Out-of-the-Body Experiences

Implications for a Theory of Psychosis

Charles McCreery, DPhil
Formerly Lecturer in Experimental Psychology
Magdalen College, Oxford

Oxford Forum

Chapter 2
A model for out-of-the-body experiences

Out-of-the-body experiences: the question of definition

At this point it is worth considering the question of how the out-of-the-body experience is to be defined, since this will be of practical importance in relation to the research described in this and succeeding chapters.

The term 'out-of-the-body experience' was first used by Tyrrell (1943) to denote the type of experience in question. More recently, particularly in the USA, the definite article has tended to be dropped, in favour of the shorter 'out-of-body experience'. However, in this book the original form will continue to be used.

One solution to the problem of what constitutes an OBE is to proceed by ostensive definition and point to a number of 'classical' cases, as Blackmore (1984) terms them, of which the following will serve as an example. The correspondent was a 53-year old married woman. She describes herself as having been in a state of physical and emotional distress at the time of the experience, having just visited the outpatients department one of the major London Hospitals, where she had undergone a minor gynaecological operation without anaesthetic, a procedure which had left her feeling extremely angry at the doctors, who had failed to consult her before subjecting her to this procedure.

> I walked along Goodge Street towards Tottenham Court Road on my way to the underground tube station. One moment I was walking along the street, and the next I was high in the air looking down on myself and the people below. I watched with mild interest as I stopped at the kerb, looked both ways before crossing over, and then observed that the parting in my hair was not even at the top of my head, giving the appearance of a minute

> 'bald' spot. This small observation created a 'shock' of indignation. Within a flash I found myself walking along the street again *inside* myself as before.[1]

Green (1968b, p.17) offered the following definition of this type of experience, for which she proposed the term 'ecsomatic':

> We define an 'ecsomatic experience' as one in which the objects of perception are apparently organized in such a way that the observer seems to himself to be observing them from a point of view which is not coincident with his physical body.

We may note that it is not part of this definition that during the experience the subject should appear to 'see' his or her own body from 'outside'. In many cases this feature is indeed present, but as we have seen in the case of the Oxford University student quoted in the preceding chapter, who reported multiple experiences of lucid dreams and out-of-the-body experiences, the feature is sometimes completely absent.

Irwin (1985) objects to definitions of the type proposed by Green on the grounds that 'there are occasional cases in which people feel their center of consciousness to be noncoincident with their body, but do not have a perceptual-like awareness of an environment from the remote location.' He proposes the following working definition:

> An out-of-body experience is one in which the center of consciousness appears to the experient to occupy temporarily a position which is spatially remote from his/her body.

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[1] Unless otherwise indicated, all the first-hand accounts used as illustrations in this book are taken from a collection I made in 1987. Details of the methods by which the subjects were recruited can be found in McCreery (1993) and McCreery and Claridge (1995); a summary of these methods is given at the start of Chapter 6.

For the purposes of my own enquiries (McCreery 1993 I adopted a purely operational definition, namely that an out-of-the-body experience is any experience which leads a subject to answer 'yes' to the following question:

> Have you ever had an experience in which you felt that 'you' were located 'outside of' or 'away from' your physical body; that is the feeling that your consciousness, mind or centre of awareness was in a different place from your physical body?

We shall refer to this question as 'the Palmer question', since it was first used by Palmer (1979) in a survey of students and townspeople in Charlottesville, Virginia. It was adopted as the criterion of an OBE in my own studies, despite its rather cumbrous nature, since it has been used in a number of surveys subsequent to Palmer's, such as that by Blackmore (1984) of a random sample of Bristol voters, and there is therefore a considerable body of data concerning rates of response to this question among different populations.

Sleep as a provoked reaction

In the rest of this chapter I shall present a theory concerning the aetiology of the out-of-the-body experience.

A premise of this theory is the fact, extensively documented by Ian Oswald (1962), that sleep can supervene on extreme arousal as well as on the more normal state of relaxation, de-afferentation and low general arousal.

This is perhaps a relatively unfamiliar idea. However, Oswald devotes a whole chapter to what he calls 'Sleep as a Provoked Reaction', i.e. sleep as a reaction to extreme stress. He cites both anecdotal and experimental evidence for the phenomenon. On the anecdotal level, he alludes to cases such as those of soldiers falling asleep while waiting to go into battle, or of persons falling asleep while waiting to give an important public address.

In this latter context it is of interest that Celia Green gives two cases of OBEs occurring to subjects who were in the middle of public musical performances, one a singer, and the other a pianist (Green 1968b,pp. 65 and 67). In a third case (p.64) the subject was giving a sermon in church.

