

2004

Near-death experiences, religion, and life after death

Holly, Wallace

University of South Florida

Follow this and additional works at: <http://scholarcommons.usf.edu/etd>



Part of the [American Studies Commons](#)

Scholar Commons Citation

Wallace, Holly,, "Near-death experiences, religion, and life after death" (2004). *Graduate Theses and Dissertations*.
<http://scholarcommons.usf.edu/etd/1288>

This Thesis is brought to you for free and open access by the Graduate School at Scholar Commons. It has been accepted for inclusion in Graduate Theses and Dissertations by an authorized administrator of Scholar Commons. For more information, please contact scholarcommons@usf.edu.

Near-Death Experiences, Religion, and Life After Death

by

Holly Wallace

A thesis submitted in partial fulfillment
of the requirements for the degree of
Master of Arts
Department of Religion
College of Arts and Sciences
University of South Florida

Major Professor: Darrell Fasching, Ph.D.
Paul Schneider, Ph.D.
Dell DeChant, M.A.

Date of Approval:
April 8, 2004

Keywords: NDE, survival hypothesis, veridical evidence, corroborative NDEs, OBE

© Copyright 2003, Holly Wallace

Dedication

To Wally

my husband, my best friend, my Samwise:

This project represents all of your loving support during the past two years. I don't know how I would have managed without you, and I am eternally grateful that I didn't have to.

Table of Contents

List of Figures	ii
Abstract	iii
Chapter One: Introduction	1
Chapter Two: Religions and NDEs	5
Chapter Three: Identifying the NDE	14
Chapter Four: Theoretical Models of the NDE	29
<i>Biological Models</i>	29
<i>Spiritual models</i>	37
Chapter Five: Evaluation and Conclusion	41
References	50
Appendices	53
Appendix A: Interview with Clara	54
Appendix B: Interview with Darlene	59

List of Figures

Figure 1.	Three evolutionary parts of the brain.	31
Figure 2.	A view of the brain from the side.	31

Near-Death Experiences, Religion, and Life After Death

by

Holly Wallace

ABSTRACT

This thesis investigates current scientific literature on near-death experiences (NDE), focusing on two common types of models used to explain the NDE: biological models and spiritual models. Four biological models and two spiritual models are presented and evaluated. During the evaluation, particular emphasis is placed on how these models accommodate veridical evidence. I found that, of the biological models, only one could account for veridical evidence, whereas both of the spiritual models provided explanations of these strange occurrences. From this conclusion, the implications of NDE research on human survival are explored.

Chapter One

Introduction

Belief in life after death is one of the most common characteristics of religious traditions. However, modern science has traditionally avoided the topic of life after death: at best, such issues were ignored as being solely within the domain of religion; at worst, they were viewed with open scorn. Only within the last century has the academic community included such religious matters into the corpus of scientific inquiry.

In fact, since the publication of Raymond Moody's *Life After Life* in 1975, there has been a flurry of activity within the area of near-death research. Believers and skeptics alike have rushed to the fore, hoping to shed some light on the mysterious phenomena of the near-death experience (NDE). The events reported by near-death experiencers (NDErs) often push the limits of credibility, and yet their appeal is undeniable. The prospect of NDEs offering undeniable proof of survival after death only increases their appeal. Do NDEs constitute an actual visit to the hereafter or are they merely the hallucinations of a dying brain? This central question forms the crux of much NDE research, and ultimately, it is this question that gives this amazing phenomenon its extraordinary significance.

The flurry of attention that near-death research has received in the last few decades has produced a wide variety of theories that attempt to answer this question. Models based on psychological, cultural, physiological and spiritual factors have all been proposed, with any number of hybrids among them. But by far, the two most popular categories are biological and spiritual models. Determining the merit of these various

models can be a daunting task, yet, one facet of the NDE stands out as the crucible of NDE models: veridical evidence. Veridical evidence refers to any of a broad type of phenomena reported by NDErs which lends credibility to their experience. For instance, NDErs might claim to have seen people or objects that they could not have possibly seen from the position and condition of their physical bodies during the NDE. My thesis is that only spiritual models have no difficulty accommodating veridical evidence.

Yet, the significance of my query lies not so much in the models themselves but in their implications for humanity and human survival. Biological models, for instance, maintain that NDEs result from the functions of a dying brain. As one example of such a model, Jansen proposes that NDEs result from the complex protective activities of neurotransmitters in the brain. Another model, proposed by Blackmore, asserts that a variety of physical factors ranging from anoxia to temporal lobe seizures produce the NDE. Yet another researcher, Wettach, attributes the NDE to the interaction between the higher and lower brain functions that takes place when one loses consciousness or the cerebral cortex experiences distress. In each of these theories, any phenomenon associated with the NDE has biological explanations, thus proponents of these theories espouse materialistic views of reality and eschew thoughts of human survival after death.

Opposite these biological explanations are spiritual models. These models often take the NDE at face value, assuming that the strange encounters reported by NDErs actually took place. One example of this type of model, proposed by Ring, maintains that out-of-body experiences reported by those near death represent an actual separation of spirit/soul/mind from body. These models, then, generally support continued human existence after death and find evidence for human survival in the NDE.

Thus, the argument between biological and spiritual models also represents an argument between a materialistic worldview and a spiritual worldview. My decision to focus on the argument between biological and spiritual models stems from this debate concerning human survival. Clearly, how one interprets the NDE has profound effects on how one views human destiny.

