Out-of-the-body experiences (OOBEs) have been reported throughout the ages. This account is primarily a demonstration of the feasibility of scientific study of such experiences. A tentative hypothesis is that "at least some . . . may be a mixture of dreaming and 'something else.'"

A SECOND PSYCHOPHYSIOLOGICAL STUDY OF OUT-OF-THE-BODY EXPERIENCES IN A GIFTED SUBJECT

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INTRODUCTION

Reports of people finding themselves "outside" their physical body have come down to us from the most ancient recorded history and from a multitude of different cultures. The typical experience usually contains some combination of the following elements: (1) floating; (2) seeing one's physical body from the outside; (3) thinking of a distant place while "outside" and suddenly finding oneself there; (4) possessing a nonphysical body; and (5) being absolutely convinced that the experience was *not* a dream. For the vast majority of people who report this, it was a once-in-a-lifetime experience, and, although it was frequently reported as pleasurable, they had no idea what caused it or how to make it re-occur. It was also puzzling to many of the reporters, as they had never heard of such experiences and did not know what to make of them.

Because of its apparently universal distribution across cultures and throughout history, the out-of-the-body experience (OOBE) constitutes what Carl Jung termed an archetypal experience — an experience potentially available to many members of the human race simply by virtue of being human. In the last fifty years, a very small number of scholars have taken an interest in the OOBE, but this interest has been almost wholly a matter of collecting case reports, documenting them, and doing some analysis on the content of these spontaneously occurring cases (Crookall, 1961, 1964a, 1964b; Hart, 1956; Muldoon and Carrington, 1953). The main exception has been the use of hypnosis in an attempt to produce the OOBE experimentally, but this is old work (Durville, 1909; Hart, 1953) that has not been repeated under decent conditions in many years.

Most of the interest in OOBEs has resulted from the fact that the content of the OOBE sometimes provides information about real-world events occurring at distant places, thus indicating the operation of some form of extrasensory perception (ESP). This latter fact is of considerable importance in attempting to understand the nature of OOBEs. Without it, one can regard them as interesting and unique forms of "subjective" experience, quite worthy of study in their own right. With the ESP component, the OOBE takes on the characteristics of an "objective" event, the ultimate understanding of which has important implications for our view of the nature of man.

The difficulty in advancing beyond these two conclusions about OOBEs is their once-in-a-lifetime characteristic. There are so many questions about the nature of OOBEs that can only be answered by observing them while they are occurring. I had an exceptional stroke of luck two years ago in finding a young woman who was apparently able to produce OOBEs while undergoing physiological measurements (Tart, C., in press). Laboratory studies of the physiological state of a person during a "naturally" occurring OOBE can not only give us information about the state of their nervous system *per se*, but may give us hints on how to produce that state by other means and thus possibly learn how to produce OOBEs in *many* people. If we could produce OOBEs at will in the laboratory, we could very rapidly solve many problems about the nature of the experience and the ESP component of the experience, in the same way that the 1953 discovery (Aserinsky and Kleitman, 1953) of the correlation between dreaming and a particular psychophysiological state, stage-1

electroencephelographic (EEG) pattern, and presence of rapid eye movements (REMs) brought about a massive increase in research on all types of dreaming and has immensely increased our knowledge in the last decade.

During the fall of 1965, I was again blessed with luck in making the acquaintance and friendship of a man (hereinafter referred to as Mr. X) who reported that he had experienced hundreds of OOBEs and was willing to try to produce them under laboratory conditions. Mr. X plans to describe his experiences in detail elsewhere (Anonymous, in press), and this paper will be concerned only with the psychophysiological studies I was able to carry out with him.

METHOD

Mr. X was monitored for nine sessions[1] at various times between December, 1965, and August, 1966. Eight of the sessions were in the evening, generally from about 9 P.M. to midnight or later; one was an all-night study of sleep patterns. I ran the equipment for the first four sessions; a technician, Mrs. Beverly Hudgins, for the later sessions.[2] In addition, a full-scale clinical EEG report on Mr. X was obtained from Dr. Lever Stewart, of the University of Virginia Hospital, in order to check for any EEG abnormalities.