The following are parts of a description, quoted by Jaspers, of the first type of situation mentioned by Oswald, namely that of soldiers waiting to go into battle. The author, Ludwig Scholz, is describing the situation of being under artillery bombardment in the trenches during the first World War:

> We were reduced to having to 'wait and see' although we were in immediate danger. Our minds froze, grew numb, empty and dead. Every soldier knows such an experience if he has had to lie still under heavy barrage. [...] Feeling is frozen. As the firing gets louder and never ceases, it blends with an objective sense of fatalistic calm. The threatened man becomes numb, cool, objective – the senses slowly grow enveloped with a merciful stupefaction, become clouded and conceal the worst from him [...] the monotony of uninterrupted droning noise narcotises him [...] the eyes slowly close and right in the middle of the deadly uproar he falls asleep. (Jaspers 1923, p.369)

Of particular relevance to the theory I shall be putting forward is the mention of a combination in this situation of extreme stress and the psychological inhibition on movement imposed by the requirements of military discipline.

Oswald cites two other authors who have commented on the occurrence of sleep in battle situations:

> Migliorino (1944) observed that, in persons accumstomed to regular air-raids, if the actual attack was unusually delayed after the sound of the sirens, an overpowering sleep would appear, which he believed to a 'flight' into sleep on account of fear. Tinbergen (1951) cites soldiers overwhelmed by sleep while waiting just before an attack, and an acquaintance of mine who was a rear-gunner in night-bombing missions in

> World War II describes how he found it almost impossible to keep awake just prior to those parts of the trip where danger was greatest. (Oswald 1962, p.158)

On an experimental level, Oswald was able to induce sleep in four out of a group of six volunteer subjects, who were not sleep-deprived, by administering electric shocks:

> Powerful shocks were given by the regular discharge, half a dozen times a minute, of a 0.1 microfarad capacitor charged to 320 volts, and discharged through the wrist or ankle of the subject. Sleep tended to appear [in the EEG record] between each shock. In one case it became continuous and deepened to the C stage [...] and ended following a dishabituating stimulus, *viz.* a clap. (Oswald 1962, p.151)

It is worth noting that a combination of restraint and extreme stimulation present in this experiment is similar to that in some of the wartime situations just described, since the subjects were attached to EEG electrodes and could only have moved freely by forcibly removing the electrode attachments themselves, or by asking the experimenter to free them.

Oswald (1962, p.147) breaks down the triggers which can lead to sleep as a provoked reaction into three main groups:

- overwhelming fear
- monotonous stimulation
- imposed restriction of movement

These triggers could be effective either singly or in combination.

In addition, Oswald discusses *delay* and *relief* as two further triggers of sleep under certain circumstances.

I shall be suggesting that all of these factors, either separately or in various combinations, can be relevant to the aetiology of an out-of the-body experience. I will discuss possible examples later in this chapter, where I will argue that

OBEs are a phenomenon of Stage 1 sleep. First I will give a characterisation of Stage 1 sleep itself.

Stages of sleep

'Stage 1', as the term suggests, refers to the first stage of sleep entered from the waking state. However, it is also, somewhat paradoxically, the name of the concluding phase of a sleep cycle.

To distinguish the two distinct manifestations of this type of sleep the first, starting from the waking state, is characterised as 'Stage 1 descending', while the second is called 'Stage 1 ascending'. Between them in time are Stages 2-4, which will be considered later. The complete series of phases usually occupies approximately 90 minutes (Parkes 1985), and constitutes a cycle which is repeated throughout the night.

Stage 1 and REM (rapid eye movement) sleep are normally separated, temporally, by three other phases, Stages 2-4, which are characterized by an increasing proportion of slow, *delta* waves, of less than 3.5 Hertz (Horne 1988, p.9). Thus the first episode of REM sleep normally only occurs about 90 minutes into the sleep cycle, i.e. after all four of Stages 1-4 have been gone through.

This cycling through stages 1-4, followed by REM sleep, is repeated throughout the night. As Horne (1988, p.11) puts it, there is a 'regular 90-minute cycling of REM sleep and other stages'. However, there is a progressive diminution in the proportion of time spent in the 'deeper', slow wave stages of sleep and an increase in the proportion of time spent in the REM phase.

It is important to note that the order in which the various stages of sleep succeed each other is relatively rigid. As Empson puts it:

> However much people may vary in their lifestyles during the day, their sleep proceeds in the same regular pattern [...] No normal person has been found who, for instance, takes all his or her REM sleep in one session of ninety mintes at the beginning of the night, or saves it all up for a session in the early hours of the morning. We are all slaves to the same mechanism [...] (Empson 1989, p.41)

We should therefore not expect REM sleep to be suddenly entered from the waking state, even under conditions of hyperarousal (e.g. in battle) or hypoarousal (e.g. in hypnagogia).

The following is Oswald's description of the EEG of descending Stage 1 (here called 'Stage A').

