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Journal of Near-Death Studies

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Editor’s Foreword

We open this issue of the Journal with a Guest Editorial by medical consultant Lee Baumann exploring the significance of light in near-death experiences (NDEs). Baumann notes the prominent role that light plays in NDEs and its frequent association in those experiences with divinity. He then describes experiments in physics that appear to show that light is omnipresent, omniscient, and omnipotent, and that light exhibits conscious qualities. Baumann concludes that texts from various world religions support the view that light is not just a metaphor for the divine, but may in fact be the literal embodiment of God.

The lead article in this issue is psychologist Carlos Alvarado’s historical review of Italian psychical research Ernesto Bozzano’s studies of what he called “the phenomena of bilocation.” Bozzano included under the rubric of bilocation a wide variety of phenomena that indicated the existence of a subtle body capable of leaving the physical body, including NDEs, out-of-body experiences, luminous emanations that left the body at death, and phantom limb sensations. Alvarado suggests that Bozzano’s work has been neglected to the detriment of contemporary research into the question of survival.

This issue also includes an article by family physician Robert Sheeler describing the incorporation of NDEs into the medical school curriculum. In the context of their socialization into the role of physicians, first-year medical students are exposed to cases of and information about NDEs as a means of teaching professionalism, respect for individual patients, differing cultures, and the differing beliefs of both patients and colleagues.

We conclude this issue with a letter to the editor from social worker Michael Krumper questioning whether British scholar Anthony Peake’s “Ferryman Thesis” of NDEs can accommodate veridical out-of-body perceptions and apparent extrasensory perceptions, and Peake’s response; and a letter from medical sociologist Harold Widdison critiquing the statistical analyses of research into knowledge of and attitudes toward NDEs.

Bruce Greyson, M.D.
Guest Editorial

The Significance of Light in the Near-Death Experience

T. Lee Baumann, M.D.
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ABSTRACT: Light has long been recognized as a principal characteristic of the near-death experience (NDE). However, its significance has been widely debated. This paper details the significance of light in the NDE, and it further suggests that science supports the contention that the light of the NDE represents the presence of a loving and concerned Creator. I cite well-established and celebrated physics experiments to support the argument that light exhibits supernatural—even conscious—qualities. The relationship of light to the NDE, quantum physics, and descriptions of God throughout the world's literature serve to illuminate the argument that God and the light may well be one and the same.

KEY WORDS: near-death experience, light, quantum physics, science, spirituality.

In 1975, the year Raymond Moody's Life After Life was first published, I was starting my last year of medical school. At that time in my life, I was still much a religious skeptic, being firmly in the grasp of Charles Darwin's evolutionary influence, my medical and biological training, and the scientific method. Today, I still uphold my conviction in the importance of the scientific method, but, instead of it separating me further from spirituality, it has made me a believer.

The two individuals that I credit most for this transformation are philosopher and physician Raymond Moody and physicist and Nobel Prize winner Albert Einstein. These two individuals played very divergent yet complementary roles in this process. In addition, their undisputed credibility in their respective fields convinced me of the legitimacy of their arguments.

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Light's Omnipresence, Omniscience, and Omnipotence

In 1975, I had already developed a fascination for Einstein's work, especially his special theory of relativity. As a religious skeptic, I was nonetheless enthralled by the mysterious nature of the photon as depicted by Einstein's quantum revolution. I found something ethereal and supernatural in the photon, a coexistent wave and particle, for which time ground to a halt. As several scientists have concluded, this feature alone allowed the photon to be literally everywhere in the universe at once — that is, to be omnipresent (Gribbin, 1984). Allow me to explain.

Imagine if you will that, at 1000 B.C., a photon emerged from Star A. Visualize now, some 3000 years later, that the same photon passes by planet Earth. Although 3000 years have elapsed in our human recognition of time, no time at all has transpired for the photon. Theoretically, it is conceivable for that photon to traverse the entire universe in zero time. Not only that, but the photon can do it repeatedly! In this manner, the photon can be literally everywhere in the universe at once. This is not just scientific theory; it is proven fact.

Oddly, a direct ramification of light's omnipresence is the attribute of omniscience or absolute knowledge. Consider that any entity that exists everywhere in the universe at the same time — and for which time does not exist — has immediate access to everything that has ever happened in the past, everything that is happening now, and everything that will occur in the future (Baumann, 2002). Hence, the photon is also all-knowing.

The relationships only continued to grow. Moody, in his second book, Reflections on Life After Life (1977), further identified the occasional association of absolute knowledge with the NDE, which then disappeared upon the victim's return to the body. Certainly, this coincided nicely with the presence of light in the NDE and science's implied omniscience of light. If acceptance of these concepts seems extreme, one only has to review the proven slowing of time in Einstein's traveling-twin paradox, in which one twin travels at close to light speed. In this well-accepted illustration, physics demonstrates that travel near the speed of light can and will delay relative aging. I refer skeptics to the observed longevity of muons entering the Earth's atmosphere as to the validity of this observation.

Let us assume that there are a pair of twins, A and B. Twin A will travel to star Z, which is 10 light-years away, and return home to Earth, for a total distance of 20 light-years roundtrip. Twin B will
remain on Earth and not travel at all. If twin A travels to star Z at 80 percent of the speed of light (0.8 c), then let us calculate the apparent time necessary to complete the journey—that is, the time it would take if the slowing of time due to twin A's fractional light-speed travel were not considered. This time would also be the observed time for twin B, remaining on Earth, to measure twin A's complete trip. Since we know that twin A is traveling slower than light-speed, we can anticipate that the resulting time will be greater than 20 years. Specifically, since distance equals velocity multiplied by time \(d = vt\), then time equals distance divided by velocity. In this example, the observed time for twin B equals the distance (20 light-years) divided by the velocity (0.8 c), or \(20/0.8 = 25\) years. In other words, 25 years is the time that twin B ages while waiting for twin A to complete the journey.

Now let us calculate the actual duration of the roundtrip as timed by twin A on the journey, taking into account the factor of time dilation as first expounded by Einstein. Since we know that this type of travel will slow time for twin A, we can expect that the result will be less than 25 years. Let us see if that holds true. Time dilation, according to Einstein's equation, equals observed time multiplied by the square root of 1 minus velocity squared \(T' = t \left[1 - \frac{v^2}{c^2}\right]^{1/2}\). In this example, then, time for the traveling twin A equals 25 years multiplied by the square root of \((1 - 0.8^2)c\), or 15 years. Thus, 15 yrs is the actual time it takes twin A to complete the roundtrip! Travel at close to light-speed really does slow time and aging.

Twin B remaining on Earth, however, will have aged 25 years compared to twin A, who is now 10 years younger! This case strikingly illustrates how fractional light-speed travel really does diminish aging and slows time. This is not just an illusion brought about by an apparent slowing of time in one twin. Time, in fact, does slow down. If we were to perform the same calculations, but for twin A's speed of travel increased to actual light-speed c, twin A's actual time for the trip is found to contract all the way to zero. That is, time stops completely.

Finally, the third and last "omni-," omnipotence, is illustrated by the controversial mathematical technique known as renormalization, employed routinely by physicists, which implies that the energy of the photon is infinite (Gribbin, 1984). This technique resulted from the unacceptable infinities that kept presenting themselves in early computations to determine the energy levels of electrons and atoms. The culprit behind the resulting infinities was none other than the extraordinary photon. In retrospect, the infinities were arising from
the inescapable and intimate relationship that atoms and electrons have with light. It is the photon that gives an electron the necessary energy to jump to a higher orbital level in the atom. Conversely, it is the photon that must be discharged from the electron to allow it to descend to a lower electron orbit. Consequently, physicists found it impossible to determine the energies of atoms or electrons without also including the energies of photons.

After much hardship, mathematicians finally developed a technique known as renormalization to successfully eliminate these infinities from the equations. The controversy over this technique arises from the fact that not all physicists are satisfied with the method, some referring to it as a mathematical "trick" or "sleight of hand." The necessity for this technique, however, leads some to deduce that light, similar to descriptions of God, is infinite in power or omnipotent. Others merely deduce that any entity that can exist everywhere in the universe at once, and for which time stops, must possess infinite energy.

One further concept, which I term the "alpha and omega," shows how science has again demonstrated a corollary linking light to descriptions of God. Cosmologists postulate that one of the first constituents liberated at the moment of the Big Bang (alpha) was light. Similarly, scientists hypothesize one of two possible endings to our universe. In one, the universe is visualized as collapsing in upon itself (the Big Crunch), not unlike a replay of the Big Bang in reverse. In the other, the universe is seen dying a cold death as it forever continues to expand, with all matter eventually decomposing over billions of years into only neutrinos and photons. In either of these two scenarios depicting the final days, light is witnessed as one of the (if not the) final universal remnant (omega).

**Light's Consciousness**

To make matters still more confusing to my young, medically inclined mind, science experiments were unveiling more puzzling qualities to our universe. The double-slit and related series of experiments were attributing behavior to the photon that physicists were even describing as "conscious" (Zukav, 1979). In this puzzling series of experiments, light waves anticipated modifications in the experimental setup before they reached them and altered their behavior accordingly. The related experiment that most clearly and
simply displays this trait is the quantum eraser experiment. In layperson's terms, in the unmodified experiment, a photon enters an experimental set-up and scientists observe the photon's course of action. However, in the same experiment but with a modified final stage, the photon alters its course of action before reaching the last stage, and then passes through the modified final stage.

You could not reasonably argue that the photons were reacting in response to the experimental changes because they had not yet reached that juncture of the experiment. The only plausible explanation, however, lies in the realization that time does not exist for rays of light. The photons actually did reach the changes in the experimental set-up, but then they did something remarkable. The photons then traveled back in time, and then they altered their course of action. To the human observer, we perceived this as the photons divining the experimental changes in advance, and then reacting to them midway through the experiment!

Physicist and Nobel Prize winner Richard Feynman exemplified scientists' confusion when he made the following comment regarding this enigmatic experiment:

[The double-slit experiment is] a phenomenon which is impossible, absolutely impossible, to explain in any classical way, and which has in it the heart of quantum mechanics. In reality, it contains the only mystery ... the basic peculiarities of all quantum mechanics. (Feynman, Leighton, and Sands, 1963, p. 372)

Other Scientific Elements Supporting Metaphysical Phenomena

All of the observations made up to this point have suggested intriguing comparisons between the baffling photon and a Supreme Being. Indeed, there are numerous other scientific arguments supporting paranormal phenomena and intelligent design in our universe.

The second law of thermodynamics, also known as entropy, suggests a designing hand in the formation of the universe at the time of the Big Bang. This well-proven law of nature states that the universe is continually, over time, progressing towards increased disorder. When viewed in reverse, however, the converse is also true. As you progress backwards through time, the universe displays increasing order. This reverse progression, all the way back to the beginning of the universe, indicates that an infinite amount of order or design existed at the time of the creation of the universe (Penrose, 1989).
An additional physics experiment implies the existence of two "supernatural" qualities to our universe. In this experiment, two identical photons are emitted from an atom and observed. This EPR experiment (named after its physicist inventor Einstein and his two postdoctoral research associates Boris Podolsky and Nathan Rosen) revealed two new peculiarities to the cosmos. First, our actions on Earth are causing proven changes (albeit, unknown) in other parts of the universe; and second, superluminal (faster than light) communication really exists (Herbert, 1985). These outcomes would prove exceptionally important in explaining several features of certain paranormal phenomena, including the instantaneous nature of the NDE and some death-related visions.

If all these findings were not surprising enough, research performed at the National Institute of Standards and Technology established that human observation could alter (specifically, delay) the outcome of a unique physics experiment performed at that institution (Gribbin, 1995). This experiment determined that human consciousness holds a very unique and special role in the overall functioning of our universe. Further research is needed to determine whether this distinction holds true for other animal species as well. Certainly, this experiment (along with the mysterious attributes of light) offers an additional, valuable piece to the profound puzzle that is the human psyche.

