Researching the Out-of-Body Experience: The State of the Art[1]

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ABSTRACT

Research conducted to date suggests that the out-of-body experience (OBE) is a common human experience, that it is not related to psychopathology, nor a quirk of mental imagery. Laboratory evidence has confirmed that the OBE is a psi-conducive state, though selected or gifted subjects seem to display paranormal faculties more readily while out of body than unselected subjects. There also seems to be some evidence that out-of-body projectors can be "detected" at distant locations by the use of animal, human, and sometimes physical detectors. There is no evidence that the OBE is a discrete neurophysiological state. Those findings taken as a whole suggest that the OBE actually represents the release of some element of the agent's mind from the body, though that theory is admittedly complicated by several uncertainties.

INTRODUCTION

Many researchers who have studied the near-death experience (NDE) have noted how the phenomenon seems similar to the classical or discrete out-of-body experience (OBE). An out-of-body experience may be defined as any experience in which the percipient finds his focus of consciousness spacially separated from his body. It would therefore seem essential for researchers, scholars, and students of the NDE to familiarize themselves with the rich body of both anecdotal and experimental literature on this fascinating phenomenon. It seems logical to conclude that any firm findings about the nature of the OBE are probably germane to the study of the NDE and vice versa. The first psychical researchers at the turn of the century merely collected first-person accounts of the OBE, many of which would today be formally classified as NDEs. More contemporary researchers have used these data to suggest and formulate theories about the nature of this extraordinary human experience.

The out-of-body experience, then, is much like any form of

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spontaneous psychic experience. Even today the study of the OBE is being pursued using spontaneous-case reports and experimental laboratory exploration. These two approaches to the study of the OBE have allowed parapsychologists to take detailed looks into the mystery posed by the phenomenon. The result is that today we know more about the OBE than at any time in parapsychology's admittedly brief history.

Because so much recent research has been focused on the OBE, it would be impossible to evaluate all the findings that have been made or to elucidate all the issues that have arisen from those investigations. Instead, I would like to present a state-of-the-art report on how our present level of research has helped to resolve five fundamental issues crucial to the study of the OBE:

(1) Is the OBE a common or rare phenomenon?
(2) Is any special sort of person particularly prone to an OBE?
(3) Is the OBE a psi-conducive state?
(4) Does something really "leave" the body during the experience?
(5) Does the OBE represent a discrete neurophysiological state?

To my mind, those are the most important questions posed by the OBE. They are questions that dig deep into the ultimate nature of the experience. If we can resolve even one of them, we will have gone far to unravel the enigma posed by these strange journeys of the mind.

IS THE OBE A COMMON OR AN INFREQUENT PHENOMENON?

This is one question that has been fairly well resolved over the last few decades, though that has not always been the case. The first psychical researchers apparently viewed the OBE as a rather rare phenomenon, and savored each and every case they could find and publish (Myers, 1903; Hill, 1918). They viewed the phenomenon as a direct peek into the nature of the soul's immortality, but they failed to explore further to determine whether these psychic excursions were everyday occurrences or not. The idea that the OBE was a rare phenomenon was reinforced when a few gifted psychics and occultists began writing autobiographical accounts of their out-of-body adventures—including colorful stories of prolonged out-of-body travels, visits to new dimensions and time and space, encounters with spirit presences, and the like (Fox, 1974; Muldoon and Carrington, 1929; Yram, n.d.) So certainly our predecessors can be forgiven for not checking to see if the OBE was commonly experienced by members of the general public, and the study of the

OBE soon fell more within the province of the occult than academic parapsychology.

A shift in perspective resulted in the 1950s due to the writings of Sylvan Muldoon, who wrote a popular autobiographical account of his OBEs from his sickbed in Wisconsin when he was still a teenager (Muldoon and Carrington, 1929). Muldoon's book was widely read, and many members of the general public began writing to him about their own OBEs. Muldoon eventually published those reports in two case books (Muldoon, 1946; Muldoon and Carrington, 1951). The publication of so many firsthand cases alerted the parapsychological community to the fact that the OBE is probably a common experience, and perhaps more of a human potential than a specific psychic talent. Muldoon's pioneering efforts to bring public attention to the OBE were extended in the 1950s and '60s by Robert Crookall, a British geologist who resigned from the H.M.S. Geological Survey and forfeited his pension in order to study the OBE. By 1972 he had amassed 746 firsthand accounts of the phenomenon, which he carefully analyzed and published in three case books (Crookall, 1961, 1964, 1972). The natural implication of Crookall's work was, and is again, that the OBE is probably a widespread form of psychic experience.

But just how common is it?

The answer to that question has been elucidated more clearly over the last fifteen years or so. Hornell Hart, a sociologist at Duke University, conducted the first poll on the subject in 1954 by asking 155 students whether they had ever had a peculiar "dream" in which they found themselves out of their bodies. Some 27 percent answered affirmatively (Hart, 1954). That survey was flawed, though, by the possible confusion among genuine OBEs, lucid dreams, or flying dreams Hart may have produced in the way he phrased his question. Yet more carefully worded surveys have partially confirmed Hart's findings. Celia Green in Great Britain undertook two similar polls among students at Southhampton and Oxford Universities and found that 19 percent and 30 percent, respectively, reported OBEs when asked (Green, 1967). Another poll among British college students was conducted at the University of Surrey by Susan Blackmore (1978), and 11 percent reported OBEs. Those statistics were confirmed by John Palmer (1979a), who conducted a survey of psychic experiences among students at the University of Virginia. Some 25 percent admitted that they had experienced at least one OBE at some point in their lives. Harvey Irwin, at the University of New England in Australia, was conducting a similar study at about the

same time. He found that 12 percent of his sample had confronted the OBE as a part of their life experiences (Irwin, 1980). A survey conducted among undergraduate psychology students at a large well-known university (left unnamed in the report) by a team of researchers in Missouri produced similar results. Twenty-three percent of 200 subjects polled reported experiencing at least one OBE during their lifetimes (Myers, Austrin, Grisso, and Nickeson, 1983).