In researching this thesis, I aimed to investigate the current scientific literature on NDEs in order to evaluate the phenomenon. Having decided to limit my study to biological and spiritual models, choosing which ones to include was a simple task. Foundational studies, such as those of Ring and Blackmore, form the basis of my inquiry: one foundational biological model (Blackmore) and one foundational spiritual model (Ring). From there, attention turned to current scientific literature, so I sought out articles from the academic *Journal of Near-Death Studies*, surveying entries from the last 10 years of the journal. My research represents the biological and spiritual models published in that journal from 1993 to 2003.

Material relevant to NDE research that is most conspicuously absent from my study is any of the myriad personal, autobiographical accounts written by individuals who have had the experience themselves. Though such accounts could certainly provide valuable information in evaluating the phenomenon, I purposely sought more scientifically rigorous material. Such anecdotal evidence, though powerful and perhaps convincing in its sheer volume, was not considered in my evaluation.

I used a variety of methods to evaluate the data gathered during my research. Of course, some statistical analysis was needed to determine statistical significance of variables and to critique methods and procedures of the experiments that are discussed.

But I also employed careful evaluation of arguments and critical reasoning to determine the efficacy of the models.

In order to present the data and evaluation in a coherent fashion, this thesis is divided into four remaining chapters. Chapter two briefly describes the historical connection between religion and the NDE. It demonstrates the shamanistic journey as an NDE, and then provides examples of shamanism and NDEs in two religious texts: the Tibetan Book of the Dead from the Buddhist tradition and The Book of Revelation from the Christian tradition. Chapter three briefly sketches basic information about the NDE. For the most part, the information in that chapter represents a consensus among NDE researchers, though some disagreements do exist, and they are briefly mentioned. Questions addressed in that section of the thesis include *what is an NDE, do they vary across populations, and does this experience have any lasting effect on the person.* Chapter four presents the NDE models that are evaluated in this thesis. These explanations are divided into two broad categories: biological models and spiritual models. The strengths and weakness of biological and spiritual models are explored, with particular attention given to the treatment of veridical evidence. In the fifth and final chapter, I provide my evaluation of the NDE models based on all of the material I studied. I do not, by any means, claim any expertise in near-death studies, yet some of my own observations gathered while working on this project may prove interesting or useful.

Chapter Two

Religions and NDEs

Although, in some respects, the connection between religion and NDEs is readily apparent at first glance, the connection goes much deeper than one might ascertain on a cursory examination. NDEs have played a foundational role in religion and religious views of death since antiquity. In order to explicate the close interaction between religion and NDEs in the history of religions, this chapter will explore the historical relationship between religion and NDEs. First, I will enunciate the central role of NDEs in shamanism, and then I will examine three examples of religious literature from world religions to ascertain the connection between those world religions and the NDE. [Unless otherwise noted, the information in this chapter draws on the ideas of Fasching (2004).]

Perhaps the oldest connection between NDEs and religion can be found in the ancient religious practice of Shamanism. According to Eliade's (1951/1964) volume *Shamanism: Archaic Techniques of Ecstasy*, the practice of Shamanism dates as far back as prehistoric times. As the title of Eliade's book suggests, Shamanism basically constitutes practices of ecstasy; that is, shamans are those individuals who possess the skill to willfully leave their bodies and travel to the spirit world. As masters of these techniques, shamans function as mediators between the physical world and the spiritual world, or between the world of the living and the world of the dead.

Shamans provide several vital functions for the communities in which they live. For instance, they use their skills as mediator between the two worlds to guide the souls of the recently deceased to the proper resting place. Believing that illness can result from one's soul getting lost, shamans also function as doctors by retrieving the souls that have

wandered off and guiding them back to their respective body. In addition to rescuing lost souls and guiding the dead, Shamans also practice divination, tell the future, and heal the sick through herbal medicine or magic practices.

One of the most striking features of Shamanism, and perhaps the one that bears the most similarity to NDEs, is the shamanic initiation. As Eliade notes, shamans often begin their vocation only after enduring a tremendous physical crisis, which can be either naturally-occurring or induced. Some of the physical traumas that he mentions are being struck by lightening, serious illness, being hit by falling stones, epileptic seizures, frenzied or psychotic episodes, and enduring extended periods of time in the wilderness without shelter, food, or water. Eliade writes:

That such maladies nearly always appear in relation to the vocation of medicine man is not at all surprising. Like the sick man, the religious man is projected onto a vital plane that shows him the fundamental data of human existence. ... But the primitive magician, the medicine man, or the shaman is not only a sick man; he is, above all, a sick man who has been cured, who has succeeded in curing himself.

(1951/1962, p. 27)

The fact that the initiate heals himself then becomes the catalyst to his career as a shaman.

Yet, more important than the fact that the novice experiences a cure is the manner in which the cure occurs. It is here, in the experiences that take place during the physical calamity, that one finds striking similarity to the NDE. While suffering from whatever ailment the future shaman contracts, the novice almost always describes an experience of leaving their body, traveling to the spirit world (the world of the dead), being

dismembered and reassembled, being guided by spirits, and receiving religious or shamanic instruction from spirits or the souls of dead shamans.

Eliade (1951/1964) cites one example of such an initiation process quite extensively in his book. In this example, the future shaman had contracted smallpox. He reported being unconscious for three days and was so close to death that he was almost buried. During this time, the initiate remembered being carried into the sea, traveling to the underworld, receiving guides, and speaking with spirits.