In the experimental session, Mr. X had electrodes attached to his head for recording EEG (generally right and left frontal-to-vertex and vertex-to-occipital leads), REMS (standard electro-oculographic method), and heart rate (a chest-to-ear electrocardiogram lead). These potentials were recorded on a Grass EEG machine, at a paper speed of 15mm/sec. The subject reclined on a cot in one room; the technician and equipment were in a second room. A window between the rooms allowed the technician to observe the subject.

Data from two of the earlier experimental sessions had to be discarded, as the notes on equipment settings had been lost in the course of moving the data across country; this made the EEG tracings very difficult to interpret.

Because Mr. X believed many of his OOBEs contained ESP elements, the following test situation was set up during each laboratory session: A shelf was attached to the wall in the equipment room (*not* the subject's room), about six feet above the floor, above eye level. After Mr. X was in bed, the technician removed a cardboard strip from a sealed envelope and placed it face up, without looking at it, on the shelf. A five-digit random number, different for each session, had been drawn in large figures on the face of the strip. This number, the target, was prepared by me and given directly to the technician, so that Mr. X would have no ordinary way of knowing what it was. He was instructed to try to float near the ceiling of the equipment room, observe the face-up target, and memorize the number if he had an OOBE. In the first four sessions, I knew what the number was but did not tell Mr. X; in the remainder I knew but was not present; the technician placed the target on the shelf without looking at it and so did not know what it was until the conclusion of the evening's experiment.

Before presenting the results of the experimental sessions, the following section will describe the EEG and its nature during sleep and dreaming, for those readers not acquainted with this area of knowledge.

BRAIN WAVES, SLEEP AND DREAMING

If small electrodes are glued to the scalp and connected to very sensitive amplifiers, fluctuating electrical potentials will be found. These potentials arise from the electrical activity of the brain. Since what is detected on the scalp is a composite mixture of the activities of billions of brain cells, no particular kind of electrical activity can be associated, *in detail,* with the functioning of a particular area of the brain. However, various patterns of electrical activity recorded from the scalp — the EEG — have been associated with different states of consciousness (Hill and Parr, 1963). The primary states that can be distinguished are waking and sleeping. Within the waking state, one may distinguish various degrees of activation or alertness, ranging from rather frantic hyperalertness (emotional excitement or hard mental work) through relaxed attentiveness to drowsiness. Extreme alertness is associated with a low-voltage, generally fast and irregular pattern of 10 to 20 microvolts amplitude and frequencies ranging from 10 to 40 cycles per second (cps). Relaxed alertness is accompanied in many people by the alpha rhythm, a rather regular, sinusoidal rhythm whose frequency varies from about 8 to 13 cps, although in a single person the frequency is relatively constant. As a person becomes drowsy, this alpha rhythm breaks up, clusters of it becoming less and less frequent as they are replaced by a stage-1 drowsy pattern. Consciousness waxes and wanes with the alpha rhythm, although it is impossible to say clearly at exactly what point consciousness is lost. The transitional state between waking and sleeping is called the hypnagogic state. Many people experience fairly vivid imagery as they pass through this state into sleep, but little else is known about its psychological characteristics.

The stage-1 EEG pattern consists of an irregular mixture of theta waves (between 4 and 8 cps, low in amplitude), occasional alpha waves, and alphoid waves appearing irregularly (waves like the alpha rhythm but 1 or 2 cps slower than the subject's waking alpha rhythm).

Sleep is definitely present when a stage-2 EEG pattern shows. This pattern is like the stage-1 drowsy pattern except that a new kind of wave pattern, the sleep spindle, appears. These are short bursts of waves,

at about 14 cps frequency, which start at a very low amplitude, build up to about 30-40 microvolts within a few cycles, and then taper off, giving the overall wave train a spindle shape.

Sleep is further divided into stages 3 and 4. These stages are characterized by the appearance of delta waves, which are high-voltage (100 microvolts or more), slow (one cps or slower) waves. A few of these define stage 3; a preponderance of them define stage 4. Spindles and irregular theta waves continue in stages 3 and 4.

Stages 1 through 4 were initially conceived of as comprising a continuum from "light" to "deep" sleep, but many other measures of the depth of sleep contradict this ordering. Stage-1 sleep occurring later in the night seems to have very distinct characteristics which make it a distinct *kind* of sleep, while stages 2, 3 and 4 do seem to comprise a depth continuum in a second *kind* of sleep.