> Stage A is the stage of drowsiness, when some alpha rhythm[2] is still present. As a person falls asleep his alpha rhythm comes and goes for a variable length of time (half a minute to half an hour or more). The alpha rhythm, having first become accentuated in voltage and appearing more widely over the head while still continuous, will disappear for perhaps a second or two, reappear, disappear again for a few seconds, reappear at reduced voltage, and so on. It is also slowed in frequency, the actual degree of slowing varying greatly in different individuals; in a few it will slow from 10 to 8 or even 7 c/s [cycles per second] to merge into the slower activity of the B stage.
>
> The coming and going of alpha rhythm during drowsiness actually indicates a moment to moment fluctuation of cerebral vigilance between what could be called relaxed wakefulness and light sleep […] (Oswald 1962, p.360)

Of particular relevance to our present discussion is Oswald's reference to the fluctuating nature of Stage 1 sleep, with brief periods of sleep being liable to alternate with periods of restored wakefulness. This will turn out to be of

[2] See Glossary for a definition.

relevance to our contention that out-of-the-body experiences, many of which appear to be of brief duration (Green 1968b), occur during episodes of sleep.

The brevity of many episodes of Stage 1 sleep, as described by Oswald above, is also consistent with the hypothesis to be advanced in relation to psychosis in later chapters, namely that psychotic symptoms represent the brief intrusion of Stage 1 sleep processes into waking consciousness, due to hyperarousal.

To Oswald's characterisation of the electrophysiology of Stage 1 sleep we may add the following observation of Parkes concerning eye-movements during Stage 1, namely that: 'Slow rolling or horizontal eye movements replace the rapid eye movements of wakefulness.' (Parkes 1985, p.13)

These slow rolling eye movements, it should be noted, are quite distinct from the rapid eye movements of a later stage of sleep, characterized as 'REM' (rapid eye movement) or 'paradoxical' sleep. The term 'paradoxical' was applied to this sleep stage on account of its combination of cortical arousal, as measured by the EEG, and loss of muscle tone, amounting to paralysis, as measured by the electromyograph or EMG.

The following is Parkes's characterisation of REM sleep:

> *REM periods* alternate with NREM (non-REM) periods at about 90 min intervals. The rapid eye movements that give this stage its name are jerky, horizontal, vertical and oblique, binocularly symmetrical, and may be accompanied by phasic muscle twitches [...] Eye movements and muscle twitches, particularly of the hands, legs and face, may be grouped in bursts or isolated, and slow rolling as well as rapid eye movements occur. Otherwise, skeletal muscle tone (with the exception of the diaphragm) is low or abolished. Muscle tone in jaw and neck muscles is particularly low, and the deep tendon reflexes are very reduced or abolished. Muscle atonia, interrupted by phasic events, is associated with a low-voltage fast

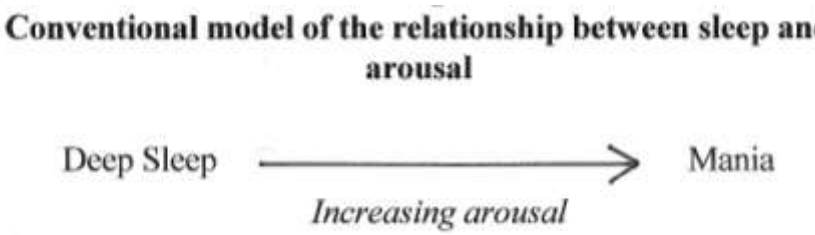
(15-20 Hz) electroencephalogram intermixed with theta[3] waves, similar to that of alertness [...]. (Parkes 1985, p.17)

The distinction between Stage 1 sleep and the paradoxical or REM phase will be discussed further in Chapter 4. For the moment it will be sufficient to repeat that Stage 1, not REM, is the phase of sleep that, in my view, underlies the phenomena of both out-of-the-body experiences and psychosis.

A model for out-of-the-body experiences

We normally think of arousal as forming a linear continuum in relation to sleep, as represented in Figure 3.1.

Figure 3.1

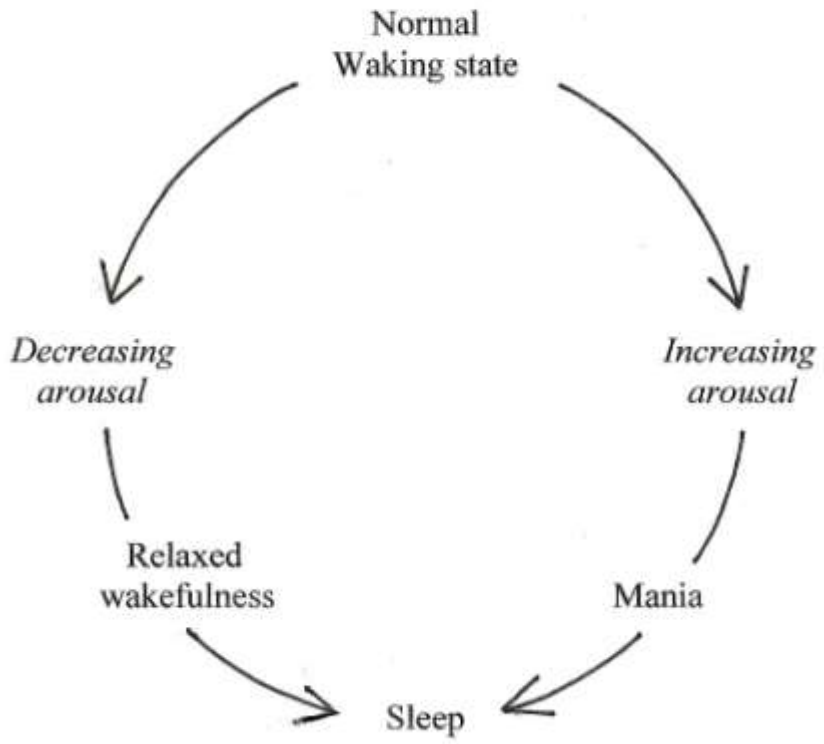


However, it may be that the situation could be more accurately represented as in Figure 3.2, below, with both extremes of arousal ending in sleep.

