changes in brightness. What they said, he found, bore no relationship to the movements of his hands.

Photographs were taken of the spark, and to make the difference as great as possible, several exposures were made of each by moving a wet cardboard screen back and forth. Wood showed that the experimenters knew which picture was expected to be brighter and so could have, quite unconsciously, given one slightly longer exposures. But even more devastating was that in one experiment Wood secretly removed the essential aluminium prism. This, it seemed, made no difference and the changes in brightness continued as before.

After Wood's findings were published in *Nature* (158) the study of N-rays effectively stopped everywhere but France, but there - especially around Nancy-it continued for some time. Finally the French journal *Revue Scientifique* suggested that two identical boxes be prepared, one of which contained tempered steel, supposedly a source of N-rays, and the other a piece of lead. Blondlot would then be asked to determine which was which, but he did not rise to this challenge. In 1906 he wrote 'Permit me to decline totally your proposition to co-operate in this simplistic experiment; the phenomena are much too delicate for that. Let each one form his personal opinion about N-rays, either from his own experiments or from those of others in whom he has confidence.' As Klotz (72) pointed out, that is in fact what happened. The opinion of science was that N-rays did not exist, and N-rays were fast forgotten.

This story may hold lessons for parapsychology. Like N-rays, ESP is found in some laboratories but cannot be produced in others. Certain qualities are required of the experimenter; and some people are supposed to be incapable of seeing the effect. On the other hand, unlike N-rays, ESP has not died in a few years and the quality and quantity of evidence are far greater for ESP than they ever were for N-rays. Fifty years after Rhine first used the term, and 100 years since the SPR began its researches, the phenomena are still investigated. Why? Is this because, unlike N-rays, they do exist? Is it that excuses and *post hoc* justifications have become more devious? Is it that people have immense motivation for believing it exists? Or could it be that N-rays were easier to disprove than ESP? These are important questions, but they are taking us away from the reason

for discussing N-rays - that is, that in the few years of their popularity, psychical researchers took them up.

As I have described, Durville tried to detect the double using calcium sulphide screens which, he claimed, became strongly illuminated, as could be seen by all the observers, when passed through the phantom. It may seem odd to want to conclude that he and all his observers were totally mistaken but remember that the exact position of the phantom was not obvious. Any slight change in the brightness of the screen, or apparent brightness to any observer, could be thought to mark the position of the phantom. If different people saw changes at different times they could nonetheless all think they had seen the same thing. Durville also stated that screens which had been previously exposed to the sun glowed the brightest, but did he decide this beforehand or could he use 'insufficient exposure' as an excuse if the experiment failed? Also the room was totally dark and the observers' eyes were adapted to the darkness. They were straining to see the events, and some premium was placed on 'sensitiveness'. We may also imagine that Durville suggested quite strongly to his observers that changes in brightness were taking place.

Durville himself thought that the experiments with screens were his most important work, but many doubted the phenomena. In response he argued that if a photograph were taken of the screen illuminated in the presence of the phantom, and one used for comparison, a great difference would be obvious, but in 1908 this had not been done-or if it was, it was not published. We shall probably never know exactly what happened at these sessions, but it is fair to conclude that when Durville claimed that the phantom was an 'extraordinarily powerful source' of N-rays, he was mistaken.

Detecting the double with a screen in this way was, after all, a delightful idea. Carrington used it in a psychical photoplay serial called *The Mysteries of Myra.* The heroine slept with a calcium sulphide screen by her bed, connected to a bell. When the astral body of her psychic assailant came to strangle her, the bell rang in a nearby room and the psychic detective rushed in to rescue her just in time. It made a good story, but sadly Durville's effects were not replicated and the screens disappeared from the repertoire of psychical research just as N-rays disappeared from physics.

Gradually interest in detecting the double died. After the 1930s there was a proliferation of experiments on ESP using cards and ESP symbols, and relatively less research on the question of survival,

the soul and the double. It was only revived when interest in astral projection, or OBEs as they then became known, began again in the 1960s and 1970s.