Stage-1 EEG sleep periods later in the night are accompanied by binocularly synchronous rapid eye movements (REMs), highly variable heart rate and breathing, and an inhibition of nerve transmission to the muscles.

If subjects are awakened from the two types of sleep and asked to report what they have been experiencing, the reports may be classified into two rather distinct types. One type — awakenings from stage-1 sleep or shortly (within, roughly, 10-15 minutes) after stage-1 sleep has changed to nonstage-1 sleep — possesses the characteristics traditionally associated with the experience of dreaming. Reports from nonstage-1 sleep seem more like "thinking" and are generally called thinking by the subjects (these same subjects generally refer to their stage-1 experiences as dreams). The psychological differences reported so far are quantitative, rather than being completely dichotomous, but generally give the impression of distinct types of experiences.

Stage-1 sleep is almost always accompanied by REMs, and the evidence is very convincing that these are closely associated with the content of the dream, if not actual scanning movements of the dream imagery. Such REMs have not been reported in non-stage-1 sleep, although there are some slow, rolling movements of the eyes.

For normal subjects, stage-1 dreaming and nonstage-1 sleep alternate in a regular, cyclic fashion, the sleep-dream cycle. As a subject falls asleep, there is generally a brief period (a few seconds to a minute or two) of stage 1, without REMs, but subjects' reports indicate that this is a period of hypnagogic imagery rather than typical dreaming. At approximately 90-minute intervals throughout the night there are periods of stage-1 dreaming, each dream period generally being longer than the preceding one. The first stage-1 period may last for 10 minutes; the fourth or fifth may last as long as 50 minutes. Altogether, stage-1 dreaming occupies between 20% and 30% of the total sleep time of most young adults, spread over three to six stage-1 periods. While the exact percentage of dream time and the number of cycles vary from subject to subject, for a given subject the sleep-dream cycle is generally quite stable from night to night. Extensive and detailed reviews of the new sleep and EEG literature may be found elsewhere (Dement, 1965; Foulkes, 1966; Kleitman, 1960, 1963; Oswald, 1962; Snyder, 1963, 1965).

Thus, a laboratory study of a subject producing OOBEs should be able to indicate (if the approximate time of the OOBE can be judged from the subject's report) the EEG pattern accompanying the OOBE. This pattern can be inspected to see whether the OOBE occurs in conjunction with a known stage of sleep or in an entirely unknown state. Intensive analysis of EEG patterns (not possible without expensive equipment) might even reveal which areas of the brain seem to be involved in the production of OOBEs.

RESULTS

The report of the full-scale clinical EEG on Mr. X describes his waking brain-wave activity as a quite well-developed, well-regulated, symmetrical, rather generalized 10 cps alpha rhythm which predominated posteriorly and altered appropriately on eye opening. Once, Mr. X tried to produce "spikes" in his EEG activity, and at another time he tried to produce a "vortex in the brain's electrical activity"; but neither of these subjective experiences was accompanied by any clear EEG change. The EEG pattern at these times was almost continuous alpha rhythm, indicating relaxed alertness. Intermittent runs of rather fast 13 cps alpha activity appeared in the frontal portions of Mr. X's EEG recording at times, but the significance of such rhythms is unknown (Hill and Parr, 1963). The examining physician felt that the waking EEG was within normal limits.

In the experimental sessions, Mr. X reported considerable difficulty in adjusting to the EEG electrodes, primarily because of a clip-type electrode on the ear which made it mildly painful for him to lie on his side on the cot. This was a technical oversight. He did not feel that he was successful in producing an OOBE until the next to the last session, at which he was apparently successful. This will be described in detail below.