[3] See Glossary for a definition.

Figure 3.2

Preferred model of the relationship between sleep and arousal



In Chapters 4 and 5 I shall be suggesting that the above model gives us a way into a theory of psychosis. Meanwhile, in the present chapter we will consider how it may shed light on the aetiology of hallucinatory episodes in the sane, and in particular the type of hallucinatory episode which forms the chief subject of this book, namely the out-of-the-body experience.

As Irwin (1985) points out, out-of-the-body experiences seem to occur in conditions either of extremely low or extremely high cortical arousal. Green (1968b), for example, found that three-quarters of a group of 176 subjects who reported a single such experience were lying down at the time it occurred, and 12% of these considered they had been asleep at the time it started. A common

form of the experience is in fact for the subject to seemingly wake and find him- or herself apparently up near the ceiling of the bedroom looking down at themselves lying in bed.

The following is an example from one of my own subjects which occurred during conditions of low arousal, and in which the out-of-the-body experience may well have occurred during a brief episode of Stage 1 sleep.

> The second time was two years ago. I was meditating. I used to sit with a group of friends once a week [...] I suddenly found myself standing at the side of my chair watching myself meditating. It was only for a minute or so and then I went back.[4]

Possible soporific triggers of OBEs: overwhelming or terrifying stimulation

By contrast with this last instance, a substantial minority of OBE cases occur under conditions that *prima facie* betoken maximum arousal, such as rock-climbing falls, traffic accidents, childbirth, or musical and spoken performances before an audience. I suggest that out-of-the-body experiences under this type of circumstance may be occurring during a moment of sleep triggered by extreme stress. Oswald (1962) refers to times when a sleep state 'results from overwhelming or terrifying stimulation' (p.30), and this would seem a good characterisation of many of the situations in which the out-of-the body experience occurs, as in the following case from one of my own subjects:

> My ex-husband and I had a row in which he tried to strangle me [...] I seemed to float above my body and could see myself slowly slide down

[4] I consider the relationship of meditation to out-of-the body experiences in more detail in a Chapter 8.

> the wall. Everything seemed to be in slow motion, but also I have this very beautiful serene feeling [...] The next thing I knew, I was waking up lying on the floor [...]

It might be argued that purely physiological factors may have played a part in the aetiology of the preceding case, since the reference to 'waking up' on the floor suggests that the victim lost consciousness due to the pressure on her neck. However, in the following case, in which the OBE state occurred in the context of a threatened assault, there seems to have been no actual physical contact between the potential victim and her would-be attacker. In this instance, therefore, it would seem that psychological factors were the main causal agent. I suggest that the subject's terror, leading to a state of hyper-arousal, was the trigger factor leading to a transient 'micro-sleep',[5] despite her upright posture. The subject was aged 21 at the time of the experience.

> I was living in London, and one night I was walking home about midnight along a brightly lit main road, when a man (who was drunk) attacked me from behind.
>
> I had passed him a few moments earlier and when I heard feet running up behind me, I knew it was him as there was nobody else about.
>
> I can say that I had never been then, or since then, so frightened. I had the feeling of being literally 'frightened out of my skin', as I turned round to face my attacker and scream. What happened then was that I seemed to be about 3 or 4 feet above and behind 'myself', looking down on myself and the man. It seemed to happen just at the moment that I screamed, but I could not be sure of that now, and I also had the impression that the man was looking up at me, but that may be incorrect too.
>
> However, he stopped and backed off and away, and although I was very scared still I continued home.
>
> I have never and will never forget that experience [...]

[5] A micro-sleep may be defined as a period of Stage 1 sleep, lasting as little as a few seconds, and occurring in the context of normal waking consciousness. See Oswald (1962, pp.60-63).

Possible soporific triggers of OBEs: restraint

As mentioned above, Oswald (1962, p.147) lists 'imposed restriction of movement' as one of three main triggers of sleep as a provoked reaction. He also refers elsewhere (p.161) to 'imposed motor restraint, whether physical or psychological', thereby making it clear that the relevant types of restraint are not confined to the physical, but may include purely psychological, or even social, constraints.