The only problem with those surveys is that they focused primarily on college students, yet surveys taken among older populations have also indicated that the OBE is a common experience. Palmer (1979a) found that 14 percent of 354 adults randomly questioned in the Charlottesville area reported OBEs when asked about their psychic experiences, and Erlandur Haraldsson and his colleagues (1977) in Iceland found that 8 percent of 902 adults in that country had firsthand familiarity with the phenomenon.

Those two surveys tend to indicate that even though the OBE is commonly reported at all age levels, the youth of today have had more firsthand encounters with the OBE than previous generations. That conclusion certainly needs explaining. The finding may have resulted simply because college students today are more familiar with the OBE, will more readily acknowledge when they have one, are less likely to dismiss such experiences, and thus report them more commonly. It is also possible that today's young people indeed undergo the experience more often than previous generations because of their experimentation with drugs, many popular forms of self-exploration which include the induction of altered states of consciousness, the popularity of Transcendental Meditation on college campuses, and the like.

Only one survey published to date has actually addressed why subject populations show so much variability when asked about their encounters with the OBE, from a high of more than 25 percent to a low of 8 percent. Blackmore (1982b), at the University of Bristol, has suggested that this variability may result from the relative ability or inability of different subject populations to understand what they were being asked. As she rightly pointed out, very few of the survey questionnaires provided the respondents with any definitions or factual information about the OBE that might have helped them determine if they had genuinely had one or not. That led her to explore the possibility of misinterpretation among students at the University of Amsterdam. Ninety-eight students were simply asked if they had ever had an OBE, while a matching group was provided examples of OBEs and lucid dreams and was given other information.

She found no difference in her populations, with 18 percent of both reporting OBEs.

We can conclude from these surveys that between roughly 10 percent and 20 percent of the adult population will undergo OBEs sometime during the course of their lives. That is a very large number and indicates that the OBE is certainly no less common than any other commonly described psychic experience.

DOES ANY SPECIAL TYPE OF PERSON TEND TO EXPERIENCE OBEs?

As I mentioned above, it was the view of the early psychical researchers that only very special people—such as psychics, mystics and occultists—could achieve out-of-body states. We know today that this simply isn't true, but we still face a similar problem. Proceeding from the assumption that one in every ten or five people will undergo this experience, it is still up to us to find out *why* this one person is so special. Why doesn't everyone undergo the experience? Is there something special in the psychological or psychophysiological makeup that makes only some people OBE-prone? Many studies have been undertaken to resolve this issue.

The OBE and Possible Psychopathology

Many psychologists and psychiatrists have tried in the past to link the OBE with pathological states of mind. Otto Rank (1914/1971), Sigmund Freud (1963), Caro Lippman (1953), N. Lukianowicz (1958), and Jan Ehrenwald (1974) have attempted to place OBE-related phenomena within the context of depersonalization, pathological autoscopy, distortion of body image, and death anxiety. So it was thus an obvious step for more contemporary researchers to explore the possibility that those who undergo OBEs suffer a greater degree of pathology than those who do not.

A more recent study by Irwin (1980) focused on the OBEs reported by 36 Australian college students and found no firm relationship between the OBE and scales of neuroticism or extraversion, though the OBErs did seem to show a tendency toward neuroticism. A more comprehensive study conducted along similar lines was carried out by a team of researchers in Kansas (Jones, Twemlow, and Gabbard, in press), who compared the results of psychological tests made of 339 subjects who had reported OBEs to a matching group of 81 who were merely *interested* in undergoing one and had some back-

ground in metaphysical teachings. They were particularly interested in finding out whether people reporting OBEs would show more hysteroid responses, psychoticism, or maladjustment than those who did not, or than an independent control group. They found no important differences between the scores of the OBE group and either of the control groups. (The only difference they found was that a control group consisting of non-OBErs who wanted to have an OBE was more dangerseeking.) The Kansas team also analyzed the content of their first-person OBE reports and then compared their findings to the specific phenomenology of depersonalization, autoscopy, and distortion of body image. They found that the OBE differed from those pathological states both in content and in the conditions under which they tend to occur. That has led them to conclude that there are important phenomenological differences between the OBE and pathological states of mind, thus indicating that the OBE cannot be summarily dismissed as a pathological aberration (Gabbard, Twemlow, and Jones, 1982).

Probably the most comprehensive attempt to link experiencing an OBE to personality factors has been the work of Susan Myers, Harvey Austrin, Thomas Grisso, and Richard Nickeson in Missouri (1983). They tested a group of students who reported experiencing at least one OBE to a matching group of non-reporters on several scales of personality. They found that several factors related to experiencing an OBE, including breadth of interest, innovation, responsibility, risk-taking, and social responsibility. However, most of those correlations were only marginally significant. Their findings suggested to the researchers that their OBE subjects "see themselves as responsible, honest and stable, as well as curious, inquisitive, adventure-seeking, clever, intellectual, analytical and sociable, although low in conformity and value orthodoxy" (p. 142).

Only one study undertaken and published to date has inferentially linked OBEs to possible pathology. On the basis of a survey conducted among British schizophrenics, Blackmore and John Harris (1982) have discovered that OBEs are commonly reported by those suffering that mental illness. It is important to note, however, that the study was not conducted among a random population. Blackmore and Harris advertised in the press for respondents to a mental-imagery survey, so their sample may have been biased. Nor could the study determine whether schizophrenics are any *more* prone to OBEs than other members of the general public. Blackmore and Harris are currently following up on these questions but have not as yet issued any subsequent reports.

The Relationship of Death Anxiety to the OBE

In 1974, Ehrenwald, a prominent New York psychiatrist with a long-lived interest in parapsychology, promoted the theory that OBEs may be a symbolic ruse employed by selected individuals who need to deny the reality or imminence of death. That has led some researchers to generalize that people reporting OBEs may be suffering a high level of death anxiety, and use the OBE as a mechanism by which to reduce it. That idea has generated some fascinating research.