The initiate also reported being dismembered and reassembled. First, he was lead to a certain spot in the underworld where his heart was removed and put into a pot. Then, later in his journey, he was taken to a remote mountain and caught by a naked man with huge tongs. Here, the dismemberment and reassembly was completed:

The novice had time to think “I am dead!” The man cut off his head, chopped his body into bits, and put everything in the caldron. There he boiled his body for three years. There were also three anvils, and the naked man forged the candidate’s head on the third... The blacksmith then fished the candidate’s bones out of a river, in which they were floating, put them together and covered them with flesh again. (Eliade, 1951/1964, pp. 41-42).

The new body and organs that the candidate received enabled him to perform his shamanic tasks, like permitting him to see spiritual realities with “mystical eyes” or to understand the language of plants (ibid, p. 42).

Anyone familiar with NDEs will immediately recognize the similarities between the shamanic initiation and the classic NDE. The first and most obvious similarity is that both the shamanic initiation and the NDE usually begin with a physical crisis: Like

NDErs, the future shaman is in some state of physical duress, and often near death or believed to be dead. Both shamans and NDErs claim to have separated from their physical bodies and traveled to the spirit world. The shaman's journey is often facilitated by spirit guides, just as NDErs are guided by spirits, angels, or deceased loved ones. Shamans also undergo a dismemberment and reassembly during their initiation, which could be correlated to the life review in NDErs; for NDErs the life review functions as a psychological dismemberment and reassembly in which they learn from their past actions, find emotional healing, and are "re-created." Similarly, like NDErs, shamans bring knowledge of the afterlife back with them. Eliade writes that, through the shaman, the unknown and terrifying world of death assumes form, is organized in accordance with particular patterns; finally it displays a structure and, in the course of time, becomes familiar and acceptable. ... Little by little the world of the dead becomes knowable, and death itself is evaluated primarily as a rite of passage to a spiritual mode of being. (1951/1964, p. 509-510)

As will be demonstrated later, this is strikingly similar to the way the NDE dispels the fear of death from those who have had them. Thus, the similarities between the shamanic initiation and NDEs strongly suggest that the shaman's career begins with an NDE.

The similarities between shamanism and NDEs have often been noted by modern near-death researchers (Grosso, 2001; Ring, 1990). For instance, Roger Walsh asserts that NDEs may have provided the original inspiration for shamanism (as cited by Green, 1998). Likewise, Green (2001) delineates the similarities between Shamanism and NDEs in his article, and he cites Sandra Ingerman, a NDEr and modern shaman, who claims that her NDE, which resulted from a near-drowning accident, was the catalyst for her

shamanistic career. Furthermore, Micheal Grosso (2001) draws strong parallels between Shamanism and NDEs, and he advocates a bold strategy to combine elements of shamanistic practices with the scientific method to provide new means of studying human survival.

The NDE's impression on religion is not only visible in ancient Shamanism; its influence is equally apparent in the major world religions. Because an exhaustive review of these influences is beyond the scope of this brief exposition, I will present only three examples of NDE-type experiences from world religions.

The first example is from the Tibetan Book of the Dead. This manual, though originating from Tibetan Buddhism, is one of the most widely published and circulated accounts of religious after-death literature. In the Tibetan Book of the Dead, Buddhist beliefs have been integrated into the traditional shamanic journey, coloring them in a distinctly Tibetan Buddhist way. Still, the influence of Shamanism and the NDE is readily visible.

The Tibetan Book of the Dead, which was written to guide the recently deceased through the transition from death to nirvana or rebirth, describes the three bardos of death in minute detail. That is, it gives an account of the three different states in between life and death that a person may experience. The first of these states is the bardo of death. This stage, which comprises the moment of death and the time shortly thereafter, is paralleled to the experience of falling asleep. In this bardo, all of one's senses and elements dissolve, and one's true nature as mind-only emerges. If the deceased recognizes his or her true nature, then he or she will be immediately liberated from

rebirth and will attain nirvana; if one's true nature is not recognized, then the deceased will enter the second bardo of death, the bardo of Dharmata.

The bardo of Dharmata, paralleled to the state between falling asleep and dreaming, is experienced by those who have prepared themselves for death through meditation during their lifetime. If the deceased did not make such preparation, then he or she will pass this bardo and proceed directly to the bardo of becoming. For those who have made adequate preparation, this bardo offers a series of chances to recognize one's true nature and experience nirvana: In this bardo, the deceased is transfigured into a body of light and then encounters numerous terrifying deities and apparitions. If these frightening sights are recognized as merely projections of one's own mind, then the deceased will attain liberation from the wheel of rebirth. But if the deceased cannot control their fear and does not recognize these apparitions as merely their own mind, then they will pass into the final bardo of death, the bardo of Becoming.

The bardo of Becoming, which parallels the state of dreaming, constitutes the process by which one's rebirth is determined. Tibetan Buddhism teaches that most people wake up in this bardo after death. Here, the deceased inhabits a mental body that is complete with the normal physical senses and has been healed of any physical infirmities. Upon awakening, the deceased will not realize that they are dead and will try to communicate with their families. Yet, they cannot be seen or heard by the living. Frustrated by their inability to communicate to loved ones, the deceased may cling to their families for weeks; this stage could last up to 49 days. During the first 21 days of this process, the deceased can be guided by their families' prayers, so the Tibetan Book of the Dead is read to them in the hopes that it will facilitate a favorable rebirth. In

addition, the deceased experiences a life review in which he or she feels all of the pain or joy that they caused others during their life. After all these things have taken place, the deceased will finally feel a strong attraction to one of the six realms of rebirth into which he or she will be reborn.