Green (1968b, pp.63-64) quoted two cases in which the correspondents reported an OBE as occurring while they were riding a motorcycle. The following is a case reported to myself in which a female motorcyclist reports an experience occurring under similar circumstances:

> [...] I have had two experiences exactly the same each time.
>
> First I must say I have had bronchitis for three months (Dec 86 to Feb 87) and I did wonder if it was the cause of it. Anyway I was riding my Honda 90cc motorbike on my way to [a town in southern England] to see my daughter-in-law and grandchildren, when all of a sudden I seemed to be outside of my body floating along by myself on the motorbike. I don't know how long it was, but it happened again about 2 weeks later. At the time I thought I had imagined it, until I saw you this morning on BBC.

I suggest that three sleep-generative factors may have been at work in this case: restraint, monotonous and repetitive sensory stimulation, and fatigue. To consider them in order:

Restraint: I suggest that a motorcyclist in motion is in a condition of self-imposed physical restraint, since his or her movements are strictly limited by the need to keep the machine in a stable position.

Monotonous and repetitive stimulation: the presence of this factor is hardly to be disputed; the sound of a motor-cycle engine might be called a paradigm case of a monotonous, repetitive auditory stimulus.

Physical fatigue: the subject mentions that she was suffering from bronchitis at the time of the experience, so she may well have been particularly prone to fatigue due to the illness.

It is interesting to note that the subject of one of Green's two motor-cycle cases seems to have come to the conclusion for himself that sleep, or some state akin to it, was involved in the aetiology of his experience, for he wrote:

> 'During the morning while driving fast along a road the drone of the engine and vibration seemed to lull me into a stupor and I remember I seemed to leave my motorbike like a zoom lens in reverse and was hovering over a hill watching myself and friend tearing along on the road below [...]' (Green 1968b, p.3)

The fact that the physical restraint is self-imposed in cases such as the motor-cycle cases quoted above does not invalidate the suggestion that it may have played a significant part in the genesis of the out-of-the-body experience. As indicated at the start of this section, Oswald (1962) makes it clear that sleep-generative restraint may be either physical or psychological, and may be either self-imposed or imposed by an agency outside the subject's control.

The restraint experienced by Oswald's own subjects in the experiment discussed at the start of this chapter, in which they were subjected to electric shocks while 'restrained' by attachment to EEG equipment, may be considered a mixture of the physical and the psychological. A human subject can fairly easily break free of EEG attachments if he or she decides to do so, but will tend to be restrained by social considerations, such as the desire not to offend the experimenter. The restraint experienced by the subjects of vigilance tasks may be regarded as purely psychological. Of such experiments Oswald remarks: '[...] subjects restrained by obligations to remain fixedly at their posts and in whose environment the potentially significant stimuli were monotonously

uniform, would tend rapidly to go to sleep, or at least to be liable persistently to suffer from lowered cerebral vigilance.' (Oswald 1962, p.162)

Restraint may also have been a factor in two of the cases cited earlier in this chapter. In the case of the woman who was being strangled by her husband, she was clearly being subjected to extreme physical restraint by an external agent. In the case of the woman being threatened by a mugging, self-restraint may have been a relevant factor, for by turning and facing her would-be attacker she was presumably having to overcome an instinctive flight reaction.

The so-called 'emergency' or 'flight-or-fight' reaction to a crisis might perhaps be better characterised as the 'flight, fight or fall asleep' reaction. As Gleitman points out, emergency situations may produce still different reactions from flight and fight: 'Some animals become paralyzed by fright and stand immobile – an adaptive reaction since predators are more likely to detect and strike prey that is in motion.' (Gleitman 1995, p.83)

Any anxiety-provoking social situation in which a natural flight reaction has to be overcome by the subject is one in which self-imposed restraint is a possible trigger factor. Examples of such situations in which OBEs are sometime reported to occur include: dinner parties, interviews, and public performances of various kinds, such as speeches or musical performances. The following is a case in which the out-of-the-body experience occurred during a stressful interview:

> In 1959 I went together with my husband for a very important interview which could change our whole life. It was to an adoption society for an interview with the woman who had the final say as to whether we were a suitable couple to adopt a child. Needless to say we were both very nervous. During the interview I suddenly found myself looking down on the three of us yet I was able to hear and reply to all the questions asked of me. At that time I knew nothing of out of body experiences [...]

I would tell you that we were accepted by the society and adopted not one but three children.

Possible soporific triggers of OBEs: delay

So far we have confined our discussion to the three main potentially sleep-generative factors listed by Oswald at the start of this chapter: overwhelming fear, monotonous stimulation, and imposed restriction of movement. However, Oswald (1962, p.160) also lists two other factors which can potentially trigger sleep, *delay* and *relief*:

As regards delay he writes: 'In all instances of repetitive stimulation there is a delay, or a waiting period, between each stimulus and […] humans tend to fall into a brief sleep while waiting between recurring events.' It is interesting to note, therefore, that Oswald cites childbirth as a context in which sleep can occur during the delays between uterine contractions. He writes: 'A striking illustration of the sleep during recurrent waiting periods is that of the woman in the later stages of labour, who is often irresistibly overcome by sleep between each of her uterine contractions with attendant and recurrent physical and emotional climaxes.' (Oswald 1962, p.158) He does not cite any data for this observation, but since Oswald started his career as a medical doctor, one may suppose it to have been based, either on personal observation, or anecdotal evidence from colleagues, or both.