A specific attempt to explore whether the OBE is reported by people suffering high levels of death anxiety was published recently by Paula Smith and Irwin (1981) of the University of New England in Australia. They recruited 30 students and subjected them to an OBE-induction procedure (partial sensory isolation) in their laboratory. The students were grouped into two divisions on the basis of a questionnaire. The first was isolated for their concern with the issue of human immortality, while the second group was chosen because they exhibited no such concern. Smith and Irwin predicted that those subjects concerned with immortality, perhaps indicating pronounced death anxiety, would report more vivid OBEs during the induction sessions than the other subjects. That prediction was not confirmed, and the experimenters have used their finding to refute Ehrenwald's denial-of-death theory.

The study was, unfortunately, flawed, and one can certainly sympathize with Ehrenwald, who has strongly maintained that the experiment was not a crucial refutation of his views (Ehrenwald, 1981). My own view is that the whole experiment was based on a false assumption. The authors began by equating "concern with immortality" with death anxiety without any attempt to substantiate the validity of that view. There is considerable evidence that people interested in religion and death have *less* death anxiety than your average materialist. That is especially true if they have adopted metaphysical belief systems as an outgrowth of their studies. Smith and Irwin never attempted to test their subjects specifically for death anxiety, which would have been a fairly easy thing to do since scales for determining that trait have been developed in psychology. Such a scale, drawn from Louis Dickstein's death-concern scale (1972), was in fact given to those participating in the Kansas team's project. Those researchers found no difference between the death-anxiety levels of subjects who reported OBEs and the matching control group. Unfortunately, the Kansas team did not take into

account the possibility that people who undergo OBEs may have had an initially high death-anxiety level that was automatically alleviated by the OBE experience.

So the relationship between death anxiety and the OBE must remain technically unresolved for the present. No flaw-free attempt to refute it has so far been conducted, though Myers, Austrin, Grisso, and Nickeson (1983) in Missouri also failed to find any correlation between OBE powers and death anxiety.

Imagery Capabilities and the OBE

Since the OBE is perceived as the release of the mind from the body, some researchers have begun wondering if the OBE might actually represent some quirk of mental imagery. It has been suggested that a person who can imagine himself floating away from his body must have some mighty peculiar or powerful capabilities for imagery generation, especially if he or she actually perceives it as a genuine experience.

One of the most ambitious attempts to correlate the OBE with scales of mental imagery has been that of Irwin (1980). He tested several Australian college students reporting OBEs on scales judging cognitive style, imagery ability, and absorption in self-altering experiences. His results were rather peculiar in that his OBE subjects were actually less gifted with imagery ability than an average population, yet at the same time they tended to maintain high levels of absorption in the imagery they *do* create. Irwin (1981) was later able to partially replicate that finding based on data collected from his previously mentioned work on the OBE and death anxiety. He found that those subjects who scored high on a scale judging absorption in self-altering experiences were more successful at inducing OBEs in his laboratory than those who scored low. A replication of that effect has been reported by Myers, Austrin, Grisso, and Nickeson (1983) in Missouri, who also found that their OBE-subject population scored highly on a scale specifically judging absorption in self-altering experiences.

That certainly looked like a potentially exciting lead, but much published work by other researchers has failed to confirm that peculiar pattern. The Kansas team (Twemlow, Gabbard, and Jones, 1982) explored a similar issue with their 330 OBE subjects. They compared an OBE group and a matching control group on 37 items drawn from Auke Tellegen's *Differential Personality Questionnaire* (1976) to judge whether their OBE respondents were particularly

prone to imagery, fantasy, or absorption. They found no differences between the OBE group and the non-OBE subjects. The fact that people who undergo OBEs have no special imagery capabilities has also been reported by Blackmore (1982b), who tested several subjects reporting OBEs on scales of vividness of imagery and control of imagery. No differences were found between those reporting OBEs and a control group.

Another approach to the study of the OBE and tests of mental imagery has been the relationship of the OBE to spatial ability. Anne Cook and Irwin (1983), once again working from the University of New England, compared people who had reported OBEs with non-experiencers on tests of control of mental imagery and on a special test gauging the ability to manipulate three-dimensional mental images. They found no differences between the experiencers and non-experiencers on their general ability to control mental imagery, but found marginal evidence of greater spatial abilities on the part of the experiencers. That finding, however, must be viewed within the context of other similar studies. Blackmore (1983) also tested several subjects on a test of spatial abilities but with no positive results, but she did find that out-of-body experiencers could alter the perspective of a mentally constructed scene better than a matched group of non-experiencers.

To date, then, there seems to be no consistent relationship between the OBE and any known index of mental imagery. While the complicated relationships between the OBE and mental imagery have not been explored as fully as they might be, there seems to be no impressive evidence that that line of inquiry will pay off in the long run.

IS THE OBE A PSI-CONDUCIVE STATE?

The first writers and autobiographers of the OBE took it for granted that the phenomenon represented the release of the soul from the body. Muldoon (1946), Hugh Callaway (Fox, 1966), and Marcel-Louis Forhan (Yram, n.d.) all reported "veridical" OBEs in which they traveled to distant locations and correctly "saw" what was transpiring there. That, to them, was virtually proof of the independence of the soul. More contemporary researchers who have collected spontaneous-case reports have invariably found veridical OBEs in their material as well (e.g., Green, 1968; Crookall, 1961, 1964). Yet today, the issue of whether the OBE is inherently psi-conducive remains a controversial question not only within parapsychology in general, but even among those researchers who

have specialized in OBE research.

The Evidence from Spontaneous-Case Studies

The first comprehensive attempt to determine if the OBE is a psi-conducive state was made by Hart (1954), who reviewed the historical literature available to him and collected 99 cases of what he called "ESP-projection" (i.e., veridical OBEs). He proceeded to rate those cases on a sliding scale of evidentiality and found many of them to be reasonably documented, a finding that led him to conclude that the OBE is indeed a psi-conducive state.