Those who find the above experiments too remarkable to believe need not feel alone. Even the world's leading physicists have expressed astonishment. Danish physicist and Nobel Prize winner Niels Bohr noted, "Those who are not shocked when they first come across quantum theory cannot possibly have understood it" (Goswami, Goswami, and Reed, 1993, p. 73).

Not only is classical Newtonian physics seen to be losing ground to the new arena of quantum mechanics, but this "new physics" appears to be supporting the existence of a higher intelligence and proffering a new credibility to particular metaphysical phenomena. By the time I had settled into my medical practice some years later, all the necessary information for this understanding was at my disposal. The elements of the near-death experience (NDE) that Moody had outlined in his books served to catalyze my final revelation. Fellow physician Melvin Morse summarized the situation well when he observed, "I have found the experience of light to be the keynote event of the near-death experience, the element that always leads to a transformation" (Morse and Perry, 1992, p. 196). I realized that light was the unifying factor supporting all these major events: Einstein's theories, the quantum
physics revolution, the NDE, some psychic and paranormal phenomena, and the ultimate manifestation of God on Earth!

For those who feel that the last connection was an insurmountable leap, I ask you only to consider the following question: In what terms is God described in every major religious text throughout the world? The answer, you will find, is readily apparent: Light. Take, for example, some of the following citations from some of the world’s most recognized religious texts:

Bless the Lord, O my soul!
O Lord my God, thou art very great!
Thou art clothed with honor and majesty,
who coverest thyself with light as with a garment. (Psalms 104: 1–2)

Again Jesus spoke to them, saying, “I am the light of the world; he who follows me will not walk in darkness, but will have the light of life.” (John 8: 12)

This is the message we have heard from him and proclaim to you, that God is light and in him is no darkness at all. (I. John 1: 5)

For she [wisdom] is a reflection of the everlasting light,
And a spotless mirror of the activity of God (Apocrypha: The Wisdom of Solomon)

All around you — in every corner and on every side — is light. Turn to your right, and you will find shining light; to your left, splendor, a radiant light. Between them, up above, the light of the Presence. Surrounding that, the light of life. Above it all, a crown of light ...
This light is unfathomable and endless. (Kabbalah, “Mind, Meditation, and Mystical Experience”)

God is the light of the heavens and the earth. His light may be compared to a niche that enshrines a lamp, the lamp within a crystal of star-like brilliance. It is lit from a blessed olive tree neither eastern nor western. Its very oil would almost shine forth, though no fire touched it. Light upon light; God guides to His light whom He will. (Koran 24: 35)

The Blessed One said: ...
I am light in the moon and sun ...
And brilliance in fire am I,
Life in all beings,
And austerity in ascetics am I. (Bhagavad Gita, VII: 8–9)

But were the spiritual comparisons of God to light only meant to be metaphorical? Any questions I initially had were quickly dispelled
once I began researching light's multiple idiosyncrasies. In the NDE, light represented God, Christ, or a spiritual guide, depending on the victim's religious convictions, but a heavenly and spiritual guide nonetheless. Science had already provided me with the unexpected revelations of light's omnipresence, omniscience, omnipotence, and consciousness. Everything pointed neatly in light's unifying direction. In fact, if one closely examines Einstein's $E = mc^2$ equation, it is logical to see that $m$, which is mass or matter, is a transmutation of $E$, which is pure energy or light. With this equation, it becomes easier to visualize the Eastern religious philosophy that God really is everything.

Conclusion

Other scientists and authors have discussed many of these concepts, offering fresh perspectives that contributed to this melding of scientific discovery and spiritual conviction (Davies, 1982, 1983; Gribbin, 1984, 1995; Greene, 1999; Herbert, 1985; Schroeder, 1997; Templeton, 1994, 1995; Zukav, 1979). By the time I had completed my research and embarked on writing *God at the Speed of Light* (2001), there was no longer any doubt in my mind. Earlier, science had been my spiritual adversary. Now, it was my champion. If Light was not literally the embodiment of God, the two were certainly intimately related. My subsequent investigations have only confirmed these earlier findings. For instance, some past-life regressions and clairvoyant pathways have also followed "the light" (Baumann, 2005).

Science stands at the threshold of validating the Creator's existence. Raymond Moody and the NDE were crucial catalysts in this revelation. Because $E$, representing the pure energy of Light and God, equals $mc^2$, then truly, God is all things, and, together with light, is uniquely omnipresent, omniscient, and omnipotent, making God and Light understandable features of the near-death experience.

References


ABSTRACT: Italian psychical researcher Ernesto Bozzano (1862–1943) was a well-known student of parapsychological phenomena and a strong defender of the concept of survival of bodily death. This paper includes an excerpt of what Bozzano referred to as the phenomena of bilocation, a term he used for the phantom limb sensations experienced by amputees, autoscopy, out-of-body and near-death experiences (OBEs and NDEs), and a variety of luminous or cloud-like emanations that clairvoyants claimed left the body at the moment of death. He believed these phenomena indicated the existence of a subtle body capable of exteriorization during life as well as at the moment of death. I present Bozzano’s ideas in the context of his career as a psychical researcher and of previous discussions of the topic found in the early literature of Spiritualism and psychical research. Although some contemporary students of OBEs and NDEs still speculate on the relationship of these phenomena to the concept of survival of death, Bozzano’s work is not widely cited today and few researchers have followed up his method. Nonetheless, his work is of historical interest, reminding us of areas and phenomena that deserve further study.

KEY WORDS: Ernesto Bozzano, bilocation, out-of-body experiences, deathbed phenomena, apparitions of the living, survival of death.

Italian psychical researcher Ernesto Bozzano (1862–1943) was an important defender of the concept of survival of death through the study of the phenomena of parapsychology. Part of this work centered on the phenomena of “bilocation,” a term he used to refer to the
exteriorization or projection of both consciousness and subtle bodies from the physical body. This term is usually used in the Christian literature to refer to instances in which saints are seen as an apparition in a location different from where their physical body is actually located (Gregorio, 2004). Bozzano’s concept of bilocation included out-of-body experiences (OBEs), near-death experiences (NDEs), and other phenomena I will discuss later in this paper.

Although Bozzano was an active contributor to the Italian and French literatures on psychic phenomena from the turn of the century to the early 1940s, his writings on bilocation are generally forgotten today. This work does not appear in a number of comprehensive discussions of the topic of survival of death that include OBEs (Almeder, 1992; Braude, 2003; Fontana, 2005; Gauld, 1982; Roll, 1982). While Bozzano has been cited in some discussions about OBEs, these citations have been limited to his views about specific features of the phenomena (Alvarado, 1997, pp. 21–22; Irwin, 1985, p. 22). But Bozzano’s actual work, that is, his particular approach to the analysis of bilocation, and his conceptualizations of this phenomena, have been neglected (for an exception see the brief discussion in Alvarado, 1989, p. 30). Such neglect may stem from a variety of reasons. Most of Bozzano’s works appeared before 1940 and they were published mainly in Italian and French. Furthermore, many of Bozzano’s methodological and conceptual assumptions may be questioned by contemporary academic researchers who study the relevant phenomena, as I will discuss later.

However, Bozzano’s work deserves to be better known not only because of its place in the history of the subject, but also to assess its relevance today. In order to contribute to the dissemination of his ideas about bilocation, I reprint here one of his later discussions on the subject. This will be preceded by a general discussion of Bozzano and the context of his ideas, that is, the literature discussing the belief that consciousness can leave the body both during life and at death. In addition, after presenting the excerpt of Bozzano’s writings, I will briefly discuss his work in the context of modern developments.

**Bozzano and Psychical Research**

By the early 1890s, when Bozzano became interested in psychic phenomena, both Spiritualism and psychical research had developed a considerable literature (Inglis, 1992). Although there had been much
interest in telepathy (Luckhurst, 2002), many of the efforts of psychical researchers focused on the empirical study of phenomena that some believed indicated the possibility of survival after bodily death. This approach was very influential on the research agenda of a variety of psychical researchers, including those of the London-based Society for Psychical Research, founded in 1882 (Alvarado, 2003; Gauld, 1968). Studies of this type included research into haunted houses, apparitions, and the performances of mediums, that is, individuals who presumably were able to manifest the influence of deceased persons. The phenomena of mediumship included visions, speaking and writing, and such physical effects as telekinesis (movements of objects without contact) and materializations (appearances of body parts or whole bodies) in the séance room.

Bozzano began to study psychic phenomena in 1891 and soon gained an international reputation for a career devoted to establishing the existence of spirit (Alvarado, 1987a, 2000a; Bozzano, 1924; Iannuzzo, 1983; Ravaldini, 1993; Siegel and Hirschman, 1983). In looking back on his work, some said Bozzano was the dean of Italian spiritists and psychical researchers (Fodor, 1933/1966, p. 36). His writings were hailed as among the classics of modern Spiritualism (Meyer, 1928, p. 439).

By his own admission, Bozzano had a materialistic approach to life and intellectual concerns, but his reading of the psychical research literature and later experiences with mediums convinced him that the phenomena were real and that many of them indicated that humankind survived bodily death (Bozzano, 1924). This belief, as well as his experiences with the influential Italian physical medium Eusapia Palladino (1854–1918) (Alvarado, 1993), were expressed in his book Ipotesi Spiritica e Teoria Scientifiche (Bozzano, 1903).

Throughout the years Bozzano became known for many reasons, but I will focus here on those I consider to be the most important.

First, Bozzano produced highly polemical writings countering antisurvival speculations. This included, but was not limited to, criticisms of French physiologist Charles Richet (1850–1935) and psychical researcher and popularizer of science René Sudre (1890–1968) (Bozzano, 1923b, 1926). His criticism of Sudre was published in book form, in which Bozzano replied to Sudre’s attempts in his textbook Introduction à la Métapsychique Humaine (1926) to explain survival-related phenomena in purely psychological terms or as the parapsychological powers of the living.

Second, Bozzano argued that psychic phenomena showed that human beings had a nonphysical component. For example, he considered
telepathy to be “basically a manifestation of a psychic or spiritual nature” (Bozzano, 1933, p. 148; this, and other translations, are mine) and a faculty “independent of the psychophysiological functions of the cerebral organ” (p. 149). Similarly, in his book *Dei Fenomeni di Telestesia* Bozzano argued that telesthesia (or clairvoyance) was a spiritual, nonphysical faculty (Bozzano, 1942, pp. 172–173). This nonphysicality was made evident in his discussions of phenomena that indicated survival of death such as haunted houses and deathbed visions (Bozzano, 1919/1925c, 1923c). In fact, Bozzano believed that survival of death was proved beyond a reasonable doubt. In his view, the investigations conducted in different areas of psychical research without prejudice and following a scientific approach “all converge ... in the experimental demonstration of the existence and the survival of the soul” (Bozzano, 1923c, p. 260).

Third, in an argument closely related to the previous point, Bozzano actively defended the view that supernormal subconscious functions were independent of biological evolution. In an early article he stated that the powers of the subconscious were not affected by natural selection. Furthermore, he affirmed in the article (following Myers, 1903) that these powers belonged to a spiritual realm and that their purpose was to be used after bodily death (Bozzano, 1906, p. 561; for later discussions of evolution see Bozzano, 1923a, ca. 1938).

Fourth, and also related to the second and third points, Bozzano (1926, ca. 1938) believed that survival of death was proved by the combined consideration of phenomena produced by the dead and by the living, the latter of which Bozzano referred as “animism.” Although traditionally the word “animism” is used to refer to the belief that objects and other aspects of nature have a spiritual essence, Bozzano here followed Alexander Aksakof (1890/ca. 1906) in using the term to denote the psychic powers of the living. This position differed from that of those who saw the psychic powers of the living as mere explanations for survival phenomena (Richet, 1924; Sudre, 1926). Because such animistic phenomena as telepathy and clairvoyance were not considered to have physical explanations or to be shaped by biological evolution, Bozzano saw them as demonstrating the existence of a nonphysical component during life. Instead of using animistic phenomena to explain spiritistic phenomena, Bozzano argued that they should be seen as the complement of discarnate influence:

Both are indispensable for the purpose and cannot be separated, since both are the effects of a single cause; and this cause is the
human spirit, which, when it manifests in transient flashes during “incarnate” existence, determines animistic phenomena, and when it manifests in a “discarnate” condition in the world of the living, determines spiritistic phenomena” (ca. 1938, pp. viii–ix).