Childbirth is a context in which a number of my own subjects reported out-of-the-body experiences. Here is an example:

My son was born fifteen years ago in the maternity hospital [...] I was in labour from 10.50 a.m. Sunday the 31st October until around 11.30 p.m. Tuesday 2nd November.

In the latter hours of the labour whilst in extreme pain, I suddenly 'blacked out' and found myself looking down at the room from the ceiling.

> I was alone at this time. There was no longer any pain and I did not consciously realise that I was looking at myself, although I did find the scene beneath very interesting.
>
> I was able to relate later to the nurse who entered the room during this time everything she had done, including leaning over me to press the emergency button, pushing her hair back under her cap, dropping something on the floor, and also the doctor coming into the room rather hurriedly. Unfortunately the doctor was leaning over me and so from above I could not see what he was doing, but I was told later he had given me an injection. About this time, the pain returned and I blacked out again. When I returned to consciousness, I found I had had tubes put into both my wrists and a tube into my nose.
>
> I was told that my heart had stopped for a brief time. I have not since this had any other experiences of this nature (nor had I before) [...]

It will be seen that this correspondent comments on what we may call a 'natural anaesthesia' produced during the experience, and which we may suppose has adaptive value.

It is possible that, in addition to the factors of delay and repetitive cycles of pain during childbirth, the factor of restraint is also relevant in this situation. It seems that there is still controversy as to the best position to be adopted during delivery of a child, and certainly there are wide cross-cultural differences. It seems possible that some women feel constrained to remain in a position that does not feel natural to them, and left to themselves would instinctively adopt some other position, but refrain from moving due to the social pressure to follow the instructions of the doctor or midwife present. If that were the case, we might have here a situation of self-imposed physical restraint.

Possible soporific triggers of OBEs: relief

As regards relief, Oswald writes:

> I have seen subjects who did not lapse into sleep during repeated electric shocks, but did so within a minute after the shocks ceased, or who did not show marked sleep signs in their EEGs while moving endlessly to the rhythm of the very loud music made by an entire jazz band, but who showed sleep signs almost immediately in their EEGs when quieter or solo passages were played. (Oswald 1962, p.160)

The factor of relief is perhaps less easy to identify in accounts of OBEs than a factor such as overwhelming or terrifying stimulation, since it is more subjective and ambiguous. However, one may speculate that something like relief may have been at work in a case such as the following. The correspondent was a former State Enrolled Nurse, now working as an hotelier. She was 68 at the time of writing.

> I had been to church to receive the Sacrament and was walking home when I felt myself cleansed physically and spiritually. I was out of my body and could see it walking along and could not understand how it could continue to do so without me. It was an experience I will never forget. [6]

Another case which may illustrate the phenomenon of an OBE occurring in response to relief is the following. The correspondent in this case was a girl of 13 at the time of the experience and in what she describes as 'a highly stressed state', due to her mother being in hospital and herself having to look after her younger sister of 7. She also describes herself as having been afraid of the dark and lying in bed 'literally scared stiff' just prior to the experience. We may therefore surmise that she was in a highly aroused state. However, the OBE

[6] It is interesting to note that, despite this experience, this correspondent answered 'No' to the Palmer question (quoted above), designed to determine whether or not an individual had had an out-of-the-body experience, perhaps illustrating the difficulty of framing a question on this topic that is simple and unambiguous enough not to generate any false negatives, as it appears to have done in this case, but at the same time sufficiently rigorously worded so as not to generate false positives.

followed immediately after apparitional experience, which she found reassuring, as she believed it to be the figure of Jesus, come to tell her not to be afraid.

> I am now 44 years old, but remember clearly having an experience like that[7] at the age of 13 years.
>
> It's never happened since and I've never told anyone for fear of being thought of as weird. [...]
>
> I was in a highly stressed state the night I had the OBE. I was only 13, and I had to care for my little sister of 7 as our mother was in hospital and we had no other family. So, for 3-4 weeks I had to look after us both, and then, as now, I was afraid of the dark. But I had to appear brave to everyone, especially my sister.
>
> We were laying in bed together one night and as usual I was sweating at every crack the house made. I was literally scared stiff laying there when I became aware of a figure in a long white gown approaching the bed. It soundlessly came and stood beside me. In my childlike way I remember distinctly thinking it was Jesus, and he had come to tell me not to be afraid. I wasn't aware of any words, but I did feel comforted.
>
> I remember wanting to look up into the face of this "person", but I was afraid to, thinking you shouldn't look upon Jesus but accept his presence and accept the "peace" he was offering. So I closed my eyes and when I opened them again he was gone, and it was then I became aware of floating into the air. I thought I was floating until I looked down and saw us both lying in the bed. For what seems just a minute or two I watched us, and looked over us protectively, and the next minute I was back in my body and feeling a lot better. [...]
>
> I am a Christian by the way. I have a very strong faith, but can find no explanation for thinking it was Jesus who stood beside me that night. I really don't know what to think about it, but I think in the back of mind I am still thinking that.