Several similarities between the Tibetan Book of the Dead and the shamanistic journey are readily apparent. Of course, both are primarily concerned with navigating the world of the dead. In addition, the Tibetan Book of the Dead describes a dissolving of elements and a dismemberment scenario that harkens back to the shamanistic initiation. Consider the following passage from the Tibetan Book of the Dead:

Then the Lord of Death will drag you by a rope tied around your neck, and cut off your head, tear out your heart, pull out your entrails, lick your brains, drink your blood, eat your flesh and gnaw at your bones; but you cannot die, so even though your body is cut into pieces you will recover. (Tibetan, 1975, p. 77)

In addition to the dismemberment scenario, the Tibetan Book of the Dead also demonstrates the influence of shamanism by the fact that the deceased meets many spiritual entities, particularly during the bardo of Dharmata. Yet, this influence has been modified from its shamanistic roots to depict the entities, not as realities in themselves, but as projections from one's own mind.

The Tibetan Book of the Dead also corresponds notably to several NDE elements. This is not surprising considering the connection between shamanism and NDEs. Most obviously, both NDEs and the Tibetan Book of the Dead describe a separation from one's body and a journey into the afterlife. Both describe OBEs in which individuals having the experience can see and hear others, but cannot be seen or heard themselves. Both

also exhibit encounters with spiritual entities. Likewise, both contain life reviews; consider the following passage from the Tibetan Book of the Dead that depicts a life review: “Then the Lord of Death will say, ‘I will look in the mirror of karma,’ and when he looks in the mirror all your sins and virtues will suddenly appear in it clearly and distinctly” (Tibetan, 1975, p. 77). The NDE also often contains a vivid life review, which will be discussed in more detail in the next chapter.

Like the Tibetan Book of the Dead, western religious traditions also bear the influence of Shamanism and NDEs. One early example is found in the Biblical book of Ezekiel, which describes the visions of the prophet Ezekiel concerning the future of the tribes of Israel. In one particular instance, the author writes that Ezekiel was carried “by the spirit of the Lord” (Ezekiel 37:1) and set in a valley full of dry bones. He is instructed to prophesy over the bones, and as he begins to prophesy, “there was a noise, a rattling sound, and the bones came together, bone to bone. I looked, and tendons and flesh appeared on them and skin covered them, but there was no breath in them” (Ezekiel 1:7-8). To complete the transformation, Ezekiel prophesied to the breath, which filled the newly-formed bodies, and they came to life.

In the book of Ezekiel, the transformation of the dry bones into a living army mirrors the dismemberment and reassembly found in the shamanic journey. God identifies the dry bones as a representation of Israel, and the transformation signifies the revival of the nation (Ezekiel 37: 11-14). Ezekiel’s vision also vividly demonstrates the collective nature of the Biblical tradition, as opposed to the individual character of the Tibetan Book of the Dead, for the dismemberment and reassembly occurs to Israel as a whole, rather than to a single individual.

The traditional shamanic narrative which began in Ezekiel was developed centuries later in the Book of Revelation. Like Ezekiel, this book differentiates itself from the Tibetan Book of the Dead in that it also recounts a collective journey. That is, Revelation represents the death, destruction, and re-creation of all life on earth, including humans and nature.

The book of Revelation depicts a vision that John of Patmos had while he was “in the spirit” (Rev 1: 10). In the vision, John meets an angel who leads him into heaven and shows him many prophecies that concern the end of time. These visions collectively depict the destruction of the earth through famine, disease, natural disasters, and war; the judgment of the inhabitants of the earth; the deliverance of the righteous; the final battle between good and evil; and the re-creation of a new heaven and earth where the righteous will dwell in perfection for eternity.

Like the Tibetan Book of the Dead, Revelation provides several striking similarities with shamanism and NDEs. In fact, the account could represent an integration of the shamanic journey and the Christian apocalyptic tradition. For instance, Revelation presents an extended journey into the spirit world lead by an angel (spirit guide). In addition, like shamanic initiations and NDEs, the event may have begun with some type of physical crisis; consider that at the beginning of his experience, John writes that he fell down “as though dead” (Rev. 1:17). In addition, John experiences an OBE, just as NDErs and shamans, for he writes that he was taken up into heaven and shown these visions while “in the spirit” (Rev. 1:10). Like many of the novice shamans, John meets the lord of death on his journey into the spirit world; in Revelation, this occurs when John sees the risen Christ at the beginning of his experience: he identifies himself

to John by saying, “I am the First and the Last. I am the Living One; I was dead, and behold I am alive for ever and ever! And I hold the keys of death and Hades.” (Rev. 1:17-18). Revelation also includes a life review: It tells of the final judgment of the earth in which each person is judged according to his or her actions during life. John writes, “And I saw the dead, great and small, standing before the throne, and books were opened. Another book was opened, which is the book of life. The dead were judged according to what they had done as recorded in the books.” (Rev. 20:12) Finally, the book of Revelation recounts a vivid scene of dismemberment and reassembly, although in this case, the experience is collective. In Revelation, the entire earth undergoes numerous catastrophes, from earthquakes, to plagues, to famine and war, which result in its total destruction. Yet, the end of the book describes the world’s re-creation: John witnesses a new heaven and a new earth free of all suffering and death.