Fifth, Bozzano published many studies of specific topics or types of phenomena in which he brought together many cases from both the spiritualistic and psychical research literatures. Among these were how symbolism appears in such phenomena as extrasensory perception (ESP) and apparitions (Bozzano, 1907); the different ways in which thought and will can create reality, as seen in such physical phenomena as materializations and thought-photographic effects (Bozzano, 1926–1927/1929); and the occurrence and importance of psychic phenomena in so-called primitive people (Bozzano, 1927). Furthermore, Bozzano conducted many studies of the manifestation and gradation of features in a variety of specific phenomena such as haunted houses, deathbed phenomena, mediumistic communication from the living, cases of “transfiguration” in which the medium’s face was altered, clairvoyance, and “transcendental” music (music heard at deathbeds or produced by mediums), and mediumistic communications describing the experience of death (Bozzano, 1919/1925c; 1923c, 1925b, 1934b, 1942, 1943/1982, 1952).

In this work, Bozzano arranged cases in terms of types and tried to establish continuities between the different types to support his spiritualistic interpretations. In his analyses, Bozzano emphasized the importance of the principle of convergence of proof. This referred to the confluence of different types and features of the phenomena to support his survival interpretations. For example, in his book *Phénomènes Psychiques au Moment de la Mort*, Bozzano (1923c) used a variety of deathbed manifestations, including visions, movement of objects, and music heard at deathbeds, to defend the concept of discarnate agency. Some specific characteristics of the cases, such as collective percipience, were also discussed to support the point.

In his arguments, Bozzano characteristically emphasized that his conclusions were logical, being strictly derived from the analysis of facts. For example, in a paper on telepathy, he referred to the “indubitable existence” of facts “demonstrated” by his “comparative analyses of the facts” (Bozzano, 1933, p. 156). He took a similar approach in the excerpt on bilocation phenomena reprinted below.

Bozzano’s numerous publications were used as a convenient reference for illustrative purposes even by authors who did not follow
his conclusions. The latter was particularly true among writers outside of the Anglo-American tradition (Richet, 1922; Sudre, 1926). Furthermore, a widely used reference work, Nandor Fodor's (1933/1966) Encyclopaedia of Psychic Science, mentioned Bozzano repeatedly in many entries, including those about hauntings (p. 165), premonitions (p. 299), symbolism (p. 374), and xenoglossy (p. 410). However, Bozzano's influence regarding ideas of nonphysicality and survival was limited, for the most part, to those individuals who were already convinced of those interpretations. In fact, his books were frequently criticized by others who raised questions about evidentiality in the cases he discussed and about his interpretation (De Vesme, 1934; Driesch, 1932/1933, pp. 34, 155; Saltmarsh, 1938). One of his strongest critics pointed out that Bozzano confused facts and their interpretation, and that he had a tendency to assume dogmatically that he had reached the truth through analyses of cases that did not, in fact, provide all the necessary information for such conclusions (De Vesme, 1935).

The Immediate Context for Bozzano's Ideas of Bilocation

Before presenting an excerpt of Bozzano's writing on bilocation, I want to emphasize the importance of the literature that influenced him. Bozzano was extremely well read both in the publications that preceded him and in those contemporary to his work. Some of what I mention below was cited by Bozzano and it is likely that he was familiar with the rest of this literature. Leaving aside discussions of concepts and cases related to ideas about the separation of the soul, spirit, or subtle body from the physical body published before the 19th century (Mead, 1919; Poortman, 1954/1978; Zaleski, 1987), I will discuss briefly the literature that provided a context for Bozzano's later ideas. Readers interested in more details about some of these materials should consult my previous reviews (Alvarado, 1980, 1989) and those of Susan Blackmore (1982), and Harvey Irwin (1985).

In addition to conventional religious views about the spirit, the soul, and its destiny (Alger, 1878), during the 19th century several movements promoted the existence of some component of human beings capable of slightly detaching from or completely leaving the physical body, and thus producing a variety of psychic phenomena. One
of these movements was mesmerism. In the view of an early mesmerist, the somnambulist (or "magnetized" individual) could show clairvoyance because the soul was temporarily detached from the usual sensory pathways and could receive impressions directly from a subtle principle that acted as an intermediary between the physical body and the soul (Chardel, 1818, p. 37). Others referred to this principle as a semimaterial body made of nervous fluid (Charpignon, 1851, p. 76).

Some of the old mesmerizers used to "send" their magnetized subjects to distant locations to test their clairvoyance, a phenomenon that came to be called "traveling clairvoyance." While some subjects only reported images of distant locations, others seemed to feel that they were actually in that location. In a description of what seemed to be an OBE in a magnetized individual, one author wrote:

It appeared, as if her mind partially left her body, to go to the place sought; ... From these distant places, the mind seemed to come fully back ... But this coming back was attended with ... much prostration, and ... alarming palpitation of the heart ... ." (Haddock, 1851, p. 107).

Later magnetic work included that of French researchers Albert de Rochas (1837–1914) and Hector Durville (1849–1923). Their magnetized subjects claimed they could see their own doubles or the doubles of other subjects (De Rochas, 1895; Durville, 1909). Furthermore, Durville (1909) presented pictures of the outlines of his subject's exteriorized "phantoms" and recorded observations of physical phenomena produced by them at his command.

Some reported that communications received through mediums referred to a fluidic body called the "perispirit" that allowed the immaterial spirit to use the physical body and to produce all kinds of phenomena, such as movement of tables and visible apparitions (Kardec, 1863). The spirit was reportedly able to leave the physical body in certain conditions such as sleep or trance, although

during life the spirit is never completely separated from the body. The Spirits, similar to some seeing mediums, recognize the Spirit of a living person through a luminous trail coming from his body, a phenomenon that does not take place when the body is dead ... . (Kardec, 1863, p. 146)

Similarly, it was argued that a person "may in the present life detach his soul, in a greater or less degree, from its corporeal organization" (Jung-Stilling, 1808/1851, p. 229).

Apparitions of the living were explained by many through the concept of a "double," or subtle replica of the human body housed
inside it but able to leave the body in certain conditions. Examples of this idea are available in the work of such authors as Adolphe D'Assier (1883/1887), Annie Besant (n.d.), Louis-Sophrone Fugairon (1907), and Sylvan Muldoon and Hereward Carrington (1929). In addition, many of these were cases in which the person who appeared was not conscious of leaving the body, such as those in which the apparition coincided with crises brought on by illness, accidents, or being near-death. These are the cases that formed the subject matter of a study that, to this day, is considered one of the central classics of early psychical research, *Phantasms of the Living* (Gurney, Myers and Podmore, 1886). Although the main thesis of the book was not the projection of a double, but the idea that these apparitions were hallucinations caused by telepathy, one of the authors of the book disagreed (Myers, 1886). As he elaborated in a later publication, some people had a “special idiosyncrasy which tends to make the phantasm of a person easily perceptible; the breaking loose of a psychical element, definable mainly by its power of producing a phantasm” (Myers, 1903, Vol. 1, p. xx).

In addition to apparitions, there was much speculation on the role of the double in explaining materialization phenomena. Thus, in one case it was argued that the materialization of a whole body was “not an independent spirit, but the spirit, or ‘double’ of the medium . . . .” (Anonymous, 1873, p. 452). The concept was also used later with medium Eusapia Palladino to account for phenomena such as the imprints of faces and hands on clay (De Rochas, 1897, p. 25). Other ideas about subtle bodies came from a variety of occult teachings (Papus, 1900). The movement of Theosophy was particularly influential, in that it emphasized a variety of subtle bodies with different properties and functions (Deveney, 1997). As one representative of this movement wrote, some people could project their “astral body” (Judge, 1893, Chapter 5).

Outside of Theosophy, there were also published cases of individuals claiming to have had the experience of being out of the body. Some consisted of a single or a few experiences (Committee of the London Dialectical Society, 1871, pp. 162–163; Crowe, 1848, Vol. 1, pp. 178–179; Durville, 1909, pp. 82–89; Funk, 1907, pp. 181–184). For example, in one case the experiencer was studying for a medical exam and felt unable to move. He wrote:

> I suddenly seemed to divide into two distinct beings . . . . One of these beings remained motionless on the sofa; the other could move some
little distance, and could actually look at the motionless body on the sofa. There existed between these two "beings" an elastic force which prevented the one from severing its connection with the other. At will I could make the second "being" lie on the floor, or move some distance about the room. As the distance between the two beings became greater, so did the elastic force seem to become more powerful. A limit was soon reached at which no effort of will could effect a further severance. This limit was about two yards. When this limit was reached, I could feel resistance to the separating efforts in both "beings." I resisted the feeling of fusion. It could be prevented at will. Eventually, with a curiosity to know "what was going to happen next," I allowed it to proceed. The two beings then rapidly united again. (Simons, 1894, p. 288)

There were also accounts of recurrent OBEs published in such books as The Beginnings of Seership (Turvey, ca. 1911) and My Travels in the Spirit World (Larsen, 1927), and in articles (Fox, 1920). None of these was as detailed about the features of the experiences as Muldoon’s discussions in The Projection of the Astral Body (Muldoon and Carrington, 1929). This book was and remains influential because of its detailed discussion of induction methods and of specific "astral" phenomena. Another influential work along these lines was Méthode de Dédoulement Personnel, by French occultist Charles Lancelin (1852–1941). He discussed such projection methods as the training of the will and autosuggestion, as well as the importance of a variety of physical conditions to successfully project the astral body such as ambient temperature, bodily position, and mood (Lancelin, 1913/1986).

Furthermore, there were NDE accounts as well (Myers, 1892, pp. 180–186, 195–200). One of them was the widely cited case of physician A. S. Wiltse. After he experienced some rocking motions he wrote:

> I felt and heard ... the snapping of innumerable small cords ... I began slowly to retreat from the feet, toward the head ... I passed around the brain as if I were hollow, compressing it and its membranes, slightly, on all sides, toward the centre and peeped out between the sutures of the skull, emerging like the flattened edges of a bag of membranes. I recollect distinctly how I appeared to myself something like a jelly fish as regards colour and form ... As I emerged from the head I floated up and down and laterally like a soap-bubble attached to the bowl of a pipe until I at last broke loose from the body and fell lightly to the floor ... I seemed to be translucent, of a bluish cast and perfectly naked ... (Myers, 1892, p. 181)

In addition to apparitions of the living, OBEs, and NDEs, Spiritualism always delivered the message that death was a transition to another world. This idea came frequently through mediumistic
communications received from supposed spirits. Chemist and physician Robert Hare (1781–1858) recorded mediumistic messages in his book *Experimental Investigations of the Spirit Manifestations* (1855), in which communicators described “spiritual birth,” descriptions of the spirit leaving the physical body at death.

Another interesting line of discussion characterized death as a permanent OBE. In one such case apparently clairvoyant individuals observed emanations from the body at death, a description of which appears in the excerpt reprinted below. Clairvoyant and “inspired” speaker Andrew Jackson Davis (1826–1910) described the process as follows:

The clairvoyant sees right over the head ... a magnetic halo ... in appearance golden, and throbbing ... . The person has ceased to breathe, the pulse is still, and the emanation is elongated and fashioned in the outline of the human form! ... . The head of the person is internally throbbing ... . The golden emanation ... is connected with the brain by a very fine life-thread. Now the body of the emanation ascends. Then appears something white and shining, like a human head; next, in a very few moments, a faint outline of the face divine; then the fair neck and beautiful shoulders; then, in rapid succession, come all parts of the new body down to the feet—a bright, shining image, a little smaller than this physical body, but a perfect prototype or reproduction ... . The fine life-thread continues attached to the old brain ... . When this thread snaps, the spiritual body is free! And prepared to accompany its guardians to the Summer-Land (Davis, 1868, pp. 15–16).