[7] The correspondent is referring to the experiences described in a *She* magazine article appealing for cases.

It is interesting to note a feature of this case which may also be consistent with the model of OBEs I am putting forward. The correspondent identified the figure in the way she did despite the fact that she could 'find no explanation for thinking it was Jesus'. In other words there seems to have been insufficient visual cues on a conscious level to 'justify' such an identification. I suggest that this sort of disconnection between explicit perceptual content and intellectual interpretation of the content is a feature of dreams. For example, we may identify someone in a dream with a person who is known to us in waking life, but then decide on waking that they looked nothing like the real person in question. We shall refer to this phenomenon again in Chapter 8 when we come to consider the question of delusory beliefs in psychosis.

'Not like a dream'

In the remainder of this chapter I shall consider two possible objections to the model of out-of-the-body experiences as a phenomenon of sleep. The first of these concerns the phenomenology of the experience, namely the fact that the subject him- or herself may deny that the experience was like a dream.

Subjects sometimes comment explicitly to this effect. The following is an instance; the correspondent is describing the first of two experiences she had as a teenager.

> The first occurred whilst sleeping but was much stranger than a vivid dream. Suddenly I found 'myself' hovering about twenty feet above the ground outside the house I lived in. It was like flying. I was just a formless entity without actual body and experienced a feeling of happiness and wonder. I felt I could have travelled anywhere like this but felt afraid and 'willed' myself back into my body again to awake very disturbed [...]

In the following case the correspondent is even more emphatic that the experience was not like a dream in the sense in which she understands the word. This case also illustrates the phenomenon of what we may call ‘natural anaesthesia’, which is sometimes associated with the OBEs.

> After having an operation for hemorrhoids, I was lying there not feeling too well. What happened after that I just don’t know, but every pain left my body, and I was floating on air, and I was outside my body, watching myself moving higher and higher on this cloud, rolling myself into a ball and flexing my body, saying to my family, ‘Look mom. No pain’. My hair was shining, my flesh so soft. It was fantastic, really something you can’t describe. It was wonderful.
>
> But so real! Don’t let anyone make you think it was a dream. It was real, very very real. There’s no way you ever forget the experience, and I never want to.
>
> I was only 40 then. I’m 68 now, but when I feel down, I always think about the feeling of being perfect with no pain. You forget a dream, but no way could you ever forget this.

The following is a third case in which the subject asserts that the experience could not have been a dream:

> [This] happened twenty five years ago, when I was thirty one years old. Seven and a half months pregnant with my first child, I was just waking up and thinking about getting up out of bed, when a loud buzzing noise like a dynamo began in my left ear and head. I was mystified and apprehensive, and couldn’t imagine what it was, although I’d heard this noise a few months before, again in bed in the morning.
>
> Suddenly the whole room spun rapidly, really fast. The next thing I was out of my body, two feet above the bed, looking down at the other “me” on the bed. My first thought was that I wasn’t as good looking as I’d thought, then a lovely feeling of silence. I thought what does it matter really, and how silly the world was to rush about and worry the way we all do now and then. I thought about floating up to the ceiling, and in an instant I was up there in the corner of the bedroom.

> All the time I was wondering about how I would get back into my body. My mind was crystal, crystal clear. Then I thought if I took a deep breath, I would get back, so I did, and I was back instantly and very puzzled. But I do know I can live outside of my body.
>
> Years later I told my husband who said it must have been a vivid dream. It was not. Absolutely not.

It will also be clear from other accounts quoted in this book, even in the absence of any such comments as those in the three cases above about the unlikeness to a dream, that the phenomenology of OBEs does not resemble the sorts of nocturnal experiences most people are familiar with, which are dramatic, narrative dreams occurring in the middle of the night.

I suggest that this is what we would expect if OBEs are a phenomenon of Stage 1 sleep, whether descending or ascending, and not rapid eye movement (REM) sleep, which is the type of sleep typically associated with dramatic, narrative dreams.

Two characteristics likely to be present in Stage 1, as opposed to REM, dreams and which I would like to highlight are: *externalisation*, and *realism*. By 'externalisation' I mean that the hallucinatory element appears to the subject to be superimposed on his or her real environment at the time, i.e. his or her bedroom in most cases. Indeed, in the case of Type 2 false awakenings and out-of-the-body experiences, the hallucinatory element may *be* the subject's bedroom with nothing else superimposed. By contrast, I suggest it is relatively unusual for the subject of a REM-type narrative dream to be set in the subject's bedroom.

As for the second characteristic, 'realism': in this context I mean that the perceptual quality of the experience tends to mimic that of waking life more closely than does a REM-type dream.

I shall give some examples of apparently externalised and realistic auditory hallucinations occurring in the hypnagogic state in the next chapter, when discussing the phenomenology of Stage 1 sleep.