Thus, the connection between NDEs, Shamanism, and religion is rich indeed. The NDE’s influence on religious views of death is apparent from ancient Shamanism to the literature of the major world religions, as delineated in the previous examples from Ezekiel, Revelation, and the Tibetan Book of the Dead. With this connection in mind, it is now time to turn to the NDE itself. The following chapter will describe the NDE in greater detail, identifying its common elements and enunciating many important factors associated with the experience.

Chapter Three

Identifying the NDE

What exactly is a near-death experience? As straightforward as this question appears, it is not simple to answer. What is now commonly called an NDE involves the unusual experiences reported by people who have been near death, or suffered clinical death and were successfully revived. Many of the experiences recounted by those who have been near death share similar elements, yet no two NDEs are exactly alike. Thus some NDEs appear strikingly similar while others may have almost nothing in common. Therefore, determining a concrete definition of the NDE is problematic. Moreover, researchers are divided over the cause, function, and interpretation of NDEs, making it even more challenging to produce an adequate definition. The problem of defining NDEs has been noted in the field of near-death research and it presents one of the most serious obstacles for NDE researchers (Greyson, 1999).

Despite the considerable variety among NDEs, there are common elements that recur frequently, such that a pattern is recognizable. Kenneth Ring (1980) divided the NDE into a series of five stages. These stages or elements are generally accepted as the defining components of the NDE, and I did not find any article or book that did not break the NDE down into these component parts. Ring arranges these elements into a chronological pattern, one element occurring before the other. This same pattern is generally observed in all NDEs, though there is variety, as some NDEs may lack certain elements or experience them in a slightly different order. Ring's five original stages are: 1) a feeling of peace; 2) separation from the body; 3) entering the darkness; 4) seeing the light; and 5) entering the light. Additional elements that he discusses are the life review,

seeing deceased friends and relatives, and a decision to return to the body. Each of these components will now be discussed in turn. (The following represents my own paraphrase of these NDE elements. Though they are consistent with everything that I have read on the subject, they do not represent quoted material from any one source. The following composites are taken from all of my readings, though perhaps most notably from Ring (1980, 1998), Blackmore (1993), and Lundhal (1983).)

Feeling of Peace. The first thing reported by NDErs at the beginning of their experience is overwhelming feelings of peace. This peace is often described as safe, secure, and warm, and many NDErs express a strong desire to remain in that environment. There is a pervasive and notable lack of fear. This strong affective component seems to begin at the onset of apparent unconsciousness and usually continues for the duration of the experience.

Body Separation. After the onset of feelings of peace, experiencers report the sensation of leaving the confines of their physical bodies. Some describe possessing spiritual body while others consider themselves as mind-only. Frequently, the person will see their physical body, usually from a position above it, as if looking down on it. Some NDErs are also able to describe the people present (e.g., doctors, nurses, loved ones) and the surroundings (e.g., a hospital room, accident site, operating room). The experience of apparently being out of one's body is known as an out-of-body experience (OBE). Incidentally, OBEs have been recorded and researched extensively without any connection to NDEs.

Entering the Darkness. Once the person experiences a separation from their body, they often encounter some type of darkness. It is described as a void, a cave, or

just darkness. Some people report a sensation of floating out in space. However, the most familiar incarnation of the darkness motif is represented by a tunnel. Many experiencers describe themselves as moving through the tunnel or the darkness to a bright light at the end.

Seeing Deceased Loved Ones. In many cases, but not all, the experiencer will report seeing spiritual beings or deceased loved ones who welcome them or act as their guide. These guides are reported appearing at the onset of the experience, in the tunnel or darkness, or once the person has entered the light.

Entering the Light. At the end of the tunnel or darkness, the experiencer often perceives an extremely bright light. The light possesses a definite ineffable quality and experiencers have difficulty describing it. It is frequently reported as warm, indescribably brilliant, and other-worldly. Additionally, many NDErs perceive the light as a being or presence. A particular characteristic of the light is that experiencers sense it as unconditionally loving and accepting. The peace and security felt at the onset of the experience is only intensified when the experiencer enters this domain of light.

Life Review. Another common characteristic of the NDE is a life review, though not all NDEs include one. In his book *Lessons From the Light*, Ring (1998) gives considerable attention to the life review. He describes the experience as one in which NDErs view some or all of the events of their lives in rapid succession. In addition to watching this display as if it were a movie, experiencers may feel that they are re-living these events. Another peculiar trait of the life review is that many NDErs report being able to feel the effects of their actions from the point of view of the others involved, not just from their own perspective.

The primary role of the life review seems to be one of teaching and healing. From it, experiencers often come to realize mistakes that they have made, and to feel great remorse and empathy for those they might have hurt. Interestingly enough, Ring does not mention any judging or condemning presence, though the life review is clearly an opportunity for the person to take account their life. Instead of condemnation, experiencers report love and unconditional acceptance, particularly from the light. In this way, NDErs report gaining invaluable wisdom as well as emotional healing from the life review.