In one of these cases medium William Stainton Moses (1839–1892) reported that he observed a luminous aura around a dying individual (Anonymous, 1887/1904). In another case the husband of a dying woman observed for several hours mists and spirits around his wife, as well as the departure of her spirit, which was connected to the physical body through a cord (Anonymous, 1908, pp. 309–310). None of the other people present saw any of this. Such accounts of death may have inspired allegedly successful attempts to photograph and weigh the departure of some component of the human body at death (Baraduc, 1908; MacDougall, 1907). But similar claims of instrumental detection were also found in the literature in which occasional and usually controversial photographs were taken that were said to depict the double of living persons (Oxon, 1876).

Many believed that these phenomena supported the view that “something” could be exteriorized from the body. This “something” was believed to be able to carry consciousness on occasion and to separate
from the body permanently at death (Mattiesen, 1931, 1936–1939, Vol. 2, pp. 296–411). However, not everyone shared these views. English psychical researcher Edmund Gurney (1847–1888) believed that some apparitions of the living in which the persons who appeared felt they were at the location where they were seen could be explained by telepathy between the two parties (Gurney, Myers, and Podmore, 1886, Vol. 2, Chapter 17). Gurney also described nonveridical spontaneous sensations of feeling oneself out of the body as a hallucination (Gurney, Myers, and Podmore, 1886, Vol. 1, p. 288, footnote). This interpretation was shared by later writers whom Bozzano cited in his publications (Osty, 1930). Several others did not accept the idea that objective doubles could be projected from the body (Richet, 1922; Sudre, 1926).

Bozzano on Bilocation

Bozzano defined bilocation as a conglomerate of manifestations showing a gradation from phenomena of the living to those taking place during the dying process that, in his view, showed the existence of a subtle body and indicated the potential to survive death. Somewhat similar approaches may be found in the writings of Gabriel Delanne (1909), William Harrison (1879), and Frederic W. H. Myers (1903). Bozzano discussed the topic in many publications (1923c, pp. 102–103; 1926, Chapter 10; 1933, pp. 151–152; 1934a; ca. 1938, Chapter 4; 1942, pp. 155–156) and commented on the similarity between descriptions of the process of death given by mediumistic communicators and by clairvoyants (Bozzano, 1952). Bozzano’s main discussion on the subject consisted of a multipart paper (Bozzano, 1911) and an expansion of this paper into a book, the French translation of which was entitled Les Phénomènes de Bilocation (Bozzano, 1934/1937).

In this book, Bozzano claimed that bilocation phenomena were of “decisive importance” to the argument for survival of death because they proved the existence of an “etheric body” within the somatic body that may exit the physical body during its life (Bozzano, 1934/1937, p. 8). He discussed the topic using four groups of cases. The first group included phantom limb sensations experienced by amputees and the sensations of doubling reported by hemiplegics. Not convinced of the validity of conventional neurological explanations for these phenomena, Bozzano believed instead that the sensations in question were
explained by a fluidic body and that they represented the initial stage of bilocation phenomena.

The second group of cases were those of visions of the self while consciousness remained in the physical body (autoscopy). Bozzano accepted that some of these cases had a pathological component. But overall, he saw them as the transition between being in the body and getting out of it. This was particularly true of a small number of cases in which consciousness seemed to shift between the physical and the autoscopic body.

The third group of cases consisted of those in which consciousness was felt to be definitively separated from the physical body (OBEs and NDEs). These cases took place mainly “during absolute rest of the body” (Bozzano, 1934/1937, p. 41). Bozzano emphasized cases in which the person had been to a place far from the body and obtained information about events taking place at that distant location.

Finally, in the last group of cases Bozzano included those accounts in which the phantom of the living person was perceived by a third party. Not counting an NDE case that was not perceived by anyone else other than the experiencer, the chapter included eight accounts of apparitions of the living and 13 accounts of emanations from the body of dying individuals. The latter referred to mists or cloud-like forms, luminous manifestations, and the shape of the dying individual.

Bozzano admitted that in some cases it was difficult to distinguish between the projection of a double and a telepathic hallucination. Nonetheless, he argued that the projection explanation was a better one in many cases, particularly in those cases in which the phenomenon was perceived collectively. Observations made around the dying individuals were particularly impressive to Bozzano, who considered them to be an “embryonary or rudimentary” doubling representing the “initial phase of ‘deathbed bilocation’ phenomena” (Bozzano, 1934/1937, p. 120). This initial stage was the exteriorization of fluid subtle energies or matter in a diffuse state, a process that ended with the formation or the condensation of the whole etheric body. Furthermore, Bozzano believed that the deathbed vision of the dying themselves, as well as apparitions of the dead, complemented bilocation and represented the functioning of consciousness after separation from the body. However, those phenomena received only a brief mention at the end of the book.

Following his well-known approach to case analyses, Bozzano (1934/1937, p. 172) argued that his classification and analysis of cases put emphasis on “legitimate and conclusive” evidence he obtained through
"comparative analysis and the convergence of proofs." Each of the above mentioned phenomena was seen to converge on the conclusion of the existence of a fluidic body. The objective nature of this agent, Bozzano believed, was evident because of his use of "procedures of comparative analysis with hundreds of facts of the same genre ... which represent all the gradations that this phenomenology shows ...." (Bozzano, 1934/1937, p. 172). Starting with sensations within the body, the cases progressed to seeing oneself from the physical body, to having consciousness projected out-of-the-body into a phantom body, and finally to what seemed to Bozzano to be a permanent projection from the body. The latter was the only group of cases that did not depend on the testimony of the experiencer.

In the final pages of his monograph Bozzano stated that the acceptance of an etheric body as an explanation for the above mentioned phenomena implicated the existence of an etheric brain. Furthermore, this conclusion showed the existence of the spirit, an entity that ruled the mind using the body to manifest itself but independent of it (Bozzano, 1934/1937, p. 175).

The excerpts reprinted below consist of parts of Chapter Four of Bozzano's *Discarnate Influence in Human Life* (pp. 101-149), published around 1938 (the book was also published in Italian: Bozzano, 1938/1967). The organizing committee of the International Spiritualist Congress, held at Glasgow in 1937, presented an invitation to Bozzano to write this book, asking him to be the Honorary Vice-President of the Congress and to summarize his many years' work on the topic "Animism or Spiritism: Which Explains the Facts?" (Bozzano, ca. 1938, p. vii). The excerpts, with my comments added in brackets, follow:

The generic appellation "Phenomena of Bilocation" is used to designate the various ways in which the mysterious occurrence of "exteriorization of the double" takes place in the bodily organism. These phenomena are of fundamental importance for metapsychical science, since they serve to show that animistic manifestations, although connected with the functions of the psycho-physical organism of the living, have their origin in something qualitatively different from the organism itself. Hence they assume a definite theoretical value for the experimental demonstration of the survival of the human spirit. In other words: the phenomena of bilocation demonstrate that within the "somatic body" there exists an indwelling "etheric body," which in rare circumstances of weakening of vitality in the individual (physiological sleep, hypnotic sleep, mediumistic trance, ecstasy, swooning, narcosis, coma) is able to
release itself temporarily from the “somatic body” during incarnate existence. The inevitable inference follows that if the etheric body is able to separate temporarily from the somatic body, preserving its consciousness intact, we must end by recognizing that when it separates definitively at the crisis of death, the individualized spirit will continue to exist in an appropriate environment. This is equivalent to admitting that the fact of the immanent existence in the somatic body of an etheric body, and consequently of an etheric brain, shows that the seat of consciousness, intelligence, memory and supernormal sense faculties, is the etheric body, which is the sublimated and immaterial garment of the discarnate spirit.

In 1910 I published a long monograph on the phenomena under examination [the actual year was 1911]; but as facts of this nature continued to accumulate in great numbers, I decided recently to publish a second edition, double the size of the first. Thus I am in a position to discuss this important question with full knowledge of the subject. In the work alluded to I start from the so-called phenomena of “sensations of wholeness in the amputated,” where, at times, the sense of the wholeness of the missing limb is so real that even if the individual’s attention be distracted, he still feels the sensation that the missing limb would have felt had it been there. And that a limb in a fluidic state really exists there may be concluded from the fact that “clairvoyant sensitives” affirm that they see it. In this connection I recalled the interesting case narrated by Dr. Kerner in his famous book, The Seeress of Prevost, in which the seeress in question, when she met a person who had lost a limb, continued to see the missing limb joined to the body in a fluidic form .... [German poet and physician Justinus Kerner (1786-1862) recorded the trances and psychic phenomena of Frederica Hauffe (1801-1829) (Kerner, 1845). For a discussion of the experiences of amputees as a function of the spiritist concept of the perispirit see D’Assier, 1883/1887, pp. 103-104, and Bouvery, 1897, pp. 44-47].

There is ... no doubt that the phenomena of “sensations of wholeness in the amputated,” concur admirably to demonstrate the existence of an etheric body immanent in the somatic body. Hence the importance they assume for the scientific demonstration of the existence and survival of the human spirit.

I discussed in my monograph, after cases of the above nature, instances of “incipient bilocation” of those suffering from hemiplegia, who sometimes see, on the paralysed side, a longitudinal section of the phantasm of themselves, and affirm that it enjoys a completeness of sensation, a fact inexplicable by Dr. Sollier’s “coenesthesic” hypothesis, since in those afflicted with hemiplegia, far from an exaggeration of the coenesthetic sense, the suppression of this sense exists [Paul Auguste Sollier (1861-1933) published an important book on autoscopy (Sollier, 1903)].

Next follows the cases of “autoscopic bilocation,” in which the subject sees his own phantasm while preserving full consciousness .... I show that if the psychopathic hypothesis formulated by Dr. Sollier to
explain these cases in their totality could be held legitimate before the advent of metapsychical investigation, it is now no longer so, since in the same manner as the investigations of telepathy demonstrate that not all hallucinations are fictitious, so the investigation of the phenomena of bilocation shows that not all episodes of autoscopy are psychopathic [The most important study of telepathy used to show that not all hallucinations were subjective was that of Gurney, Myers and Podmore (1886). Other influential works included the studies of Aksakof (1890/ca. 1906), Delanne (1909), and Flammarion (1900)].

I then passed on to the analysis of the cases in which consciousness is transferred to the phantasm, which sees before it its own unconscious body. These are very interesting cases, in which the supernormal sensory faculties emerge.

... The exteriorization of the double takes place during normal sleep, hypnotic sleep, swooning, narcosis and coma; and successively the cases in which the liberated phantasm of a sleeping living person is perceived by other persons; arriving finally at the cases in which the phenomenon of bilocation takes place on the deathbed. This last category is the most important of all. Lastly episodes were cited in which the watchers observed the phenomenon in all phases of its evolution, to the perfect reproduction of a fluidic simulacrum of the somatic body of the dying, an animated, living simulacrum, assisted by apparitions of the dead, who apparently attend at deathbeds for that purpose.

With regard to these last important phenomena of bilocation at a deathbed, I insisted on the vitally important fact that all clairvoyants, no matter to what peoples they belong — civilized, barbarous or savage — describe the development of the phenomena in substantially identical terms; which shows that the clairvoyants describe a positively objective phenomenon; otherwise it would be impossible that all should agree in enumerating the same phases of the phenomenon, wherein are contained particulars so new and unthought of, that by the hallucinatory hypothesis they could certainly not be produced identically in all the hallucinated....

As has already been stated, the phenomena of bilocation in general, but especially those in which the consciousness is transferred to the phantasm, occur in many gradations during states of weakening of vitality in individuals, such as physiological sleep and that induced by anaesthetics, the somnambulistic-hypnotic phases, swooning, coma, the crises of convalescence, nervous exhaustion, or moral depression. They rarely occur in physiologically and psychically normal conditions; in such cases they take place in circumstances of absolute bodily repose, more especially in the period that precedes or follows sleep. In the last circumstance the sense of bilocation is somewhat vague, undecided, and of very short duration.