Meanwhile, on a question of definition: I propose the term 'dream' may legitimately be applied to any hallucinatory experience occurring during any stage of sleep, whatever the phenomenology of the experience may be. In other words, the subject's assessment of whether an experience resembles the sorts of nocturnal experience with which he or she is familiar should not be part of the criterion of a dream.

As to what constitutes sleep, I shall be suggesting in the next chapter that electrophysiological measures, and in particular the EEG, are the ultimate arbiter of whether a person should be said to be awake or asleep at any given time, and not the subject's own impression, which under various circumstances can be mistaken.

Paralysis and out-of-the-body experiences

A second possible objection to the theory I am putting forward is that a minority of OBE subjects report being, or at least feeling, paralysed at some stage in their experience. Green (1968b), for example, found that nearly 5% of her population of 400 subjects reported paralysis either before, during or after an out-of-the-body experience.

The following is one of my own cases which exhibited this feature. The experience is reported as occurring in what may well have been the hypnagogic state, as the correspondent was lying down, having gone to bed, at the time:

> My out of the body experience happened ten years ago. I had gone to bed and closed my eyes, and it was if a rushing wind filled my body. I was completely paralyzed. I tried to move my arms and legs, but could not. Then I left my body and hovered slightly above. I remember a white light

> coming down that seemed to draw me. I was terrified, and struggled to get back into myself, and then I was back to normal again.
>
> This only happened once, although I have had several experiences of being trapped in body and unable to move. My husband has seen me when I have been like this, and says I look terrible.

At first sight the occasional occurrence of paralysis in conjunction with the OBE state might appear in to be in conflict with the hypothesis put forward here, that it is Stage 1 sleep that is implicated in OBEs, since paralysis is usually regarded as characteristic of REM sleep, not of Stage 1.

However, there are two points to be made in this connection. First, there is the fact that the majority of OBEs appear not to involve paralysis, a fact that would require explaining if REM sleep was indeed the underlying mechanism.

Since many cases – possibly a majority – occur when the subject is lying down, it might be argued that the figure of 5% of subjects reporting paralysis quoted above may represent an underestimate of the actual number of cases in which paralysis occurs, since subjects may not always try to move during an out-of-the-body experience, and may therefore not notice that they are paralysed when in fact they are. However, even if this were true in some cases, this would still leave to be explained those cases in which the subject is not lying down, and indeed may be walking or carrying out some perceptual-motor task such as riding a motor-cycle or playing a musical instrument in a concert.

The second point I would make is that paralysis appears to occur on occasion in other stages of sleep than REM. In particular, the phenomenon known as Sleep Paralysis can occur in both the hypnagogic and hypnopompic states, i.e. in both descending and ascending Stage 1 sleep, and with or without accompanying hallucinations. Parkes, for example, estimates that Sleep

Paralysis occurs 'at least once in a lifetime in up to 40-50% of all normal subjects.'[8]

The sensation of a 'rushing wind' reported by the last subject as filling her body is reminiscent of the anomalous sensations which are sometimes reported as occurring in conjunction with Sleep Paralysis. It is also worth noting that this correspondent mentions that she has experienced paralysis on other occasions without the accompaniment of an OBE.

The following is another case which has features which bear a striking resemblance to some reports of sleep paralysis episodes, particularly in respect of the 'roaring sound' which the subject reports went through her head at the start of the experience:

> I have had such an experience on January 25 1978, between 2.30 to 3 p.m.
>
> I was sitting down drinking a cup of tea, when suddenly a roaring sound went through my head, also, I stiffened up and couldn't move. Also, I couldn't see, when without warning, I found myself standing on top of my head, my other body was made up of streaks of light. I was a brilliant streak of white light.
>
> I could see everything clearly from where I was standing. Then I began to panic thinking that I had died, again without warning I was back inside my body.
>
> I've been out-of-my-body on numerous occasions but never as spectacular as the 25th of January '78. [9]

We may summarise the argument of this section as follows. Paralysis is generally regarded as a universal characteristic of REM sleep. However, paralysis is not a universal characteristic of OBEs, but is reported in only a

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[8] Parkes (1985), p.203.

[9] For a further discussion of Sleep Paralysis, its relationship to Type 2 false awakenings, and the nature and stage of sleep associated with it, see Green and McCreery (1994), pp.78-84. An overview of the phenomenon of Sleep Paralysis itself can be found in Parkes (1985), pp.202-205.

minority of cases. Therefore we must look for some other explanation of the paralysis that is sometimes reported as occurring in association with the OBE state. I suggest that Stage 1 sleep fits the criterion of being an occasional, but not a universal, mediator of paralysis. As mentioned above, Parkes (1985) estimates that SP occurs at least once in a lifetime in up to 40-50% of all normal subjects. This degree of frequency would be sufficient to explain the occasional occurrence of paralysis in OBE cases, if they are indeed occurring in Stage 1 sleep, but not so great as to preclude the occurrence of OBEs in Stage 1 without any accompanying paralysis.