A general characteristic of all the experimental sessions was the finding that Mr. X's EEG showed such a variety of changes that it was quite difficult or impossible to classify it in the conventional waking and sleeping patterns on many occasions. His EEG was highly variable in both frequency and voltage. For

example, he showed alpha rhythm frequencies ranging from 8 to 13 cps — an unusually large range — with voltages ranging from 40 to 100 microvolts. His sleep spindles ranged in frequency from 14 to 17 cps,[3] 30 to 100 microvolts; almost every other subject I have seen in the laboratory has shown sleep spindles that were at 14 cps, and 14 cps only. Frequently, the theta waves in his sleep patterns showed bursts of three to eight theta waves which had amplitudes of 150 to 200 microvolts; I have never seen theta activity in other subjects exceed about 50 microvolts. Finally, although Mr. X frequently fell asleep, I found no instances of clearly developed delta waves in any of his EEG patterns, whereas one generally sees delta waves within half an hour of falling asleep in all subjects. Thus, almost all of the subject's sleep patterns were classified as stage-1 or stage-2 — never as stage-3 or -4, because of the lack of delta waves. Whether the very high voltage theta waves constituted "speeded up" delta waves is unclear. There is some sparse indication in the sleep literature that delta waves may normally be rare in men in the 50-year-old range. By and large, however, the empirical data has not been published that would indicate how atypical Mr. X's sleep patterns are, much less what this atypicality "means." On the basis of my personal sleep laboratory experience (primarily with adult males in the 20-30-year age range), Mr. X's sleep EEG patterns look very atypical; and the classification into stages 1 and 2 was often quite tentative, due to the lability of his EEG.

All but one of the experimental sessions were attempts by Mr. X to produce OOBEs. When the EEG pattern indicated that he had been asleep for a long period of time, he was usually awakened by the technician and reminded of the experimental task of having an OBBE. Stage-1 dreaming was seldom noticed in any of the other records, although I would have expected some from ordinary subjects.

There were a number of instances in which the subject reported that he had not been asleep — i.e., that he had remained conscious — between interruptions by the technician. However, the EEG record showed stage-1 drowsy states and/or stage-2 sleep states during these times. To know how to interpret this is difficult, as a number of recent studies indicate that sleep is not a period of total unconsciousness punctuated by the strange consciousness of dreaming. Rather, there seems to be a rudimentary sort of conscious awareness during nondreaming, nonstage-1 sleep for many subjects, although memory of it is quite poor and its content is usually sparse and nonhallucinatory (Baldridge, Whitman, and Kramer, 1965; Fiss, Klein, and Bokert, 1966; Foulkes, 1962, 1964; Goodenough, Lewis, Shapiro, Jaret, and Sleser, 1965; Monroe, Rechtschaffen, Foulkes, and Jensen, 1965; Rechtschaffen, Verdone, and Wheaton, 1963). Descriptively, it seems as if normal thought processes went on at a very slow rate. Mr. X may have a particularly good recall of nonstage-1 sleep, or he may be conscious to an unusual degree in this state.

There was a good deal of slowed alpha activity (so-called alphoid activity) scattered throughout Mr. X's records. Much time was spent in borderline states between sleep and full waking, i.e., in stage-1 EEG pattern without REMs.

Heart rate was quite steady in all the sessions, ranging between 65 and 75 beats per minute across sessions and seldom varying more than a few beats per minute within any individual session.

For the final session, Mr. X slept in the laboratory throughout the night without attempting to produce any OOBEs; we were interested in what his normal sleep cycle looked like. The timing and length of the stage-1 dream periods seemed normal and, except for the EEG peculiarities mentioned earlier (no delta, varying frequency of spindles, etc.), there was nothing remarkable about this night.

During the eighth session, Mr. X reported two OOBEs. He had spent an hour trying to get comfortable, with little success because of the discomfort of the electrodes. Then he took a ten-minute break for a cigarette (without leaving his cot). I quote now from his report, written by him the following day, of succeeding events:

"After some time spent in attempting to ease ear-electrode discomfort, concentrated on ear to 'numb' it, with partial success. Then went into fractional relaxation technique again. Halfway through the second time around in the pattern the sense of warmth appeared, with full consciousness (or so it seemed) remaining. I decided to try the 'roll-out' method[4] (i.e., start to turn over gently, just as if you were turning over in bed using the physical body). I started to feel as if I were turning, and at first thought I truly was moving the physical body. I felt myself roll off the edge of the cot, and braced for the fall to the floor. When I didn't hit immediately, I knew that I had disassociated. I moved away from the physical and through a darkened area, then came upon two men and a woman. The 'seeing' wasn't too good, but better as I came closer. The woman, tall, dark-haired, in her forties (?) was sitting on a loveseat or couch. Seated to the right of her was one man. In front of her, and to her left slightly was the second man. They all were strangers to me, and were in conversation which I could not hear. I tried to get their attention, but could not. Finally, I reached over, and pinched (very gently!) the woman on her left side just below the rib carriage. It seemed to get a reaction, but still no communication. I decided to return to the physical for orientation and start again.