More contemporary researchers have not been as preoccupied with the evidentiality of their case studies. Only one attempt has been made to determine whether ESP is a by-product of spontaneous OBEs. That has been the result of some fascinating research by Michael Sabom (1982), a cardiologist at the Atlanta Veterans Administration Medical Center who has been studying the out-of-body experiences of hospital patients who have almost died during cardiac arrests. He has found 6 cases in which those patients "saw" aspects of their resuscitations during their OBEs that should have been denied them had they been truly unconscious. What they reported was also often inconsistent with the unsophisticated nature of their prior medical knowledge. In that regard, Sabom found his respondents correctly describing the appearance of diseased organs within the body, complicated equipment used to revive them, and even some of the specific surgical procedures employed during their treatment. To explore the possibility that those patients might have been suffering fantasies based on their prior medical knowledge, Sabom matched the testimony of his respondents to a control group of cardiac patients who were asked merely to imagine what a cardiopulminary resuscitation would entail. He found that those OBE respondents who claimed to have "seen" their resuscitations were much more accurate than those who simply tried to imagine what the procedure would be like.

Work with Selected Subjects

Parapsychology today is predominantly an experimental science, and many hard-line researchers are distrustful of any findings about the nature of the psi process that have been derived from spontaneous-case studies. So when researchers began seriously studying the OBE in the 1960s and 1970s, they were naturally interested in determining

whether "something" was really leaving the body during the experience. The standard protocol was to see if an experimental subject could travel to a distant location while out of body and correctly see and describe a target object or display located there. Individuals who reported chronic OBEs or claimed the ability to induce them at will were usually recruited as subjects.

Work with such selected subjects was pioneered by Charles Tart in the late 1960s. His first report employed the services of a Miss Z., who was invited to his dream laboratory at the University of California at Davis after she complained of chronic nocturnal OBEs. Her experimental task was to float up above her bed, should she find herself out of body during the night, and view and memorize a five-digit number placed on a shelf above the bed. It was Tart's hope that she would be able to report her veridical observations over an intercom to an experimenter in an adjacent room. His hopes were fulfilled (Tart, 1968). During her fourth night at the laboratory, the subject correctly reported the number. It was learned later, however, that Miss Z. could have seen the number through a variety of fraudulent means, though Tart feels that this was unlikely. Tart (1968) conducted similar tests with a Mr. X, who has since been identified as Robert Monroe, a Virginia businessman and the author of a popular autobiographical account of his out-of-body travels. Those trials were conducted at the University of Virginia and followed a similar protocol, though in this case the shelf was located in an equipment room adjoining the sleep chamber. Monroe failed at the experimental task, but during one short OBE was able to "see" correctly that the laboratory technician stationed in the equipment room had left her post. She was (correctly) seen talking to a gentleman in a nearby corridor. Tart (1969) was able to recruit Monroe for a second series of trials using the same protocol at the University of California at Davis. Monroe was successful at inducing an OBE in the lab, but became disoriented and ended up in a courtyard adjacent to the experimental area. He therefore failed at the experimental task (i.e., viewing a five-digit number) but succeeded in giving an accurate description of the courtyard, even though he had apparently never previously visited it. So while Tart's two experiments with Monroe were failures in the technical sense, they did contribute some inferential evidence that the OBE is a psi-conducive state.

Laboratory research into the strange byways of the OBE came to the forefront of parapsychological interest in the early 1970s, when both the American Society for Psychical Research (A.S.P.R.) in New York and the Psychical Research Foundation (P.R.F.) in

Durham received endowments to study the phenomenon. Each project made use of selected subjects and contributed immensely to our growing discoveries about the psi-conducive qualities of the OBE.

Research at the American Society for Psychical Research revolved around Ingo Swann and Alex Tanous, who gained public prominence as a result of their participation in these experiments. The A.S.P.R. was particularly fortunate to procure the services of those psychics, since they both claim the ability to induce OBEs from the waking state. Both gentlemen participated in experiments designed to study the nature of OBE vision. The most successful of those studies was a multi-session experiment designed for Swann, who was able to report verbally what he was seeing at the same time he was making his OBE attempts. For each trial, Swann was seated in a chair in a specially selected A.S.P.R. laboratory room and was asked to send his mind to the ceiling and "look" into a box suspended there. Two colored targets were placed within the box before each session. They were usually simple but colorful layouts of such things as a bull's eye with a slice cut from it, or a large red heart with a knife case laid over it. Swann was asked not only to report what he saw during his OBEs but to draw sketches of the target layouts. His sketches were later given to an independent judge who attempted to match them with the targets. The series was extremely successful. Swann's diagrams were often strikingly accurate, and the judge had no difficulty making the blind matchings ($p = .000025$). It was also discovered that the nature of Swann's observations conformed to semi-consistent optical principles (Mitchell, 1973; Swann, 1975).

Similar perceptual tests were conducted when Tanous began his long association with the A.S.P.R. research, using two specially built optical devices. The apparatus displayed pictures that could be seen by peering through viewing holes, but the target choices were mechanized so that the pictures selected for each trial were composites composed partly of an optical illusion. Tanous was asked to project to the apparatus from a room at the other end of the A.S.P.R. building. The results of these tests were less straightforward than those of the Swann series, but Karlis Osis and his colleagues found that Tanous tended to do well at the beginning of each series of tests, then fell to chance scoring, but resumed high scoring as the series continued. It was Osis's conclusion that as the tests progressed, Tanous was actually learning how to perform best while out of body (Osis, 1975).

It should also be noted that, just as Tart found during his work with Monroe, those experiments included a few "bonuses" indicating that OBE travelers are indeed capable of making correct observations

about distant locations, "flukes" that, while impressive, could not be quantified when the results were statistically analyzed. For example, both Tanous and Swann reported on separate occasions that the lights used to illuminate the target displays had blown out (Swann, 1975; Tanous, 1976). Subsequent checks by the A.S.P.R. staff proved that those observations were correct, even though the psychics could have had no normal way of knowing about the peccadillo.