In 1972 Karlis Osis, at the ASPR, suggested that in addition to studying target detection during OBEs, the attempt should be made to detect the OBEer's presence with various instruments (103b). Most of the experiments of this type have been carried out by Robert Morris and his associates at the Psychical Research Foundation, where Blue Harary acted as subject. As in their experiments on ESP, the intention was to determine whether a 'theta aspect', or TA, was separated from the body and, in this case, whether it could be detected there by humans, by animals or by physical instruments (95)

Human detectors might be thought to be the easiest. In many spontaneous cases apparitions of OBEers have been reported, and in the early experiments already described it was believed that the phantom could be felt as cold or damp by others. It therefore seems possible that another person could detect an OBEer. Blue Harary was seated in a room in a different building from the detectors and asked to have an OBE and to try to visit the people in the other building. In some tests he was to visit them twice, at times chosen by the experimenters during a 40-minute period. In others he still visited them twice but this time they were given four detection periods, two OBE and two non-OBE. In all cases the detectors had a clock synchronized with one in Harary's room, and connected to a tape recorder. They could speak any impressions into the recorder, or note them down on paper. For example they might feel something odd, note a flash of light or other perception which they could think of no reason for. These were called detection responses.

Afterwards the number of detection responses made when Blue Harary was having an OBE was added up and compared with the number made when he was not. For the first procedure, using one long detection period, significantly more responses were made during OBEs, but using the second procedure there was no difference between the number made when Blue was supposedly in the room with them, and when he wasn't. The results were therefore encouraging, but hardly conclusive.

Animal detectors were also used. It is often thought that dogs and cats can see ghosts invisible to their owners, or that pets can warn of impending danger or illness. If in some way they are especially sensi-

tive then they may make the best detectors of the 'astral body'. In these experiments Blue was asked to visit some gerbils and a hamster in small cages, a snake, and two male kittens. The rodents spent most of their time chewing on the bars of their cages or resting quietly, and the snake showed little sign of activity, but the kittens were more promising. The experimenters got the two kittens for Blue from a neighbourhood litter when they were seven weeks old and appropriately they were named Spirit and Soul. About two weeks later, experiments were begun and Blue tried to visit the kittens while out of his body. Spirit seemed especially responsive to Blue's presence and so formal experiments used him alone. He was placed in an 'open field', a large wooden box with its floor divided into numbered squares so that his activity could be measured. The number of squares the kitten entered in a given time was counted, and the number of meows made in the same time recorded too. Blue's task was to travel to where the poor kitten was in its box, comfort it and play with it, and so, if possible, to reduce its activity and meowing.

As before the session was divided into short periods, two OBE periods and two control periods, during which Blue was chatting and not thinking about the kitten. Each of these periods was preceded by a baseline period in which the kitten's activity was measured to find out what his normal behaviour was. The results seemed to show some success. In the baseline periods the cat was active and meowing. When this was followed by a control period the activity increased, but when Blue was OB it decreased, and not a single meow was heard during all the OBE periods. It seemed that Blue had actually succeeded in calming his kittens by, as it were, astral stroking.

Blue had been asked to locate himself in the rear of the kitten's box, but there seemed to be no sign that the kitten was orienting itself towards that direction especially. That is, its activity had decreased during the OBEs, but it had not behaved as though Blue were actually there, in a specific spot in the box. If the kitten were able to orient in this way it would be better confirmation that it was able to detect Blue's presence. To test this the kitten was placed in a round box, the floor of which was divided into eight segments. The time it spent in each was recorded while Blue tried to visit a spot outside the box. In four sessions the kitten was quite active and overall spent more time in the segments close to where Blue was, but

in three others it stayed wherever it was put. When the results from all the sessions are considered, they were not significant (126).

In a final series an attempt was made to relate the behaviour of the cat (now fully grown) to both the location and distance of the OBEer. For various reasons the experiment had to be abandoned, but in the meantime an interesting observation was made. One of the experimenters, John Hartwell, was in charge of the TV monitor in the cat's room. On four occasions he had a strong impression that Blue was there, and once saw an image of him on the TV screen in one corner. On all four occasions Blue was having an OBE, and he was in fact in the appropriate corner when John Hartwell thought he saw him. He could not have known this since the OBE periods were, of course, only chosen by the experimenter in the other room and with no communication between the rooms. It seemed that this human detector did better when he was not specifically trying to act as a detector. But of course these were only informal observations and would need to be backed by further experimental work.