Decision to Return. Most NDErs report a decisional moment in their NDE after which they return to their bodies. Sometimes the individual is given the choice to remain in the domain of light or return to their physical bodies, sometimes they are instructed to return (often being told that it is not their time yet), and sometimes they are merely encouraged to return because of children or unfinished projects left waiting for them. Though it is very common for NDErs to describe some type of decision, whether it is made by them or not, some individuals do not experience one, they simply wake up back in their body. For those who do experience the decisional moment, once the decision to return is made, they generally return right away. Few remember the process of return, and instead simply describe a renewed awareness of their physical body. A few, however, do recollect the re-entry process, and it is described as uncomfortable, painful, or restricting. It is only at the end of the NDE, when the person has returned to their body, that the overwhelming peaceful feelings cease.

In evaluating the NDE two other characteristics should be noted. First, NDEs are not a recent phenomenon, as demonstrated in chapter two. Records of NDEs have

circulated for centuries, some even predating the Middle Ages (Lundhal, 1982). Second, a person need not be in any physical harm to experience a NDE (Wettach, 2000; Blackmore, 1993; Fenwick, 1997). Many NDE elements can be recreated by electrical brain stimulation or drugs, and some natural NDEs have been reported from individuals whose conditions were not life-threatening. Incidentally, this fact causes yet more confusion in defining the NDE: Can an experience that has most of the NDE elements still be called a *near-death* experience if the person was not near death, and if so, how does this change the definition of the NDE?

One question pertinent to the evaluation of NDEs is whether or not other factors, such as demographics, influence the NDE. One study I reviewed that addressed this issue will be recounted below, but it should be remembered that the results presented are indicative of almost all experiments. In that study (van Lommen, et. al., 2001) the authors interviewed 344 consecutive cardiac patients (representing 509 resuscitations) from 10 different hospitals in Holland. All suffered cardiac arrest, were clinically dead, and were resuscitated. Among the 344 patients, 12% experienced a NDE. The experimenters found that no medical, psychological, or pharmacological factor influenced the frequency of NDE occurrence. Age was found to be a significant factor, since patients under 60 reported more NDEs than those over 60. Though sex did not affect the occurrence of an NDE, women were found to have deeper NDEs, that is, they experienced more elements of the NDE than men. This study, along with several other experiments not discussed in this thesis, adequately demonstrate that demographical factors, medication, and the precipitating events of physical harm do not affect the occurrence of an NDE, with the

exception of the particular age and sex variables noted above (Alvarado & Zingrone, 1998; Blackmore, 1993; Ring, 1980).

Some experiments have been conducted in the face of the concern that the fanciful stories reported by NDErs are subject to exaggeration and hyperbole. One study (Alvarado & Zingrone, 1998) analyzed tabular data of NDEs, supposing that if they were subject to embellishment over time, then the greater the length of time from NDE occurrence to the interview, the deeper and more fanciful the NDE. No support for this effect was found.

Similar results were found in the Dutch study mentioned above (van Lommen et al., 2001). In the longitudinal portion of their study, the authors conducted follow-up interviews for the patients who had experienced NDEs both 2 and 8 years after the event. Surprisingly, they note that the NDErs could recall their experiences in almost exact detail. There was virtually no time effect on their testimonies at either the 2-year or 8-year interview. When taken in conjunction with the Alvarado & Zingrone (1998) study, this presents sufficient evidence to conclude that the fanciful accounts told by NDErs do not result simply from embellishment over time.

In addition to the influence of precipitating factors such as sex, medication, onset of physical calamity, or embellishment, NDE researchers have been most interested in the stability of the phenomenon. Are all NDEs the same or do they differ across cultures? Answers to this question have varied. While Ring (1980) and Lundhal (1983) maintain that the phenomenon is remarkably stable, others like Susan Blackmore (1993) and Kellehear (1993) have taken issue with this conclusion. Blackmore asserts that what type of NDE one has is dependent on the conditions that bring it about and the personal

characteristics of the individual. Likewise, she emphasizes the fact that some people have life reviews while others don't, or some people see the light without going through a tunnel while others experience a tunnel. Such variations as these are common, and they cause Blackmore to reject the idea that NDEs are a stable phenomenon.

Likewise, Kellehear (1993) concludes that there is considerable variation among NDEs, though he finds NDEs within western cultures to be basically similar. For Kellehear, NDEs from western cultures and those from cultures outside of western influence differ significantly. To come to this conclusion, Kellehear studied reports of NDEs from China, India, Guam, West New Britain, Native North America, Aboriginal Australia, and Maori New Zealand. For China, he reviewed three historical cases of an NDE in monks; in those accounts he found no mention of a tunnel experience or an OBE, but otherwise they were similar to western accounts. In reviewing NDEs from India, he used the work of Noyes and Kletti, citing their findings that Indians do not experience a tunnel. Additionally, their life reviews differ from western ones in that they usually consist of someone reading a record of the experiencer's life rather than the experiencer watching the life events like a movie. He investigated three cases from Western New Britain and observed no tunnel or OBE, and a life review in only one case. Common to these NDEs, however, was the experience in which the individual spent the early part of the NDE walking down a road. Kellehear used 2 case studies from the work of H. R. Schoolcraft published in 1825 as his source material from native North America. In these accounts, there was no mention of a tunnel or a life review. Only one account from Aboriginal Australia was reviewed. This account was from the 1800s and several versions of it exist. However, he found that there was no tunnel, life review or OBE

present in that account. Finally, Kellehear examined one account from a New Zealand Maori. That individual did experience an OBE, but no life review or tunnel. Because of all of these differences across cultures, Kellehear concludes that the OBE, tunnel, and life review portions of an NDE must be culturally determined. He suggests, for instance, that life reviews would be more common in cultures that emphasize a historical world view, such as Western or Chinese cultures.