A less formal series of one-trial sessions with self-selected subjects was also conducted as part of the project. Osis set up a series of objects on a table in his office and invited potential OBErs from all over the country to "fly in" and report back to him by phone or mail what they had seen there. About one hundred subjects made the attempt, and a few of them were successful at the task (Osis, 1974a; Greenhouse, 1975).

While all that research was being conducted in New York, a similar project was underway in Durham, where the Psychical Research Foundation was likewise involved in studying the OBE. These experiments focused exclusively on a young Duke University psychology student, Keith "Blue" Harary, and included several series of tests using several different protocols. The tests were conducted roughly from 1972 through 1974 and included several target studies. I would like at this point to analyze these tests in some detail since I feel the results of the P.R.F. target studies were severely oversimplified and even misrepresented in the official paper that was eventually published on the project (Morris, Harary, Janis, Hartwell, and Roll, 1978).

Harary first showed up at the P.R.F. in 1972, having been directed there by staff members at the Institute for Parapsychology. He was just as baffled by his lifelong OBEs as anyone else would be who had never learned very much about parapsychology. He volunteered to serve as a subject and co-experimenter in what evolved into two years of experiments more to prove to himself that he wasn't crazy than for any other reason.

The first tasks conducted with Harary by the P.R.F. staff were standard target tests, which commenced in the middle of February, 1973. Harary would be stationed in one of the three P.R.F. buildings and would be asked to project to another building to view a letter printed on a poster and affixed to a door. Eight trials were completed and the results, according to the official report, were at chance level. However, flaws in the test almost insured Harary's failure from the start. Harary was pessimistic about succeeding at the task since the

letters were drawn in such an elaborate and "artsy" manner that they were hard to view under *any* condition. But that didn't keep him from astonishing his experimenters with a display of "indirect" ESP on the fourth trial. Harary had gone to the target area as usual and was surprised to see that a second person had joined the experimenter stationed there. That was a violation of the standard protocol that had been used during the prior sessions. Although he could not focus on the target very well, Harary did report what he had seen to the experimenter stationed with him at one of the other P.R.F. buildings. His observations were correct. A friend of the experimenter assigned to the target room had, unbeknownst to the primary experimenter, joined the session. The impromptu visitor, it might also be noted, had the rather vivid experience of actually "seeing" Harary's apparition at the precise moment that the young man was making his OBE attempt (Rogo, 1978b). Much of that information was omitted from the P.R.F.'s final report on the tests.[2]

The next series of studies designed for Harary used members of the P.R.F. staff as the targets. His task was to induce an OBE in one P.R.F. office, travel across a grass quadrangle to yet a third building, and report back who he saw there and where they were standing. While the combined results for the series were insignificant, he was phenomenally successful on the first trial. Harary correctly identified all three of the staff members and correctly determined where they were positioned in the building.

More successful, however, was at least one three-dimensional target study that was totally omitted from the final P.R.F. report, but which was reported independently (Rogo, 1976).[3]

That experiment was conducted on August 14, 1973. I was stationed at one of the P.R.F. buildings while Harary was taken to a laboratory at Duke University Hospital. The target layout, which I designed after Harary had left the P.R.F. complex, revolved around a large drumlike apparatus we were planning to use for some future tests. I placed a large bottle on top and sandwiched it between two Frisbees, which I left lying flat. I also placed an oboe inside the drum and laid it across its black case. Harary induced his OBE at 10:11 p.m. and at 10:14 p.m. reported his impressions to the two experimenters stationed with him. He reported seeing a round flat plate on top of the drum and subsequently identified it by name as a Frisbee. He also noted that two identical items were part of the setup. By focusing harder he was able to see that one of the target objects was standing upright between the two identical objects, and gradually he realized that it was a bottle. Toward the end of his brief out-of-

body visit he was able to determine that something was inside the drum, which he described as a "long pencil," and also saw something "black and square," which perfectly matched the appearance of the instrument case.

The obvious correspondences between Harary's report and the appearance of the target setup are so striking that no quantitative assessment is required to see just how accurate Harary's ESP vision could be while he was out of body. Nonetheless, we did attempt to quantify the results of the session. Harary was presented with a pool of nine objects, consisting of the five target items and four controls, when he returned to the P.R.F. later that night. He was asked to choose which objects had been included in the target display, and he correctly identified all five of the targets along with one erroneous guess. Since I was out of the room during the rankings, I could not have cued him (Rogo, 1978b).

We replicated the experiment a week later, but Harary failed on that occasion. That was not surprising since he had predicted he would fail because certain atmospheric conditions were present that night that he felt inhibited the quality of his OBEs.

Many commenters on the P.R.F. work have played down the significance of the target studies undertaken with Harary during his stay in Durham. While many of his results were not statistically significant, I hope that I have shown in this brief section that, although admittedly sporadic, his results were also occasionally quite stunning.

In conclusion, I think that some general statements about the psi-conducive quality of the OBE can be made in light of the research I have been discussing. It certainly seems that gifted subjects can use the OBE to make extrasensory observations of distant locations and people, but just *what* aspects of the target locations will become the focus of this process of observation seems to be unpredictable. The reason for that variability seems obvious. It may well be that we parapsychologists have been much too naive about the way we have designed OBE target studies. We have assumed that gifted subjects can project to a distant location, look anywhere they want to at will, and report back what they see with facility and clear-headedness. In reality, however, most subjects enter an altered state of consciousness before leaving the body, experience little control and often report blurred or telescoped vision during their excursions, and then must return to an alert state of mind before they can tell us what they saw. It seems to me that such subjects as Swann, Tanous, and Harary have performed better on OBE target studies than we have had any right to expect.