One of the most notable characteristics of the cases in question would seem to consist of the fact that in cases of the appearance at a distance of the bilocated phantasm, various incidents of veridical
perception of distant things and situations ... almost always occur; these are sometimes observed also in cases in which the double does not go far from its body.

Psychologically speaking, the fact of feeling oneself existing personally, in the fullness of sentiment and conscious faculties, outside the body and contemplating the body, is a fact worthy of profound meditation. It is a feeling difficult to reduce to elucidatory formulas derived from the psychology of the schools, inasmuch as this phenomenon differs radically from those of "autoscopy," in which the conscious self remains in the organism and sees its own phantasm at a distance, a phenomenon analogous to others cited in works on mental pathology, and reducible to a pure and simple case of hallucination. Here, on the contrary, we find the inverse phenomenon which in this particular case leaves no opening for the hallucinatory hypothesis, considering that from the psychological point of view an insuperable abyss exists between the sensation of seeing one's own double and that of finding oneself consciously out of the body, and contemplating the body . . . .

... I will relate only one episode in which the bilocated phantasm begins to exercise supernormal sensory faculties. My friend, the engineer Giuseppe Costa ... narrates the following episode which happened to himself [in a book describing his psychic experiences and opinions (Costa, 1923)]: "... I had been obliged to yield, completely exhausted, to an imperative need of repose, and had thrown myself on the bed, fainting rather than asleep . . . . An unconscious movement of my arm, probably, overturned the lamp . . . and instead of going out, it gave off a dense smoke which filled the room with a black cloud of heavy, acrid gas . . . . I had the clear and precise sensation of finding myself with only my thinking personality, in the middle of the room, completely separated from my body, which continued to lie in bed . . . . I saw my body perfectly recognizable in all its details, the profile, the figure, but with the clusters of veins and nerves vibrating like a swarm of luminous living atoms . . . . I wanted . . . to pick up the lamp and open the window, but it was a material act that I could not accomplish . . . . Then I thought of my mother, who was sleeping in the next room. I saw her clearly through the dividing partition, quietly asleep in her bed . . . . It seemed to me that no effort of any kind was needed to cause her to approach my body. I saw her get hurriedly out of bed, run to the window and open it, as if carrying out my last thought before calling her; then leave her room, walk along the corridor, enter my room and approach my body grippingly and with staring eyes . . . . My mother, questioned by me soon after the event, confirmed the fact that she had first opened the window as if she felt herself suffocating, before coming to my aid. Now the fact of my having seen this act of hers through the wall, while lying inanimate on the bed, entirely excludes the hypothesis of hallucination and nightmare during sleep in normal physiological circumstances" . . . [Costa] . . . succeeded in telepathing his thought to his mother, so as to wake her and bring her to his aid, thus saving him from certain death . . . .
I will ... pass on to relate some examples of another category, wherein are found the greatest number of cases of bilocation; it is also the most important because it deals with phenomena of "death-bed bilocation" which are observed by "sensitives," and often by persons who cannot be considered as such ... I will narrate first an example taken from a group of cases in which the bilocation is of an incipient or rudimentary order and is observed collectively and successively by several persons; this last circumstance is of great evidential value as regards the objectivity of the phenomenon. I consider cases of this kind very instructive, since they represent the initial phase of the phenomena of "death-bed bilocation," in which can be observed the emergence from the physical body of fluid substance in a diffused state, which, after repeated fluctuations caused by partial reabsorption on the part of the organism (corresponding with the fluctuations of vitality in the sick person) ends by integrating into a "living and animated etheric body" as the supreme hour approaches [Such ideas about "fluids" should be seen in the context of speculations about the nature of subtle bodies, such as those in Baraduc (1893), Besant (n.d.), Dürville (1909), Fugairon (1907), Kardec (1863), and Lancelin (1913/1986), and a variety of concepts of bodily forces meant to explain mediumistic phenomena, as seen in the writings of Crookes (1874), Geley (1924/1927), Schrenck-Notzing (1920/1925), and Sudre (1926); see also Alvarado (2005)].

It follows that cases of an incipient order are not less important than those in which the bilocation is complete, since they instruct us concerning the phases which determine the great phenomenon in the supreme hour of the final detachment of the etheric body ... I take from Light ... an episode in which there were eight percipients [For the actual reference see Monk (1922). Light, a British spiritualistic journal, started publication in 1881]. Miss Dorothy Monk sent ... the following account of what took place at her mother's death-bed, on January 2nd, 1922.

"After a long illness, terminating with gastric influenza, mother died of heart failure ... All through the night our family, consisting of father, a brother, five sisters and myself, watched by her ... During the afternoon we saw bright blue lights, sometimes near her and sometimes about the room. We could only see them for a second or two, and usually only one or two of us at a time. I watched carefully, and three times out of four when I saw one near her she stirred and endeavoured to speak, but was past it by this time. At dusk that afternoon as she lay perfectly quiet, I and three sisters all at once noticed a pale-blue mauve haze all over her as she lay. We watched it and very gradually it deepened in colour until it became a deep purple, so thick that it almost blotted out her features from view, and spread all in the folds of the bed-clothes like a purple fog. Once or twice she feebly moved and the colours travelled with them. We thought it very wonderful, so called the two remaining sisters to see if they could see it too, and they could. At this time our sister saw a grey smoke-like object pass between two chairs; it was about three feet high and just glided away.
from the bed. I was sitting there, but did not see it. As we watched, very gradually patches of bright yellow light, like sunlight, appeared on the pillow; one at the left side of her head was particularly bright sometimes, and then would slowly dim and once more become bright again. Mother's old friend was also in the room during this time, but she neither saw the purple mist around mother nor the blue lights, and said that our eyes were tired with watching, and that we were overwrought. We drew her attention to this very bright patch on the pillow, and she saw it, but said it was the reflection of the fire or gaslight. We screened both, and she then went round the room and moved pictures and photograph frames and tilted the mirror, but without making any difference to the light. At last she came and put her hands directly over it, but without shading it in any degree; after that she sat down without saying a word.

"Early in the evening I saw my eldest sister, and the other sister who saw the grey object before, both turn and look at the same time to the place where it had appeared, and they saw it once more; again I did not see it, but they both did, and both agreed as to the description. The sister who first saw it about this time also saw a large blue globe-like light resting on mother's head, but none of the rest of us could see it. She explained that the inside appeared all moving and gradually it turned to deep purple and faded out.

"About seven o'clock that evening mother's lips parted and from that time we gradually saw a thick white mist collect above her head and spread across the head of the bed . . . It came from the top of her head, but collected more thickly to the opposite side of the bed to which she was lying. It hung like a cloud of white steam, sometimes so thick we could scarcely see the bed-rails, but continually it was varying although it moved so slowly as to be scarcely perceptible. I and my five sisters were still with her and all saw it distinctly, also my brother and one brother-in-law. The blue lights continued about the room, also tiny flashes of yellow, like sparks, appeared sometimes. All this time mother's lower jaw gradually fell a little. For some hours we saw little difference except that a halo of pale yellow light rays came round her head; they were about seven in number; they varied in length from twelve to twenty inches at different times. By midnight everything had cleared off, but she did not die until 7:17 on the morning of January 2nd.

At 6:15, one sister, who was resting in another room, heard a voice say: 'Another hour now ... another hour now;' it roused her, and she came back to mother who finally breathed her last one hour and two minutes later . . . ."

No doubt can arise as to the objectivity of the complex manifestations which occurred, seeing that the final and most important phase of the manifestation was observed collectively by all those present.

The greater part of the other preceding and varied manifestations were also perceived collectively, though not always by all, and two of them were decidedly "elective." This would signify that the manifestations observed collectively were "ectoplasmic" emanations, and consequently visible to normal sight, while the apparition of a greyish
smoky column perceptible to only two persons, and the luminous globe perceptible to only one person, were of a qualitatively different character, and consequently perceptible only to the eyes of “sensitives” [On selective perception of such phenomena see Gurney, Myers, and Podmore (1886, Vol. 2, pp. 221–223, 237–238, 619–622), and Anonymous (1908). Bozzano himself discussed selective perceptions in his writings about hauntings (1919/1925c, pp. 58 and 128–129), deathbed visions (1923c, p. 234), and music heard at deathbeds (1943/1982, p. 117). “Ectoplasmic” refers to ectoplasm, a substance supposed to come out of the body of physical mediums to provide the basis for materializations (Geley, 1924/1927); see also Alvarado (2005). There are some reports that suggest that some of these supposed ectoplasmic structures are not always visible to everyone in a position to see them (Crookes, 1874, p. 92; Schrenck-Notzing, 1920/1925, pp. 175 and 181)]. It should accordingly be inferred that the phenomenon of the smoky column three feet high, and the other of a luminous globe over the head of the dying woman, must have represented the incipient exteriorization of the “etheric body” and the “mental body” of the invalid, not yet integrated and fused into one phantasm. I note in this connection that several cases are registered in my classification, in which, at the moment of death, the watchers saw a luminous globe issue from the head of the dying and rise rapidly, vanishing near the ceiling; while it is known that Dr. Baraduc succeeded in photographing an analogous apparition of a luminous globe at his wife’s deathbed [French physician Hyppolyte Baraduc (1850–1909) took pictures of his wife as she lay in bed dying. The pictures show luminous globes of light (Baraduc, 1908). Baraduc was well known for his study of vital forces through a moving needle instrument (Baraduc, 1893) and photography (Baraduc, 1896)].

From another point of view, I observe that the brilliant bluish lights floating about the room, and often approaching the dying woman, who showed herself conscious of them by moving and trying to speak, were presumably of external origin; that is to say, what appeared as brilliant bluish lights to the sensitives watching, were for the dying woman the spirit forms of deceased relatives . . . .

A difficulty remains to be solved in that the fluidic exteriorization, after continuing to take place for five consecutive hours, dissolved instantly, while the invalid continued to live for another seven hours . . . . In that case it may be inferred that if the phenomenon dispersed seven hours before the invalid’s death, this would be explained by the presumption that with the total emergence of the etheric body, the irradiation of vital fluids had ceased; hence the phenomenon vanished from normal sight, while the etheric body fully developed, hovering above the somatic body, remained there, perceptible only to the finer sight of sensitives and mediums [For a discussion of cases where the form of the dying person was actually seen close to or above the dying body see Crookall (1967); see also Anonymous (1908, pp. 309–310). Bozzano was familiar with a book by Joy Snell (1918), who had many visions of this sort during her career as a nurse].
However this may be, the perplexities inherent in the manner in which the phenomena of bilocation occur, have nothing in common with the problem depending on the objective reality of the phenomena themselves; and when all the various ways in which the phenomena under examination are classified, analysed and compared, beginning with that significant phenomenon of “sensations of wholeness in the amputated,” and ending with the cases of clairvoyants who watch the reintegration and departure of a perfect etheric body, vitalized and animated, and also assisted by apparitions of the deceased who apparently attend at the deathbed for that purpose – when, I say, we are able to judge from the complex mass of facts, then the perplexities that remain to be solved lose all neutralizing theoretical value; since we are equally led to infer, on the basis of facts, that from henceforth we know enough about the phenomena of bilocation to conclude, without fear or error, that they alone suffice to demonstrate experimentally the existence and survival of the human spirit . . . .