"Back into the physical was achieved simply, by thought of return. Opened physical eyes, all was fine, swallowed to wet my dry throat, closed my eyes, let the warmth surge up, then used the same roll-out technique. This time, I let myself float to the floor beside the cot. I fell slowly, and could feel myself passing through the various EEG wires on the way down. I touched the floor lightly,

then could 'see' the light coming through the open doorway to the outer EEG rooms. Careful to keep 'local,' I went under the cot, keeping in slight touch with the floor, and floating in a horizontal position, fingertips touching the floor to keep in position, I went slowly through the doorway. I was looking for the technician, but could not find her. She was not in the room to the right (control console room), and I went out into the brightly lighted outer room. I looked in all directions, and suddenly, there she was. However, she was not alone. A man was with her, standing to her left as she faced me.

"I tried to attract her attention, and was almost immediately rewarded with a burst of warm joy and happiness that I had finally achieved the thing we had been working for. She was truly excited, and happily and excitedly embraced me. I responded, and only slight sexual overtones were present which I was about 90% able to disregard. After a moment, I pulled back, and gently put my hands on her face, one on each cheek, and thanked her for her help. However, there was no direct intelligent objective communication with her other than the above.[5] None was tried, as I was too excited at finally achieving the disassociation—and staying 'local.'

"I then turned to the man, who was about her height, curly haired, some of which dropped over the side of his forehead. I tried to attract his attention, but was unable to do so. Again, reluctantly, I decided to pinch him gently, which I did. It did not evoke any response that I noticed. Feeling something calling for a return to the physical, I swung around and went through the door, and slipped easily back into the physical. Reason for discomfort: dry throat and throbbing ear.

"After checking to see that the integration was complete, that I 'felt' normal in all parts of the body, I opened my eyes, sat up, and called to the technician. She came in, and I told her that I had made it finally, and that I had seen her, however, with a man. She replied that it was her husband. I asked if he was outside, and she replied that he was, that he came to stay with her during these late hours. I asked why I hadn't seen him before, and she replied that it was 'policy' for no outsiders to see subjects or patients. I expressed the desire to meet him, to which she acceded.

"The technician removed the electrodes, and I went outside with her and met her husband. He was about her height, curly haired, and after several conversational amenities, I left. I did not query the technician or her husband as to anything they saw, noticed, or felt. However, my impression was that he definitely was the man I had observed with her during the non-physical activity. My second impression was that she was not in the control console room when I visited them, but was in another room, standing up, with him. This may be hard to determine, if there is a firm rule that the technician is supposed to always stay at the console. If she can be convinced that the truth is more important in this case, perhaps this second aspect can be validated. The only supporting evidence other than what might have appeared on the EEG lies in the presence of the husband, of which I was unaware prior to the experiment. This latter fact can be verified by the technician, I am sure."

Since Mr. X recalls rousing himself as soon as the second OOBE was ended and reports a "normal" state (in which we would presumbly expect a waking EEG pattern) shortly before that, as he "checked in" on his physical body, it should be possible to correlate the EEG pattern fairly closely with the experiences.