Work with Unselected Subjects

Work with unselected volunteers has not been pursued as extensively as has research with selected subjects. The greatest body of such work was designed by Palmer, then at the University of Virginia, in a series of experiments that tried to induce OBEs in volunteer subjects through a variety of induction methods (Palmer and Vassar, 1974; Palmer and Lieberman, 1975; Palmer and Lieberman, 1976). Subjects were instructed to induce OBEs in a specially prepared room, to visit another room where a target picture was on display, and to report back what they saw. Later they would be asked to choose or rank the picture from a target pool presented to them after their sessions were over. Subjects were further instructed to try to form an image of the target if they could not get out of the body. Palmer employed 60 subjects for his first session and used an induction technique consisting of progressive muscular relaxation and concentration on a spiral disc. More than 40 percent of the subjects reported OBEs but they psi-missed on the ESP task. Palmer replicated the experiment with 40 additional subjects and used an induction method combining relaxation and ganzfeld stimulation, but only half of those volunteers were actually instructed to leave the body. The other half were instructed merely to image the picture. Some 13 members of the OBE group reported leaving the body, while 4 members of the image group also experienced that sensation. Those subjects who reported OBEs scored more successfully on the ESP task than those who only guessed about or imaged the picture. Palmer's third experiment used a vibrating chair among other induction procedures and included 40 subjects. There was no significant scoring on the part of those who successfully left the body.

The results of Palmer's studies pose a number of puzzling questions. Why, for example, were his results so inconsistent with the high level of success veteran OBE subjects have achieved when confronted with similar tasks? Why should psi-missing have occurred during the first experimental series? If the OBE is not really psi-conducive, why was positive ESP scoring reported at all during Palmer's second experiment? Two possible resolutions to these related questions come to mind. Palmer has himself come to the conclusion that it is the *altered state from which the OBE emerges, and not the experience itself, that is psi-conducive*. He suggested (1978) that therefore we might not expect to find a straightforward relationship between ESP scoring and the OBE, but one more delicate and capricious. Another resolution is to suggest that Palmer's subjects were not

really undergoing OBEs at all, but only thought they were.

It is hard to evaluate that possibility objectively, since Palmer has published only two brief extracts from the experiential reports contributed by his subjects (Palmer, 1978). Palmer defines the OBE as *any* experience during which a person finds himself or herself out of body, so he has never been overly concerned by the possible difference between what Tart (1974) has called "discrete OBEs" and more amorphous and poorly defined sensations of being bodiless. The experiences of subjects such as Harary and Tanous tend to resemble the former, while there is some evidence that Palmer's subjects were undergoing less vivid experiences.

An experiment designed by Smith and Irwin (1981) in Australia has addressed this possible problem in the Palmer work. They, too, attempted to induce OBEs in 30 volunteer subjects through the use of relaxation and taped sounds. Subjects were instructed to leave the body, travel to an adjacent room, and try to view two objects placed on a table there. Independent raters later tried to match the subjects' reports with the targets. The judges also rated the experiential reports of the subjects against examples of more classic (i.e., discrete) OBEs on a 10-point scale of resemblance. Smith and Irwin reported positive ESP scoring on the part of those who had achieved OBEs during the experimental induction and found that induced OBEs tended to resemble more classic types.

Just what light the Smith and Irwin work sheds on Palmer's project is not clear-cut. Had the Australian subjects achieved no positive ESP scoring while simultaneously reporting very vivid OBEs, that would have supported Palmer's contention that there is no direct correlation between ESP and the OBE. But since Irwin and Smith reported positive ESP scoring *and* vivid induced OBEs, one might still maintain that the OBEs experienced by their subjects were of a different quality than those achieved by Palmer's student volunteers. That is admittedly unlikely, though.

The general failure of work with unselected subjects may be related to a point raised earlier, that the process of "seeing" and remembering what one sees while out of body is a very complex problem. Unselected subjects simply may not be as capable of controlling their OBEs as more experienced subjects seem to be, which may result in their generally poor showing on the experiments.

So is the OBE psi-conducive or not? Taking all the evidence in hand, procured from both selected and unselected subjects, as well as from spontaneous-case studies, I think the answer is yes. I must emphasize that this is my own personal opinion, and other researchers

have come to different conclusions on the basis of the same evidence. In a recent and comprehensive book on the OBE, for example, Blackmore (1982a) has written that "I think it is possible that all the claims of ESP . . . in OBEs are groundless" (p. 242). I hope that I have shown that at least that radical assessment is insupportable. The most pessimistic assessment I would make would be that there is no *specific* or *predictable* relationship between the OBE and ESP, but that there is some sort of connection between them cannot be denied.

DOES SOMETHING "LEAVE" THE BODY DURING THE OBE?

The whole rationale behind the use of the aforementioned target studies was to determine if the phenomenon actually represents the release of the mind from the body. By their very nature, however, target studies can never really resolve this crucial issue. Several parapsychologists have admitted that people undergoing the OBE can indeed accurately view a remote location, but they have still maintained that the experience is merely a hallucination, though perhaps a particularly psi-conducive one. The A.S.P.R. investigators tried to work around that issue by studying the optical principles by which OBE "vision" functions and how it departs from the way ESP might be expected to work. But they based their research on a series of arbitrary and very questionable assumptions (Rogo, 1978a). It seems rather pointless to conceptualize the OBE as the release of some element of the mind from the body unless that element can be detected either by other subjects, animals, or scientific instruments. Experiments to detect the release of the mind from the body have been explored, and the results have been provocative.

Research with Instrumental Detectors

There was quite a bit of experimentation carried out during the early years of psychical research, especially in France, on the instrumental detection of the human "double." The standard protocol was for the experimenter to mesmerize the subject, exteriorize his or her double, direct it to another room, and see if it could be photographed, produce "raps," or illuminate specially prepared screens. Many researchers claimed considerable success with those techniques, but it is very difficult to evaluate that research today (Alvarado, 1980). Nonetheless, some limited success with instrumental detection of the human phantom reported by researchers

at the A.S.P.R. suggests that those earlier studies should not simply be dismissed. Osis reported briefly in 1974 that the late Pat Price, a California psychic who could "remote view" at will, had projected himself into a special electronically shielded box where he had affected a suspended object (Osis, 1974b). Later he reported that Tanous had accomplished a similar task as a by-product of his attempts to see into one of the A.S.P.R.'s viewing boxes (Osis and McCormick, 1980). Unfortunately those results could have been due to simple psychokinesis, so they do little to resolve whether something actually leaves the body during the OBE.