It is in fact evident that the existence of an etheric body immanent in the somatic body takes for granted the existence of an etheric brain within the somatic brain. This admission would clear up at once all the perplexities which have always held back physiologists from admitting the existence of a spirit surviving the death of the body, which perplexities are summed up in the indubitable fact of the existence of a psycho-physiological parallelism in the phenomena of thought, leading inexorably to the conclusion that thought is a function of the brain. There is no doubt that the physiologists were apparently right in concluding this; but they would not be so if the terms of the formidable problem were inverted by the experimental demonstration of the existence of an etheric brain within the somatic brain; in which case the latter would be merely the indispensable apparatus for the translation of the impressions that come to it from the outer world by means of the senses in the form of physical vibrations, into terms of psychic vibrations perceptible to the spirit immanent in the etheric brain . . . . (There was of course a long tradition preceding Bozzano of discussions of the importance of the nervous system in human function and of the mind-body problem (Finger, 2000; Wright and Potter, 2000; Young, 1970). Three authors known to Bozzano, French philosopher Henri Bergson (1859–1941), American philosopher William James (1842–1910) and British psychical researcher Frederic W. H. Myers (1843–1901), postulated the action of a principle (mind, spirit) that was separate from the brain but used it to communicate through it (Bergson, 1908/1911; James, 1898; Myers, 1903)). The existence of an etheric brain . . . could explain a psycho-physiological enigma . . . in connection with . . . a German review containing a long article referring to certain cases observed during the Great War, in which soldiers who had had their brains torn up by shrapnel, with abundant loss of brain matter, recovered and kept their intellectual faculties intact. And the author of the article ended by citing . . . the well-known case of a non-commissioned officer . . . who after two years complained of persistent
headache, which however did not prevent him from fulfilling the duties of his rank. He died suddenly, and an autopsy of his brain revealed the fact that an abscess of slow development had reduced the entire brain to a pulp of pus . . . . If the existence of an etheric brain, seat of the individual consciousness, were admitted, it would follow that the enigma of the “men who think without a brain” would be capable of ready explanation, since it is logically presumable that in given circumstances of “special fluidic synchronization” between the somatic brain and the etheric brain, the latter would be able temporarily to take the place of the somatic brain, doing without its own physical organ. In other words . . . the only circumstance of fact absolutely necessary for the explanation of the disturbing mystery, is the recognition of the existence of an individual consciousness independent of the physical brain; and this is what we obtain by recognizing the existence of an etheric brain, seat of the integral subconscious personality and provided with supernormal faculties [French physician and psychical researcher Gustave Geley (1865–1924) reviewed cases of brain pathology like the ones mentioned by Bozzano and argued that they showed that the materialist hypothesis was erroneous (Geley, 1919/ca. 1920, pp. 78–83; see also Troude, 1920). Guépin (1915a, 1915b) reported an interesting case of this sort. Bozzano (1925a) himself discussed these topics in a previous essay].

Discussion

The interest Bozzano showed in the survival implications of OBEs and NDEs has continued to recent times (Becker, 1993; Fontana, 2005; Stevenson and Greyson, 1979). The survivalist position was clearly stated in a recent book in which it was suggested that the OBE

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gives us a glimpse of what it may feel like to exist without a physical body and therefore of what it may feel like to survive death . . . For if my consciousness can function outside and at a distance from my body, why not survive death without any body? (Grosso, 2004, p. 22)
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However, as pointed out before, fairly recent discussions of the evidence for the concept of survival do not include reference to Bozzano’s work, and more particularly, to his argument of the key importance of considering the above mentioned types of cases together, as opposed to dealing with each separate type in isolation (Almeder, 1992; Braude, 2003; Fontana, 2005; Gauld, 1982; Roll, 1982).

Few individuals have followed Bozzano’s approach. P. T. Bret (1938) used published cases of apparitions of the living and OBEs to study different manifestations of the double, but did not follow Bozzano’s
survival model. There are similarities to Bozzano's approach in discussions of published cases by such authors as Raynor Johnson (1953) and Hilary Evans (2004), and especially in the projection and survival-oriented work of Muldoon and Carrington (1951) and Robert Crookall (1967). Crookall has come closer than anyone else to Bozzano's approach by bringing together several converging lines of evidence for projection phenomena from the old Spiritualist and psychical research literatures.

I mentioned earlier a few possible reasons for the neglect of Bozzano's work today, namely its publication date and the fact that most of his work did not appear in English. However, there are other possible reasons for this neglect as well. I believe many modern researchers may believe that Bozzano was too confident in his conclusions. If there is anything we have learned from the history of psychical research, it is to be skeptical of many claims of knowledge, particularly those that, like Bozzano's, are presented as "indubitable," "incontestable," and "irrefutable." Even assuming that Bozzano was right about bilocation, his style of presenting his conclusions may strike the modern reader as, at best, a belief and, at worst, a hasty use of the data at his disposal.

In psychical research, as in other areas of research, we need to distinguish between the data (which itself are not completely objective) and our interpretation of the data. So, when Bozzano assured us that phantom limb sensations were related to autoscopy, or that autoscopy involved the projection of the same double operating in an OBE, he was not stating a self-evident fact. Instead he was offering an interpretation of the cases he considered. In other words, the so-called "convergence of proof" is not as evident to others as it was to Bozzano.

Another obstacle to the acceptance of Bozzano's ideas, or even to the citation of his work today, is that modern research on spontaneous bilocation-related phenomena has changed since Bozzano's times. His use of different types of cases to reach conclusions by showing varieties and continuities in the phenomena was also used by others in the past in some classic works about apparitions and related phenomena (Gurney, Myers, and Podmore, 1886; Myers, 1903). This approach, however, is no longer the preferred method of study. Bozzano's use of cases to study types and gradations of phenomena with an emphasis on the principle of "convergence of proof" is no longer common. Recent work with OBEs and NDEs (Alvarado and Zingrone, 2003; Greyson, 2000) attests to the fact that studies of these phenomena are now conducted using questionnaires that offer the advantage that each
study participant gets asked the same questions. Furthermore, most of the studies involve quantitative analyses that, in addition to assigning numerical values to the incidence and frequency of specific features of the phenomena, attempt to relate them to such factors as psychological variables. Thus, while Bozzano was trying to prove survival of death, contemporary researchers focus instead on relationships with other phenomena such as aftereffects (Alvarado and Zingrone, 2003), dissociation (Greyson, 2000) and body image (Murray and Fox, 2005).

Furthermore, part of the reason for the rejection of, or lack of interest in, Bozzano's approach is that the topic is conceptualized differently today. Authors such as Blackmore (1984, 1993), Irwin (2000), and Ronald Siegel (1980) see the OBE and the NDE as purely hallucinatory, a position defended as well for different reasons by several other modern researchers (Blanke, Landis, Spinelli, and Seeck, 2004; Blanke, Ortigue, Landis and Seeck, 2002; Brugger, 2002; Girard and Cheyne, 2004). The phantom limb sensation and autoscopy are not discussed today in the way Bozzano did. Most contemporary treatments of the phantom limb phenomena in the academic and scientific literatures assume neurological explanations unrelated to the notion of the projection of a subtle body (Brugger, 2003; Fraser, 2002; Halligan, 2002; McGonigle, Hännigen, Salenius, Hari, Frackowiak, and Frith, 2002; Melzack, 1989), although there are some exceptions in the popular literature (Sheldrake, 2003, pp. 281–284).

The same is true for autoscopy, which is generally considered a pathological condition (Dening and Berrios, 1994; Grotstein, 1983). Glen Gabbard and Stuart Twemlow (1984, pp. 56–58) and Irwin (1985, pp. 23–24) have tried to outline criteria to differentiate the OBE from autoscopy. Although autoscopy has been related to OBEs in recent times, such discussions do not proceed from the point of view of the projection of a double (Brugger, 2002). A recent paper suggested that both OBEs and autoscopy are caused by paroxysmal disorders of body perception and body schema (Blanke, Landis, Spinelli, and Seeck, 2004). Because these ideas reflect the reaction of the current scientific paradigm to the phenomena, it is unlikely that we will soon see empirical studies using Bozzano's approach. Furthermore, and particularly in the case of the phantom limb sensations, the phenomena do in fact seem consistent with neurological explanations, while remaining an anomaly for neurologists.

Taking a wider perspective, Bozzano's belief that the spirit acted through the brain, a well-known position in the history of the mind/body problem (Wright and Potter, 2000), is not prevalent in today's
scientific circles. With the exception of a few who have seen the mind as an independent causal agent acting through the nervous system (Beloff, 1994; Popper and Eccles, 1977; Thouless and Wiesner, 1947), most contemporary students of the mind seem to follow Roger Sperry (1993) in believing that consciousness “cannot exist apart from the functioning brain” (p. 879). This prevalent view, added to ideas of an etheric brain and the variety of bilocation phenomena discussed above, almost guarantee that most psychologists, psychiatrists, and neurologists (including some parapsychologists), cannot take Bozzano’s proposal seriously.

Does this mean that the type of analyses Bozzano offered on bilocation are no longer useful today? While I believe we should not limit ourselves to Bozzano’s approach, I would contend that his work still is useful. It reminds us of the complexity of the phenomena in question, a complexity that gets obscured today by the emphasis on studying the prevalence or frequency of experiences in relation to other variables, while giving little attention to the features of the experience itself (for a call to remedy this in relation to OBEs see Alvarado, 1997). Furthermore, Bozzano’s work reminds us of that there are phenomena we are virtually ignoring today.

A case in point are observations such as those reported by Dorothy Monk (1922) and cited by Bozzano. Today very little work has been done with reports of luminous, misty, or other types of emanations from the physical body at the moment of death. Some exceptions include analyses of published cases by Crookall (1967) and by myself (Alvarado, 1987b), cases presented by Elizabeth McAdams (1984) and Carla Wills-Brandon (2000), and some general discussions of these phenomena (Ring, 1980, pp. 225–231). Unless one is prepared to dismiss such reports as hallucinations induced by the emotional context surrounding the deathbed, coupled with the personal beliefs of the experiencers, the similarities of features illustrate the potential pointed out by Bozzano. They remain a challenge for researchers, a challenge more difficult to meet than the scientific study of apparitions of the living, OBEs, and NDEs, if only because of the apparent rarity of these reports. On the other hand, perhaps what we need are new researchers who, inspired by such writers as Bozzano, eventually seek such cases.

Bozzano’s work also reminds us of the existence of cases with features that can be verified. That is, there are experiences in which a person obtains verifiable information about events at the location to which he or she has “traveled,” and in which apparitions of the
traveler have been seen at the place the OBErs describe. Similar to the cases of observations around a death-bed, a small number of these apparitional cases are collectively perceived. Little attention has been given to these potentially important phenomena in modern times (for exceptions see Hart, 1954; Hart and associated collaborators, 1956; Ring and Lawrence, 1993).

To conclude, if Bozzano's work is to have an impact today, he needs to be rediscovered by those few scientists who are open to explanations other than the current hallucinatory and neurological conceptualizations of such phenomena as OBEs and NDEs. While it is unlikely that the inclusion of the phantom limb phenomena or autoscopy into the bilocation continuum will convince most, perhaps the further documentation of veridical OBEs and NDEs, as well as collective death-bed experiences could serve as a reminder that there are aspects of bilocation phenomena that we have yet to explain adequately within the context of the current scientific paradigm.

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Teaching Near Death Experiences to Medical Students

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ABSTRACT: Near-death experiences represent for a medical school curriculum a watershed area between life and death, between science and experience, and between the known and the unknown. First-year medical students as nascent scientists and clinicians have complex and often intense feelings about realms that are at the border zones of their developing acumen. In this context, the near-death experience is an ideal topic for teaching professionalism and respect for individual patients, differing cultures, and for colleagues who have differing sets of beliefs. Using videotaped presentations students were asked to explore their own and their peers’ reactions to near-death experiences both in small group discussion format and using a web based discussion board. The inclusion of this topic early in medical school training was felt to be a valuable tool for developing both professionalism and collegiality. It also served to broaden the scientific viewpoint presented in the curriculum in a manner that promoted openness to and respect for patient perspective on life changing events.

KEY WORDS: teaching; medical school; near-death experience.

Near-death experiences (NDEs) are encountered by a substantial proportion of patients and families (Gallup and Proctor, 1982). Patients may turn to physicians for counsel after intense and confusing events that have affected their life views. Many physicians are not equipped, or are unwilling, to provide support and
counsel in areas that lie at the margins of their scientific training (Moore, 1994).