Finally, physical detectors were used. These included a device which measured low frequency electromagnetic fields occurring over an area of several square feet, one measuring changes in the magnetic permeability and electrical conductivity in a volume of about a cubic inch and one monitoring electromagnetic activity between 10 and 500 MHz. Photomultiplier tubes detected near infrared, visible, and far ultraviolet parts of the electromagnetic spectrum, and thermistors measured the temperature. Although some responses were obtained from the instruments they were erratic and bore no relationship to whether Blue Harary was in or out of his body. In other words none of the instruments was able to detect the OBE.

Generally this has been the case. Physical detectors do not respond. In preliminary tests Ingo Swann once apparently influenced a magnetometer (8a). He was working at Stanford Research Institute in California, and various instruments had been set up for him to try to affect. The magnetometer in question responded oddly. It appeared that a change in magnetic field had occurred and the output of the instrument was like nothing ever seen before. However, it must be added that this was not a properly organized experiment. There was no baseline measurement with which to compare the effect. An OBE had not been planned for that moment, and the particular effect was not predicted. It is far from certain that Ingo

Swann actually influenced it while out of his body, and no further results were ever reported.

One last experiment is relevant here. Karlis Osis and Donna McCormick have recently carried out some further studies with Alex Tanous as subject (105a, b, c). Tanous was asked to travel out of his body to a shielded chamber which contained, apart from an optical viewing device for testing ESP, strain gauges which would detect any unintentional mechanical effects at the OB location. Activation levels of this apparatus were sampled both before and after the generation of the target. The hypothesis was that after the target was generated and was visible in the box, Tanous would be present and trying to see it and so would be more likely to affect the strain gauges. In addition Osis predicted that there should be more effect when the guess was a hit, i.e. when Tanous guessed the cprrect target, since that was already evidence that he was, as it were, at the location.

The results actually confirmed this. More strain gauge activity was recorded for the period after target generation, and more still on those trials when the subject made a hit. Osis and McCormick concluded that the extrasomatic hypothesis was confirmed; that is, that the results supported the suggestion that Tanous was actually out of his body and some part of him was present at the target location.

But there are problems which render this conclusion doubtful. First, as Isaacs has pointed out (66), the baseline activity of the device was not measured or taken into consideration. Secondly the overall hit rate was not reported. The argument depends on the notion that if a hit is obtained a 'genuine' (i.e. with ESP) OBE has taken place. However, when I calculated the hit rate: from Osis's data I found that overall the subject had made no more hits than would be expected by chance. This implies that any hits made were likely to have been due to chance and not to an OBE. Osis's conclusion therefore seems quite unjustified and the results do not unambiguously support the idea that Alex Tanous was able to influence the strain gauges with his OB presence.

One final point is important. This has been realized often enough, but is difficult to do anything about, and that is that even if a strong detection response were obtained it could have been produced by psychokinesis (PK) rather than by some externalized double. There

seems to be no simple way to exclude the operation of PK for sure and so this alternative has always to be borne in mind.

It is difficult to sum up the results of the more modern experiments. There have been few of them. Most have been conducted in one place with one subject, and the effects reported have not been followed up by replications or further extensions of the original work. At face value they seem to show that physical or mechanical devices provide the worst detectors and humans are not much better. The designated human detectors have never succeeded, even though other people apparently responded to Blue Harary's OB presence. Animals seem to be the best detectors, but really this conclusion depends on the behaviour of one kitten and its response to its owner.

This makes some sort of sense. It could be that among the special conditions necessary for detection are that the detector should be an animal with a special relationship to the OBEer. But if this is so, it makes for difficult research. We should have to find animals with and without this special relationship and test them. One thing does seem clear though, and that is that it is not easy to detect the presence of an OBEer when you do not know that he is there. In the early experiments with hypnotized mediums it was usual for the observers to know where the' phantom was supposed to be. In modern experiments where this is not allowed the cold breezes and clammy hands are not so easily obtained.

The conclusion Morris drew from work at the PRF probably stands just as well for all this research : 'Overall, no detectors were able to maintain a consistent responsiveness of the sort that would indicate any true detection of an extended aspect of the self (96).

So does anything leave the body in an OBE? If it does the results of all this research show that it is extremely difficult to detect. Perhaps it is there. Perhaps we only need to develop that ultra-sensitive device, or find that special human or animal sensitive and maybe this will happen in the future. But in my opinion the simplest conclusion is that nothing detectable does leave the body in an OBE.