Both the Kellehear (1993) and Blackmore (1993) studies are mentioned to demonstrate the flavor of most of the debates within near-death research. Though I must agree that NDEs certainly vary from one person to the next, and that culture could be an important influence on them, I find their conclusions far from compelling. Blackmore, for instance, overlooks the fact that the same cluster of elements is clearly recognizable as an NDE, despite individual differences between NDEs. Kellehear, who presents good insights about culture, bases his argument on very few case studies: China and Western New Britain have only 3, native North America has only 2, and both the Aboriginal and Maori cultures are represented by only one account. Moreover, many of the accounts he uses are historical, having occurred more than a century ago. For these cases Kellehear had only a written account in which he was forced to rely on the observations of someone else who might have excluded what he would have found important and included aspects of no interest to Kellehear's study. Furthermore, some of the cases that he uses have their own mythos associated with them and can be found in several versions.

Because of these objections to Kellehear and Blackmore, I did not find any convincing evidence against the stability of the NDE. Therefore I am inclined to agree

with Ring and Lundhal. For this reason, I will consider the NDE's stability as a valid characteristic of the phenomenon for the remainder of the thesis.

So far, each of the characteristics presented in this section has some type of variability associated with it. Yet, one characteristic of the NDE is virtually undisputed by NDE researchers: the life-changing influence they exert on those who have them. Ring (1980) writes, "however one chooses to interpret near-death phenomena, they are unquestionably real in their effects" (p. 138). As far as effects are concerned, the studies I reviewed present a solid consensus: NDEs have lasting effects on those who undergo them. For instance, Ring (1980) interviewed 87 people who had come close to death and he found that the fear of death was significantly decreased for those who had NDEs relative to those who did not have one. Likewise, Ring reported that the experiencers showed a marked increase in belief in an afterlife, whereas non-experiencers show virtually no change in that respect. Another change he noticed was an increase in religiousness among NDErs. Moreover, Ring explains that all three of these significant changes (decreased fear of death, increase in religiousness and increase in belief of life after death) were supported in a similar study conducted by Michael Sabom.

In addition to those mentioned above, Ring (1980) recounted several personal value changes mentioned by his participants. NDErs report increased appreciation for life, renewed sense of purpose in living, a devaluation of material success, and a new focus on love and compassion attributed to their experience. However, these personal life changes were also observed in individuals who came close to death without an NDE. In addition to the quantitative data presented in his first study, Ring (1998) recounts

numerous personal testimonies of individuals whose lives were deeply affect by their NDE in *Lessons From the Light*.

Other researchers have reported similar findings. Blackmore echoes Ring's conclusions regarding the pervasive impact of NDEs. She writes, "there is no doubt that the NDE seems to transform people's lives" (Blackmore, 1993, p. 244). Similarly, the van Lommel et. al. (2001) study mentioned above concluded from the longitudinal portion of their study that the NDErs displayed an increase in the belief in life after death, showing of love and acceptance, sense of meaning, self-confidence, religiousness, and a decreased fear of death.

So far, I have recounted basic NDE characteristics, including their elements, their stability, and the changes they induce. There is one more crucial aspect of NDEs that has not yet been mentioned: veridical evidence. This is perhaps the most fascinating and enigmatic aspect of NDEs. NDErs often awaken from their experience reporting to have seen themselves being resuscitated or repeating information that they could not have known or seen while unconscious, such as the position of people in other rooms, or the color of the clothing of someone far away. Literature on NDEs is replete with such reports, and because these instances give credence to the view that the NDEr was experiencing some type of spiritual reality rather than an elaborate hallucination, such stories are called veridical evidence and the NDEs that contain them are referred to as corroborative NDEs.

Anecdotal stories of veridical evidence are innumerable in near-death literature. Ring (1980) recounts NDErs who claimed to see their resuscitations and were able to describe them in detail. Some were also able to describe loved ones waiting for them,

even ones located in a different room. Yet more anecdotal evidence is found in *Lessons From the Light*, when Ring (1998) recounts many instances in which NDErs with serious or fatal diseases experienced miraculous recoveries after their NDE. Another account from Ring depicts an instance in which an NDEr could accurately describe the colors in the stool on which the physician sat during his operation. Yet, skeptics might raise a critical eye at such stories, for Ring himself admits that though he gives them full credence, he did not verify these stories with physicians or other parties.

However, a person investigating this phenomenon is not relegated to anecdotal stories alone. A few empirical studies shed light on this mysterious phenomenon. Ring (1998) cites a clever study done by Michael Sabom, a physician who noticed that NDErs could often accurately describe their resuscitations in minute detail. He wondered if their accuracy might be attributable to imagination, expectation, or lucky guesses. To answer this question, Sabom gathered NDE cases of this sort and then consulted medical records and personnel to determine their veracity. As a control, he asked 25 coronary patients who had not been resuscitated to imagine that they were resuscitated and then to describe it. Sabom found that 22 of the 25 accounts from the control group were fraught with errors, but the NDE group had no such errors, often reporting the particular procedures that had indeed been performed on them. In addition, the accounts from the control group were general and vague, whereas those from the NDE group contained much more detail. Such results lend credence to the NDErs' claim that they had observed their own resuscitations from outside their bodies.