The following parallel between EEG patterns and reported experiences emerges. As he tried to produce an OOBE, after the cigarette break, his EEG shows almost continuous alpha rhythm for a period of eight minutes (as much as 64% of the record would be filled with well-developed alpha) — which probably corresponded to his attempts to numb his painful ear. Then there was a four-minute period when the alpha was interrupted by short bursts of stage-1 drowsiness; then a ten-minute period of predominant stage 1-drowsiness — interrupted, however, by bursts of alpha rhythm. This period probably corresponds to the fractional relaxation technique; whether it corresponds to the feeling of "warmth" and "roll-out" is unknown. There then followed a seven-minute period of stage-2 sleep, which included the unusually high-voltage theta waves often seen in his recordings. It is possible that the "warmth" and "roll-out" could have occurred in this time rather than earlier. Then there were three minutes of stage-1 dreaming sleep with REMs, a body movement and awakening that lasted about 40 seconds; three more minutes of stage-1 sleep with REMs; and a final awakening, at which point Mr. X called out to the technician and described his two OOBEs. The EEG pattern during these two periods was clearly stage-1 EEG, without the ambiguity of many of the other classifications. It seems probable that the first OOBE occurred during the three minutes of the first stage-1 REM period, that the 40 seconds of wakefulness corresponded to the "checking in, opening eyes, swallowing," and that the second three-minute stage-1 REM period corresponded to the second OOBE. The "warmth" and "roll-out" could also have occurred at the beginning of the first stage-1 REM period.

The main difficulty in being certain of this parallelism between the EEG findings and the reported OOBE sequence was that Mr. X later reported to me that the OOBEs seemed to last for only about 30 seconds each, while the stage-1 REM periods lasted three minutes each. Within the stage-1 patterns of shorter duration, there could have been fine EEG changes that were not obvious to visual analysis, but this is conjectural.

Heart rate was 70 beats/min. during the first stage-1 dream period and 65 beats/min. during the second, rates which were not at all unusual for Mr. X.

With respect to the question of whether there is an ESP component to Mr. X's OOBEs, the evidence from this study is fairly positive but inconclusive. Mr. X did not claim to have seen the target number, which would have provided very strong evidence for the operation of ESP. However, he did provide information about the technician's activities that is mildly evidential.

The technician made the following notes on the EEG record at the conclusion of the experimental session:

"Patient feels he succeeded in the experiment; in the first sleep he saw two men and one woman seated somewhere in the hospital — he pinched them. In the second sleep the patient saw me (the tech) and he said I had a visitor, which I did. However, it is possible that Mr. X may have heard the visitor cough during his [cigarette] break between sleeps. Mr. X states that he patted the visitor on the cheeks and tried to take his hand but that the visitor avoided. Mr. X recalls that he left the cot, went under it and out the door into the recording room and then into the hallway. . . . The patient did not see the number."

Thus, there is some indication that ESP may have been involved with respect to the technician's activities, but it is not at all conclusive. The material about the two men and the woman in the first OOBE could not be checked.

DISCUSSION

In discussing the findings, some limitations of the present study should be kept in mind. The first is the great variability in Mr. X's EEG patterns during his attempts to produce OOBEs — a variability whose significance is unknown because of a lack of published, normative data. The second is the tentativeness of sleep-pattern classification in many instances because of this variability. The third is the fact that only two brief OOBEs occurred in the course of this study (and these two were really one OOBE broken by a very brief arousal), so that is only a very small sample of Mr. X's OOBEs. Further work with Mr. X is needed, and in the future I hope to continue this sort of study with better physiological recording techniques and computerized analysis of the EEG recordings. Thus, the conclusions below are tentative.

Two major findings warrant further discussion:

The first is that Mr. X can spend a good deal of time on the borderline of sleep; to what extent the liability of his EEG patterns is a factor in this is unknown. A number of traditional occult techniques (Carrington, 1958; Fox, 1962; Muldoon and Carrington, 1956; Ophiel, 1961; Yram, 1965) involve gaining control over thought processes in borderline states in order to make constructive use of the potentialities of these states, particularly the enhanced imagery that occurs. Modern scientific research on the borderline state is just beginning (Bertini, Lewis, and Witkin, 1964; Foulkes and Vogel, 1965; Vogel, Foulkes, and Trosman, 1966; Witkin and Lewis, 1965), and we know little more about the psychological potentials of the hypnagogic state than we knew decades ago (Leaning, 1925; Woolley, 1914); the concentration in the last decade has been on the later stage-1 periods associated with REMs and dreaming. What has been done so far indicates that the initial stage-1, borderline state is like later stage-1 dreams in some respects and differs in others, both psychologically and physiologically. Little more can be said definitely about the borderline state at this time, although a number of research projects in various laboratories should provide us with far more knowledge in the next few years.