From the vantage of teaching professionalism to individuals who will become physicians, NDEs represent a watershed area where scientific and psychological/spiritual realms interface. It also represents an opportunity to model and explore how we deal with colleagues and patients whose views and experiences are different than our own. From the standpoint of collegiality this model is especially helpful, as it is an area where science has yet to provide a definitive answer. As such, decorum, respect, and interpersonal skills all are paramount in achieving a therapeutic outcome for patients and families and for providing an ongoing harmonious professional environment.

Near-death experiences are a phenomenon that many patients have and will encounter (Greyson, 1998b). Its components have been well documented for three decades (Moody, 1975). Patients may find such events confusing and their reintegration into day-to-day living can be substantially affected by the reactions of family, friends, and medical professionals (Greyson, 1997). Knowledge of areas of patient experience that can have profound impact on world view and well-being are essential for the well-rounded medical professional in virtually all specialties.

Previous attempts to teach NDEs have met with simultaneous strongly positive and strongly negative emotional responses from the student group. This polarization provided for active discussion but resulted in some negative interactions with patients who had come to discuss their experiences with the group.

Goals

An overall goal was to use NDEs as an opportunity to discuss doctor-doctor and doctor-patient professional relationships in an arena where established fact and the medical literature can not provide definitive answers. In addition to this, three other specific goals were felt to be most appropriate for students in their first year of medical school. These were (1) to understand the components of the NDE and that it is a phenomenon well described in the medical literature, (2) to help students understand the life-altering nature of NDEs and related experiences; and (3) to help students develop an approach to realms that are at the borders of medical knowledge
and belief that may nonetheless be important from the patient’s vantage.

**Methods**

NDE teaching was incorporated into an ongoing first-year medical school course that examines and introduces the doctor-patient relationship through presentations by patients and their physicians about their illnesses, their experiences with the medical system, and ongoing care relationships. The course also has a book group component and a required series of in-clinic sessions that are one-on-one teaching sessions with preceptors.

In order to provide a neutral environment for discussion, we presented a videotaped interview of a patient who had an ambiguous NDE. The first year this was shown in class, and the second year it was recorded on digital video disk (DVD) and students were required to watch it prior to the classroom portion of the experience. The patient presented his history of experiencing certain elements of NDEs, including an indistinct otherworldly presence and the feeling of falling or sliding into another realm. He did experience profound life reevaluation and reorientation that lasted over many years. He did not describe it as a classic NDE. There were no negative elements presented, but it also lacked many of the archetypical NDE features. He did lose his fear of death and felt a renewed sense of purpose. He also reported losing many cynical feelings.

Following the video case presentation, we presented a brief overview lecture on the spectrum of patient experiences that comprise typical NDEs. This included information on the prevalence of NDEs and the various components that have shown crosscultural- and age-independent validation in the NDE literature (Callanan, 1994; Greyson, 1993; Stevenson and Cook, 1995). The facets that were mentioned in the lecture included (1) the experience of a profound reality beyond physical existence; (2) the tunnel sensation; (3) the panoramic or sequential life review; (4) the out-of-body experience; (5) being bathed in light or encountering beings of light; (6) seeing or hearing departed friends, relatives, or pets; (7) the sense of peace or cosmic unity; and (8) loss of fear of death.

We also reviewed positive versus negative emotional interpretations of near-death experiences (Greyson and Bush, 1992) and their respective effects on patients’ subsequent life, and briefly addressed
neurophysiologic correlates of NDE (Greyson, 1998a; Britton and Bootzin, 2004). Based on debates within the literature and previous polarization during discussion groups, we discussed two models of NDEs (Blackmore, 1996; Bressloff, Cowan, Golubitsky, Thomas, and Wiener 2002; French, 2001; Morse, 1994; Parnia and Fenwick, 2001): (1) NDEs as real-time events that occur subjectively when they are perceived; and (2) NDEs as confabulations secondary to phenomena after the fact, including depersonalization syndromes, hallucinations, hypoxic effects on brain function, and drug-induced states.

The discussion portion of the experience was two-fold. In class the students were divided into groups of approximately six each. In order to foster their sense of collegiality, these groups included students only, without a faculty mentor in attendance. Our faculty group has found in teaching other classes that small-group interaction brings out more individual responsibility and thoughtful reflection and leads to less sniping and cynicism. We asked the groups to discuss the following four questions:

First, do you believe that the near-death experience is a hallucination or distorted perception, or that it represents a separate real-time experience?

Second, if indeed there is a neurophysiologic correlate in the right temporal lobe, is this an artifact of other functions in neurophysiologic architecture, or does it represent the existence of a specific mechanism related to consciousness itself?

Third, for the purpose of discussion, please take the opposite viewpoint from your personal belief. That is, when a patient reports a near-death experience to you, you may be either skeptical of or receptive to this report. If you are skeptical of near-death experiences, imagine that a patient reports a near death experience to you in an office visit following hospitalization. The patient believes that it has profoundly affected his or her life. What is your professional responsibility to this patient and how do you approach him or her in discussion? On the other hand, if you are receptive to near-death experience, imagine that a patient reports the constellation of symptoms consistent with a near-death experience. You are receptive to this and discuss the literature on the subject, but the patient is reluctant to believe anything you say. How do you deal with this patient in a manner that is professionally productive for his or her care, yet provide room for your beliefs?

Fourth, imagine that you are a chief resident making hospital rounds on a medical service and a patient describes near-death experience symptoms. You begin to discuss these with the patient and
the attending physician states vehemently that he or she does not believe that any such thing exists. The discussion becomes somewhat heated. How do you deal with conflict of opinion with a colleague over a topic that is not resolvable through traditional means of scientific inquiry and documentation? How do you interact with the patient in regard to this disagreement?

The second component of the discussion was through a proprietary tool to which our institution has licensed use, called WebCT. This tool allows serial posting by individual students in four different discussion groups for this course, one thread for each of the questions presented above. We incorporated into the log-on process for web access a question asking whether their posts may be used and quoted for the purposes of educational research. We also developed a mechanism to post anonymously for those who wished not to have their entries used in this fashion. Only one student used this option. The advantage of the WebCT tool was that it allowed students to have an extended asynchronous discussion stating their opinions, reflecting on their colleagues’ thoughts, and then posting again after further thought on the subject. It also has the advantage of producing a log that can be reviewed and printed for both teaching and research purposes.

Results

The exercise was rated successful in the overall context of the course. The format of discussing the case in terms of professional responsibility kept the process entirely cordial. In previous attempts to teach NDEs, polarization became so intense that some budding clinicians felt their need to define themselves scientifically so focused that they discounted any experiences outside the realm of pure science, and became defensive to the point of making others feel their perspective was not respected. The small-group format and signed posting on WebCT also brought students more into line with developing ways to deal with equanimity with others who have different viewpoints.

It was helpful that the formally presented case involved gray areas at the interface of science and spirituality and not only the NDE itself. The discussion of whether or not the case presented met criteria for an NDE allowed students to focus both on the definition of NDE itself and on the effect upon the patient’s subjective experience and subsequent life. This exercise helped students to understand the physician’s role in being present for someone who has had an intense, life-changing
experience, whether or not an outsider or research-based criteria would label that person's experience a classic NDE. One student posted the comment, "Wow, this is a lot harder than memorizing the insertions of the muscle groups of the back," indicating that the overall process was a success in delineating areas for growth in physicians-in-training. It also put students early in their training in the professional role of having to consider both their own attitudes as they relate to a patient's perspective and their colleagues' beliefs.

Abstracting excerpts from student WebCT postings showed that all three formal goals were well addressed. Students made frequent mention of criteria for defining NDEs, in discussing whether or not the patient in the video did have a NDE. Being unaware of the previous literature on attempts to define NDEs (Greyson, 1999) they also brought forward on their own the tenet that a formal definition would be helpful for research purposes. They posited that having a formal definition with inclusion or exclusion criteria would allow more progress in studying the phenomenon in both neurophysiologic as well as psychosocial terms. The vast majority, however, concluded that for the individual patients it was irrelevant whether they met any outside observer's criteria; what was important was the patient's perception and experience. This was exemplified by the statement, "the patient is telling a truth—whether it is a physical, neurobiological truth or a spiritual, emotional one," and the entry that said, "As a physician, I have a duty to remain open-minded and value my patient's thoughts, especially if these events have a positive impact on the patient's welfare."

The fact that the experience had profound, life-altering effects on the patient's subsequent life was of import to many students in defining this ambiguous video case as an NDE. Many also mentioned that they were also impressed by the fact that it led him to become more focused on the present, more committed to friends and family, less selfish, and less afraid of death. Several said that this caused them to reflect more intensely on their own mortality, an important consideration for those entering the field of medicine.

In regard to patient vantage, many students used the statement that is a strong part of our institutional culture, "the needs of the patient come first," in describing their responsibility to be open-minded and to be of service to the patient. One student wrote:

We must remember how important it is that our patients feel comfortable and supported. Often the topics our patients will discuss with us are some of their most vulnerable moments and the last thing
they want or need is to feel more helpless, ashamed and as though their problems don’t matter/exist.

Another wrote:

It would not be my role as a physician to judge the validity of the event. The fact that it may not have been a “real” NDE is quite irrelevant in the scheme of things. If the patient says the event has changed his/her beliefs and outlook on life, it would be my role to support new-found interests and attitudes and to help the patient move forward since the possible NDE has given way to new life.

The collective discussion was clearly focused on the physician’s role in support and in framing the event in a way that was constructive for the patient’s long-term well-being.

In discussion of the nature of NDEs, of whether they represented a real-time event or an artifact of hypoxia, drugs, and metabolic disturbance, the class was rather evenly split. The discussion was respectful of both patients’ and colleagues’ opinions, but often came down to personal spiritual viewpoints. Comments ranged from, “I don’t find it at all difficult to accept, accounts of simply continued, or heightened spiritual awareness at or near the time of death,” to:

Universally, regardless of societal advancement, religion (whatever form that may be, including atheism) usually provides the most basic explanation for our world. Given that this is the case, it is easy for me to see how in our time of greatest stress (death) we turn to those faiths and our brain begins to produce visions as a way of explaining what we are experiencing.

The subject of how a specific neurophysiologic mechanism could prove adaptive for an individual or population and hence be passed from generation to generation was a recurrent theme. Others posited that at times of altered consciousness, access to other realms of truth were more likely, rather than NDEs being produced by a specific programmed mechanism.

In regard to conjecture about the nature of NDEs as related to underlying neurophysiologic architecture, one student compared NDEs to the visualization function of an MP3 player, in which a system designed to play an auditory program is translated into a visual format. He went on to write:

This could apply to an internal universal experience brought on by metabolic derangement – the underlying physiology leads to activation of a typical pattern of emotional and imagery areas. Or it could
also apply to access to the transcendent through a system that is able to experience this realm but not in a clearly defined or interpretable manner.

Discussion

From a faculty standpoint the exercise was successful on multiple levels. It required the students to take on a professional role mindset at the outset of their training in discussing a potentially charged topic. The format required them to interact cordially with colleagues and to consider how they would treat patients who had viewpoints on important topics that were different from their own. This opened broader discussions of physician role responsibility.

Some students expressed frustration that they had a hard time telling if the individual in the case study did or did not have an NDE. But from a teaching standpoint this was found to be very helpful, as it refocused student discussion from the strident scientific standpoint to a patient-centered approach to understanding their role in dealing with patients who have had profound life experiences. The decisive factor in deciding that the exercise was worthwhile was one student's conclusion that the exercise helped them to focus on the broader physician role of healer, understanding that it includes, but is broader than, the role of scientist or skilled technician.

References


Letters to the Editor

Cheating the Ferryman

To the Editor:

I write today to offer compliments to Anthony Peake’s (2004) “Cheating the Ferryman” article. It is a wonderful summary of the latest in the physical sciences all brought together around the near-death experience (NDE), something I think has been needed for a long time.

However, the article seems incomplete in that it did not account for externally-generated information reported by NDErs. This would include information about objects such as a shoe on a rooftop reported by Kenneth Ring and Madelaine Lawrence (Ring and Lawrence, 1993), or a surgical instrument outside the experiencer’s visual field, as in the case of Pam Reynolds (Sabom, 1998). It also includes NDErs’ statements about the actions or statements of family members to whom the experiencers have had no access.