Several attempts at instrumentally detecting Harary's out-of-body "self" were made as part of the P.R.F.'s two-year project as well. A number of sessions were held during which Harary projected to designated target areas where instruments intended to detect his presence were located, including devices measuring low frequency electromagnetic fields, thermistors, and photomultiplier tubes (Morris, Harary, Janis, and Roll, 1978). Harary was not successful at *consistently* affecting any of the equipment, but there were occasions when the devices emitted anomalous readings at the general times when he was projecting to them. The most intriguing results occurred when he approached a delicate thermistor on two occasions during one OBE. The thermistor exhibited a slight "dip" both times, but Harary was never able to repeat that success. During another experiment he attempted to induce an OBE in Duke University Hospital while being monitored by a polygraph. Two electrodes had been left "open" during the session, and each time Harary experienced an OBE, they recorded a reduction in noise level in his area (Rogo, 1978b).

The combined results of these attempts at instrumental detection are not strong, but they provide several leads for further exploration. At the very least they seem provocative. Perhaps future research into the mystery of the OBE should concentrate on similar experiments.

Work with Human Detectors

Trying to determine if an out-of-body visitor can make his or her presence known to an unsuspecting person has also had a long history in the annals of OBE research. Much has been done along those lines, mainly carried out at the turn of the century in France, with reported success (Alvarado, 1980). Again, though, it is hard to evaluate that material today, though some casual attempts along those lines played a role in the A.S.P.R.'s "fly-in" experiments.

Psychics were sometimes stationed in Osis's office and were asked to report the appearance of any out-of-body visitor. The most notable success came when one of the psychics saw the apparition of a man wearing corduroy pants "jack-knifing" over the target area. That description matched the experiential report of Tanous, who was attempting to visit the A.S.P.R. from his home in Maine at roughly the same time. He, too, reported jack-knifing over the target area and was wearing corduroy trousers at the time (Osis, 1974a).

The only attempt to quantify such detection experiences came during the P.R.F.'s work with Harary. The P.R.F. investigators had learned during their initial target studies that many of their staff members had an uncanny ability to "detect" when Harary was allegedly present. Those detection experiences ranged from the subjective impression that Harary was present to visual sightings of his apparition. The P.R.F. workers were amazed at how often those detections matched the precise moment that Harary was making his OBE attempts, even though those stationed in the target area were blind to the exact time Harary would be visiting them. Systematic work with human detectors was unsuccessful, however. The basic procedure was to ask several volunteers to sit quietly in one of the P.R.F. rooms and announce when they thought Harary was projecting to them. After some initially impressive "hits" and visual sightings by the detectors, scoring fell to chance levels. Some of the P.R.F. workers felt that the subjects were becoming too self-conscious and had begun making false guesses, and it was at that point that the project researchers decided to concentrate on animal detection studies.

Work with Animal Detectors

Probably the most successful and famous series of these studies was conducted with one of Harary's pet kittens. For each session, Harary would be taken to a location at least a half-mile from the P.R.F. buildings. An experimenter at the P.R.F. would place the kitten on a 30" by 80" animal-activity board (marked off into 24 squares) at a predetermined time. His job was to monitor how many squares the kitten crossed into and how many times it vocalized during a baseline period and during four subsequent short experimental periods. Each period was designated by a phone ring signaled by the experimenters stationed with Harary. Harary only induced OBEs on two of those four trials, while he merely imagined traveling to the kitten during the others, which thus served as control periods.

He reported over an intercom when he was ready to "leave" the body and when he "returned" so a precise log could be kept as to just when he was "out of body." Four complete sessions using that protocol were run, and the combined statistics indicated that the kitten radically altered its behavior when Harary visited it. It would calm down and vocalize less during the OBE periods, in contrast to its rather perky behavior during the baseline and control periods. The results were significant at the .01 level.

This summary of the P.R.F.'s "kitten" series, however, does not convey the striking contrasts the experimenters observed in the kitten's behavior. It would invariably become quite active when first placed on the board. It would meow profusely and scamper around trying to escape from it. Yet it would always calm down and assume a "sphinx" position when Harary experienced being with it. The kitten's behavior was so consistent that, despite the blind conditions imposed on the observers stationed with the cat, they had no difficulty discerning when Harary was making his OBE attempts.

The fact that such animal reactions could be quite radical was also demonstrated during an experiment in which a snake was used as a detector, and I acted as the observer. The snake was placed in an isolation chamber at the laboratory, and I was instructed to monitor its behavior through an observation window. Harary was taken to another laboratory a half-mile away by two other experimenters after we all synchronized watches. The typical four-period (experimental vs. control) protocol was used, following the general design of the kitten studies. During the beginning of the second experimental period the snake became very agitated and began biting wildly at the side of its glass terrarium. Its behavior was very abrupt and inconsistent with its prior docility. We later determined, by checking second-by-second time logs, that Harary had indeed at that time just induced his first OBE of the evening. The snake exhibited no further notable reactions for the rest of the experiment, though Harary attempted a second brief OBE to us later that night (Rogo, 1978b). An animal toxicologist later told me that the behavior I had observed was wildly atypical for any snake.

The official report issued by the P.R.F. team briefly mentions the experiment but states that a replication conducted a week later failed. That is only half true. The snake burrowed into the shavings at the bottom of its terrarium before Harary and his experimenters had arrived at Duke University to begin the experiment. It continued to sleep throughout the entire session.