The fact that Mr. X spends considerable time in borderline states is also of interest in view of my earlier finding with the other gifted subject, Miss Z (Tart, in press). This woman had several OOBEs in the laboratory, and in her case they seemed associated with a borderline state. This borderline state was dominated by alphoid rhythms in the EEG. Mr. X showed such rhythms at times, although not as persistently as the previous subject. Future research should pay considerable attention to borderline sleep states.

The second major finding is that Mr. X's two OOBEs seem to have occurred in conjunction with a stage-1 dream state. Yet Mr. X sharply distinguishes his OOBEs from dreams. This raises a number of problems of interpretation. To say that his OOBEs are "just" dreams would be a gross oversimplification;[6] the two in the laboratory occurred in temporal conjunction with an EEG pattern usually associated with dreaming in normal subjects; yet Mr. X had several stage-1 dreams, in the all night session, that he did *not* awaken from and describe as OOBEs. Are his OOBEs dreams or something else?

The answer to this question centers around the term "dream." The term is commonly used as if there were only one kind of experience occurring during sleep, but a reading of many dream accounts will indicate that there are probably several psychologically distinct modes of mental functioning during sleep, all of which become lumped together confusingly under the term "dream." The distinction already found in many laboratories between the "slowed thinking" of nonstage-1 sleep and the vivid, hallucinatory activity of stage-1 sleep is a start toward more adequate classification and understanding. I believe future work will find several distinct types of experience occurring in the stage-1 state also — such as the "lucid dream" of van Eeden (1913) and Arnold-Forster (1921). I have indicated elsewhere some of the varieties of unusual behavior that can occur in "dreaming" (Tart, 1965), and the OOBE may be another type of behavior in which an ordinary stage-1 dream becomes converted into "something else," the mysterious OOBE.

Thus, the question of whether Mr. X's OOBEs are "just" dreams cannot be answered definitively at present. I would tentatively hypothesize, however, that at least some of his OOBEs (such as the two in the laboratory) may be a *mixture* of dreaming and "something else." That they are part dream may be concluded from their apparent conjunction with a stage-1

EEG pattern. In the same experience, on the other hand, there is fair evidence of contact with reality, of ESP, in his correct perception of the technician's absence from the equipment room and of her husband's presence. This is the "something else" that is mixed in with the dream. Many of the OOBEs Mr. X reports in his book seem to fit a similar pattern, a mixture of dream and something else. Only further investigation will indicate whether there are differing physiological concomitants of the dream portions and other portions of the OOBEs.

In conclusion, I would like to point out that the most important aspect of the present investigation, or of my earlier one, is not the tentative findings about Mr. X's and Miss Z's OOBEs; rather, it is the demonstration that OOBEs and similar "exotic" phenomena are not mysterious happenings beyond the pale of scientific investigation. With a proper respect for the phenomena and the persons who experience the phenomena, the advantages of scientific investigation can be gained, adding a valuable facet to our quest for understanding of the nature of man. If these studies should encourage other investigators to work with people who have such experiences rather than to automatically dismiss their experiences as "weird," they will make a lasting contribution.

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FOOTNOTES

[1]The monitoring was done in the Electroencephalography Laboratory of the University of Virginia Hospital. I wish to thank Dr. Lever Stewart for making these facilities available to me.

[2]This study was supported by a grant from the Parapsychology Foundation of New York City; Eileen J. Garrett, President.

[3]The 13-cps frontal alpha reported in the clinical examination may have been confused with some of the spindling.

[4]Mr. X has developed a number of techniques for producing OOBEs which are described in his forthcoming book (Anonymous, in press).

[5]Mr. X reports that he has frequently experienced "intelligent responses" from physically embodied persons during his OOBEs; but since the people almost never remembered it when he checked later, he did not believe that the technician had actually gone through the physical movements of an embrace.

[6]Because dreams are scientifically acceptable while OOBEs are not, the skeptic is tempted to say they are "just" dreams. It is of interest to consider the converse of this position—held by many occultists (Carrington, 1919; Fox, 1962; Muldoon and Carrington, 1956; Ophiel, 1961; Yram, 1965)—that dreams are "just" OOBEs in which consciousness is poorly developed!