I was also thinking that Peake’s “Ferryman Thesis” should address the information in the literature on past lives and reincarnation, such as Ian Stevenson’s (1997, 2001) well-researched studies of children who claim to remember previous lives and the reports of some people who claim to remember past lives that also describe a state between lives (Newton, 1994, 2000; Sharma and Tucker, 2004).

I hope a future article can tie the quantum physics and neurological information into an explanation of how accurate replicated external information can appear in NDErs’ reports of their experiences.

References

Peake Responds

To the Editor:

First, I wish to Michael Krumper for his kind words. Krumper’s point is very valid in that out-of-the body experiences and visions of an afterlife are very important elements of the near-death experience (NDE). However the very fact that these are epiphenomena of “near-death” rather than “actual” death places them this side of the veil, as it were. All the descriptions of NDEs we have available to use are from individuals who have returned to life. In “real” death there is no return, and it is real death that is the subject of the Ferryman Thesis. We are therefore discussing two related but different events. On one hand we have my Ferryman Thesis that attempts a scientifically based explanation of what happens to those subjects who really die; and on the other we have the subjective reports of the peculiar states of consciousness that are experienced before the “point of no return” is reached.

However unacceptable this may be to some, modern science simply cannot accommodate the reality of a consciousness existing outside the brain. For example, by what known method of vision might the disembodied consciousness process sensory inputs, that is, sight without eyes and hearing without ears? This is not to say that I doubt the veracity of these reports; indeed, many of the cases cited in the literature are very persuasive. But I have tried hard to keep my theory within the boundaries of known scientific theory. It is only by doing so that we may be able to bring this very important psychological state to the wider scientific community.
The article is a précis of my forthcoming book, provisionally entitled *Cheating the Ferryman*. This will be published by Arcturus in spring of 2006. In this book of around 400 pages, I will explain in much greater detail the background to the thesis, together with a large amount of supporting material gleaned from the latest research in quantum physics, neurology, perception studies and (surprisingly enough) films such as *The Matrix*, *Vanilla Sky*, and *Groundhog Day*. This will be published under the name of Tony (not Anthony A.) Peake. I hope that this book will show that I have carefully reviewed much of the subjective evidence for NDEs and explained it within the framework of the Ferryman Thesis. Krumper may also be pleased to know that I do, indeed, expand upon the mechanism whereby a facsimile of the external world is generated by the brain and presented to consciousness as reality.

References


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Methodological Issues in Doing Research Involving the Near-Death Phenomenon

To the Editor:

It is always interesting to read research conducted in other countries involving individuals in the medical field. Laura Cunico’s research report, “Knowledge and Attitudes of Hospital Nurses in Italy Related to Near-Death Experiences,” published in the Fall 2001 issue of the Journal, was both exceptional and extremely frustrating. It was exceptional in that she was able to get 476 nurses to complete a complex questionnaire. I know from personal experience how difficult it is to get health professionals to participate in any study, particularly those
involving the completion of a lengthy questionnaire. For this accomplishment alone she would be commended.

But now to my extreme frustration: Cunico's research was a replication study utilizing a questionnaire created by Nina Thornburg in 1988 to study the knowledge and attitudes of registered nurses in intensive or cardiac care units concerning the near-death experience (NDE). Cunico's study was intended to compare and contrast the results of a crosscultural study of nurses with those collected by Thornburg and other researchers on hospice nurses, clergy, physicians, and psychologists. The opportunity to read an empirical crosscultural study involving a large number of nurses intrigued me.

But when I discovered how she analyzed her data I was initially puzzled, then surprised, which quickly evolved into dismay. It was very apparent that Cunico had used statistical tools designed for data that have interval properties, while her data were clearly ordinal. With interval data you know the distance between specific numbers or values. For example, you know that six feet is twice the length of three feet. It can be measured and verified and is consistent no matter when or where the measurement is taken. Ordinal data only tell you that one unit is longer, taller, larger than a second and, at best, demonstrate that a rank order is present.

If you had two individuals, one who agreed with a question and the second who strongly agreed (where the alternatives were strongly agree, agree, don't know, disagree, and strongly disagree), all you would know for sure is that their responses differed. To assign a value of, say, 4 to strongly agree and a 3 to agree implies that a known and measured difference exists. But the actual distance between the two responses is unknown. The distance could be very narrow – almost identical – or extremely wide.

In addition, to take a set of items – as was also done by Thornburg – and give each question or statement a value of one and then adding up those items the respondent checked, implies that each item makes an equal contribution to a respondent's score. However, it could be that one or two items in the list of 29 (the number of items included in the score that measured the attitude that the respondent has toward NDEs), are more important than all the other 27 combined. Until you evaluate the relative contribution of each and every item included in the scale, you have no idea what any item included in the scale means.

As Cunico had based her study on that of Thornburg, I decided to look at Thornburg's study to see what she had done. I discovered that Thornburg had two major objectives. The first was to create an
instrument that could be used to study the attitudes and knowledge various groups had of the near-death experience. The second was to use the instrument to see how well it worked.

To do this she used a sample of 20 registered nurses and gave them her instrument, which consisted of 29 true/false questions and 54 Likert items. Likert items are statements that respondents are asked to indicate as to whether they strongly agree, agree, do not know, disagree, or strongly disagree. These items were then summarized into sets of scores that reflected individuals' beliefs or attitudes. As to the items that comprised her questionnaire, Thornburg noted:

The literature was reviewed in order to construct specific items for each scale in the questionnaire. The items constructed were reviewed for content validity by experts in the disciplines of nursing, sociology, and psychology. Items deemed ambitious or inappropriate were reworked or discarded. (p. 224)

Thornburg did not state how the various items were deemed ambiguous or inappropriate, other than that experts in three disciplines said so. For subsequent researchers who desire to assess the reliability and validity of the research instrument, specifics as to which items were selected and how they were evaluated should be specified. Thornburg did report that the internal consistency of the scales were evaluated using Cronbach's coefficient alpha and found to range from .81 to .84 for the three scales: knowledge of NDEs, attitudes toward near-death phenomena, and attitudes toward patient care.

While I could question the utility of some of the questions included (especially the two scales relating to near-death), the major problem with the statements utilized in Thornburg's study was the inappropriate statistical tools used to evaluate the responses. It was clear to me why Cunico used the statistical tools she did. They were the statistical tools used in the original study and allowed comparisons of her data with those collected by Thornburg. But as both Cunico and Thornburg used interval statistical tools to analyze their ordinal data, serious problems in interpretation exist.

Thornburg did attempt to evaluate the items included in her scale. She reported doing a factor analysis in which items that accounted for the majority of the variance in the respondents' knowledge of near-death experiences were identified. But to do the factor analysis she attempted, the data must be interval, and these data clearly were not. While Thornburg's efforts to create a questionnaire were innovative for the time, the statistical tools used to evaluate the data she collected were inappropriate and hence negated any conclusions drawn. When
Thornburg stated that the "25 items of the attitude toward patient care scale were factored together, and yielded three factors accounting for 53.4 percent of the variance" (p. 235), she believed that her scale accounted for all but 46.6 percent of the variance existing for what constituted attitude toward patient care. If this were in fact true, it could make a significant contribution to the care of patients.

Thornburg's study was exploratory in nature, and she and her questionnaire reflected this fact. With all the research that has been done since 1988, I expected that subsequent researchers would have made some effort to refine and improve the original instrument. Sadly, that has not been the case. For example, in 1989, Barbara Walker and Robert Russell gave Thornburg's questionnaire to 326 psychologists, from whom 117 usable questionnaires were collected. They accepted the questionnaire's validity as a given. While they did not do a factor analysis, they computed correlations and showed their levels of statistical significance, which implied that there was a strong relationship that could not have happened by chance. But the level of data they collected was not amenable to the statistics they used, thus negating any conclusions reported. One additional problem with their study is the fact that they did not state how they determined that those who participated in the study were representative of either the 326 individuals surveyed or of psychologists in general.

This study was followed by one conducted by Lori Bechtel, Alex Chen, Richard Pierce, and Walker in 1992. This time they used the clergy as their research population. From a sample of 2,722 clergy they received 320 usable questionnaires; but as Michael Perry noted in his subsequent letter to the editor, "those who returned the questionnaire may be systematically different from those who did not" (1992, p. 129). Nevertheless, Thornburg's questionnaire was used, with a few coding modifications, and assumed to be valid. As in the earlier studies, parametric statistical tools, such as means and correlation coefficients, were used to evaluate nonparametric data.

In 1994, Linda Moore used the questionnaire to assess the knowledge and attitudes of physicians. Her sample consisted of 143 staff physicians in the Baptist Memorial Hospital system. While mean scores, which are interval data, were computed from ordinal responses, the majority of the data consisted of percentages showing how the physicians in their sample responded to specific questions or statements (that is, what percent responded true or false or strongly agree, agree, and so forth). Percentages are acceptable tools as long as the researcher does not attempt to draw inferences from them. Large numbers of
LETTERS TO THE EDITOR

percentages can be somewhat informative but conceptually weak. The reader is forced to try to make sense of a long list of percentages. As earlier researchers did not present similar data, it would be difficult to make meaningful comparisons between this study and others.

Kay Ketzenberger and Gina Keim in 2001 used Thornburg’s questionnaire to assess the knowledge and attitude of college students. Their sample size was 50 and, I suspect, being a college professor myself, that this sample was probably drawn from one of their classes. These researchers also accepted without question the validity and reliability of the questionnaire and they also inappropriately used interval statistical tools, such as means, standard deviations, variances, and correlation coefficients, to evaluate their data.

Now to Cunico’s study of Italian nurses’ knowledge and attitudes relating to near-death experiences: Cunico was well aware of the studies done to date utilizing Thornburg’s questionnaire, as all were cited in her article. This long tradition (more than 13 years at the time) associated with the questionnaire’s use would suggest that it was a well developed, accepted, and valid instrument and therefore an appropriate and desirable tool to use in a replication study. I can therefore see why Cunico felt it justified and appropriate to use. I can also see why she utilized the statistical tools she did: they were the ones used by the creator of the questionnaire and by subsequent researchers.

Following in the footsteps of all those who preceded her, she failed to recognize the implications and limitations of the data she collected. But she went even further than her predecessors and computed regression coefficients. It is very tempting to want to know how much of the existing variance in the dependent variable, knowledge of the near-death experience, can be explained by specific variables. But given the nature of the data, such conclusions cannot be made, as the most basic assumptions underlying the statistical tools utilized were not met. It is sad that all the work that went into this and the earlier studies were negated by the inappropriate ways they were analyzed. Any conclusions reported in these studies were not justified and implications for future research are negated. While Cunico’s report was filled with statistics, they were meaningless.

What this and earlier authors need to do now is to rework their data using appropriate nonparametric statistical tools appropriate to the type and level of data collected. What can happen when researchers are not careful in the selections of their statistical tools occurred in a national study done in Canada. The researchers reported that the impact of premarital cohabitation on those who subsequently married
resulted in a reduced divorce rate. Because this finding contradicted all research done to date, various researchers asked to see the research instrument, how the data were analyzed, and the raw data. They discovered that the researchers had used inappropriate statistical tools. When the data were reanalyzed using appropriate statistical tools, the results were completely reversed.

Given that 17 years have now passed since the questionnaire was created, it seems strange that no one has made any attempt to validate or update it. Has nothing changed in our understanding of the near-death experience since 1988? I am not arguing that replication studies are irrelevant. Replication studies are very useful in testing the utility of a questionnaire across radically different groups of people, especially across cultures. What I am arguing is that the type of data collected specifies the statistical tools that can be used. Before anyone else utilizes Thornburg's questionnaire, it needs to be refined to reflect the current state of near-death experience research and knowledge. It should also be designed either to collect data that are amenable to the use of parametric statistical analysis, or researchers should use available nonparametric tools.

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