The P.R.F. researchers conducted other animal detection studies

with rodents and a dog, but with little success. The only other notable series was a follow-up experiment with Harary's kitten, having then grown into a mature cat. The idea of the experiment was to see if the cat would position itself relative to Harary's own out-of-body location. For each session the cat was placed in a large drum that kept an automated record of its meanderings. Harary would then project to the cat and position himself in one of four areas relative to the drum. At first the cat indeed tended to orient itself toward Harary's position, but eventually it refused to budge at all once placed in the drum. Another follow-up experiment was conducted in which the cat was released in an empty room while its meanderings were monitored by a technician over a TV screen. The cat exhibited no significant unusual behavior, but the technician began having a series of strong "detections" and was consistently able to determine where Harary was standing in the room during his out-of-body visits. Finally the technician even saw Harary's apparition over the TV monitor. His observation matched the time of Harary's OBE attempt and the location where he had positioned himself (Morris, Harary, Janis, Hartwell, and Roll, 1978).

Very little research has been conducted following up on the leads provided by the P.R.F. detection studies. It would be fascinating to see if other selected subjects could also affect animal behavior while out of body. A widespread replication of such detection studies would help to resolve whether something actually "leaves" the body, an implication strongly suggested by the Harary work.

IS THE OBE A DISCRETE NEUROPHYSIOLOGICAL STATE?

If something really leaves the body during the OBE, it is logical to assume that some sort of neurophysiological alteration would occur concomitantly. We know that relaxed wakefulness, problem-solving attentiveness, and sleep are all characterized by fairly discrete electroencephaloghic (EEG) readings. Ever since the 1960s, parapsychologists have been attempting to isolate a similar discrete pattern accompanying the OBE.

Studies with Nocturnally Induced OBEs

The prospects at first looked hopeful when Tart (1968) reported his work with Miss Z. Her nocturnal OBEs were accompanied by alphoid waves and poorly developed sleep spindles. No rapid eye movements (REMs) were evident, thus indicating that her OBEs were

not dreams. Those readings tended to resemble Stage 1 sleep, but the alphoid activity was so peculiar that it could not be classified as waking *or* sleeping. However, Tart has not been able to confirm those findings with other gifted subjects. EEG readings taken during experiments with Monroe (Tart, 1967) indicated that that gentleman's OBEs take place during a poorly defined Stage 1 dream state. He exhibited some alphoid activity, but not with the same persistency as did Miss Z.

The only conclusion we can reach from those studies is that the two subjects were producing their OBEs within the context of different neurophysiological states. The problem we have drawing *any* conclusions from those studies is even more complicated by the fact that a later study of Monroe's OBE-related brain waves produced a somewhat different set of readings. Monroe's OBEs were monitored during some experiments conducted at the Topeka Veterans Administration Hospital (Twemlow, 1977), and researchers there concluded that his OBEs were related to the production of theta waves. They also found that his OBE-related brain waves were typified by a slowing down within the frequency of the waves. That variation was smaller for the right than for the left hemisphere.

Studies with Waking OBEs

The P.R.F. investigators examined EEG data from Harary over 13 sessions in which he produced OBEs, and focused on any notable changes between his pre-induction relaxation periods and his actual OBEs. The results indicated that his OBEs did not take place in a condition of sleep, and there were no robust indications that his OBEs differed from his pre-induction state. Both sets of readings were consistent with the view that his OBEs occurred while he was in a normal, waking, eyes-closed condition (Hartwell, Janis, and Harary, 1975). A later and more sensitive analysis of Harary's OBE-related EEG records revealed, however, that a gradual decrease of activity in his left hemisphere accompanied his OBEs. Similar readings were procured by the A.S.P.R. researchers during their work with Swann, though his readings were more robust, with decreases in activity registering in both hemispheres of his brain (Osis and Mitchell, 1977).

Brain-wave monitoring has also been implemented with unselected subjects. As part of his University of Virginia project, Palmer examined EEG tracings from several of his volunteer subjects. He found no correlations between their OBEs and any EEG index. He did

find that 3 subjects who reported particularly strong OBEs all showed more than 30 percent theta in their baseline EEGs, but that finding contributes little to the question under consideration (Palmer, 1979b).

The results of all these various EEG correlates indicate that neurophysiological changes may well accompany the OBE. But they do not indicate that any particular neurophysiological state is indicative of the OBE in general. There also seems to be some indication that the brain somehow "calms down" during the OBE, but that finding is so general that it casts little light on the neurophysiological nature of the phenomenon. What the data do indicate is that gifted subjects enter into at least self-consistent brain states when they leave the body, but that those states may be unique to the individual subjects. Probably the most puzzling issue raised by these studies is whether these neurophysiological states and changes are the cause or the result of the OBE.

CONCLUSIONS

I think we have learned a great deal about the OBE as a result of the research reviewed above. We have learned that some OBEs are certainly not dreams; that they are not pathological hallucinations; and that they are puzzling though apparently normal human experiences: anyone may experience them. We have also learned that gifted subjects can sometimes make correct observations at distant locations while traveling out of body and can sometimes be detected. Despite these findings, it also appears that the relationship of the out-of-body state to the human brain is very subtle.

Although we know a great deal about the OBE, we still don't know what it actually is. The data are not consistent enough to draw firm conclusions about the core nature of the experience. Last year I published a paper (Rogo, 1982) in which I attempted to show that the many psychological models formulated to explain the OBE are at least partially inconsistent with the evidence. The OBE cannot be explained as a dream, a fluke of mental imagery or memory, the result of ego-threat or ego-homeostasis, or a response to death anxiety. It seems much more than a psychological experience. But the idea that the mind physically releases itself from the body when an OBE takes place is also inconsistent with the data. If such were the case, the results of detection and target studies should have been, in general, much more consistent. So while it is my own view that "something" leaves the body during the OBE, I would not

speculate about what that "something" actually is. Perhaps the answer will come when we have learned more about the nature of the mind, consciousness, space, and time.

NOTES

1. This paper was originally delivered at a symposium in honor of Louisa E. Rhine, held in Durham, North Carolina, on November 13, 1983, and sponsored by the Foundation for Research on the Nature of Man.

2. I will be taking strong exception to the conclusions of the official report on the P.R.F.'s work several times in the course of this and following discussions. I feel the report was biased by the fact that it had to be cut severely before publication.

3. Some mention of that experiment was included in the first version of the report but was deleted later when the report was cut for publication.

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