Verified accounts of veridical evidence are rare in the literature, perhaps because they are difficult to verify. Yet, I was able to find two very strong cases for veridical

evidence. One is the story of Maria, which has been published in more than once. Ring (1998) recounts the experience as follows: Maria, who was visiting her friends in Seattle for the first time, suffered a cardiac arrest and was rushed to the hospital. After she was revived, she reported having an OBE and seeing the medical team work on her body. Then, she claimed that she went up through the ceiling onto the roof of the hospital. One of the things she saw during this experience was a single tennis shoe on the ledge of a third-floor window. Maria described the shoe in great detail, mentioning a worn patch over the little toe and one shoelace tucked under the heel. When a nurse, Kimberly Clark, came in to check on her the next day, Maria recounted her experience. Clark was skeptical, but also curious, so when Maria asked her to check if there was such a shoe at that spot, Clark agreed to go. To her amazement, Clark found the shoe on a third-floor window ledge exactly as Maria had described it. Ring summarizes the force of this account:

...what is the probability that a migrant worker [Maria] visiting a large city for the first time, who suffers a heart attack and is rushed to a hospital at night would, while having a cardiac arrest, simply ‘hallucinate’ seeing a tennis shoe – with very specific and unusual features – on a ledge of a floor higher than her physical location in the hospital? (1998, p.66)

Ring concludes, “Not bloody likely!” (ibid, p.66)

The second well-documented instance of veridical evidence was reported by von Lommen and his colleagues (2001). During their investigation of NDEs, one coronary-care-unit nurse told of a veridical OBE. She described an instance in which a 44-year-old man was brought into the coronary care unit who was cyanotic and comatose. She was

one of the nurses on duty, and while attempting to intubate him during the resuscitation process, she found that he was wearing upper dentures. She removed the dentures and put them in the drawer of the medical cart. The patient was moved to another area after stable respiration and heart rhythms had been achieved, though he was still in a coma.

The nurse saw the patient again one week later while he was recovering in the coronary unit. As soon as he saw her he exclaimed that she was the nurse who knew where his teeth were. He then proceeded to explain that he had seen his resuscitation from out of his body. He said that he had seen her remove the dentures, and he accurately described, in detail, the medical cart into which she put the dentures, even noting that she had put them in the top drawer. Additionally, he gave a detailed account of the room in which he was resuscitated and the people present. The nurse was very impressed with this account because of its veracity, and because of the fact that he entered the hospital in a coma and left the resuscitation room while still comatose.

At the risk of sounding redundant, I will describe yet another account of veridical evidence that I encountered during my research. However, this account is not from the near-death literature. Instead, I interviewed this NDEr myself. My mother, having heard that I was researching NDEs, referred me to a woman at her church who had had an NDE. As my mother described it, the woman had reported a strong instance of veridical evidence, so I decided to investigate this account for myself. Hence, I arranged interviews with the two women involved: Clara, the NDEr, and Darlene, another woman from the church who verified Clara's account. (See Appendices A and B for transcripts of those interviews)

In May of 1999, Clara suffered a very serious stroke. During that episode, she experienced an NDE in which she claimed to have seen several deceased friends and relatives. Darlene's husband Pete, who had been killed in a plane crash the year before, was one of the people Clara saw. Pete, like many other people Clara met during her NDE, gave her messages to pass on to his family. The messages for his two daughters were sentiments of encouragement and love. Pete's message for Darlene, however, was unusual and unexpected. According to Clara, Pete told her to tell Darlene that he was sorry he never had a chance to caulk the windows in their house.

During Clara's stroke, her husband had called the church pastor to come to the hospital, since they did not expect Clara to live. By the time they arrived, Clara had greatly improved. That same evening, Clara recounted her NDE to the pastor's wife. The very next day, she saw Darlene and gave her the message from Pete.

Darlene confirmed all of this information during my interview with her. She also explained the significance of the strange message from Pete: Darlene explained that Pete often tried to be a handyman and fix things around their house, but he was not very adept at the work, and his efforts were not always successful. For some time prior to his death, Pete had been promising to caulk the windows in the house, but he had not yet done it when the accident occurred. Clara would have had no way of knowing about the windows in Darlene's house nor of Pete's intention to caulk them. This account of veridical evidence, like those mentioned above, clearly demonstrates the enigmatic nature of the NDE.

Veridical evidence represents the last characteristic of NDEs to be reported in this section of the thesis. Yet, a review of the pertinent information presented here might be

helpful before continuing to the next chapter. First, it is generally accepted that the NDE is made up of several different elements, namely strong feelings of peace, a feeling of having separated from one's body, a tunnel or darkness, seeing and entering an extremely warm and bright light, a life review, meeting deceased loved ones, and a decision to return to the body. Second, NDEs are basically a stable phenomenon; that is, they are not affected by demographic factors, medical conditions, or pharmacological agents used during resuscitation. Moreover, there is no compelling evidence that NDEs result from cultural influence. Finally, this section explored three cases of veridical evidence in which NDErs reported accurate knowledge that they could not have possibly known from their position and condition in the hospitals where they were treated.

Chapter Four

Theoretical Models of the NDE

Explanations to account for the bizarre and enigmatic phenomena of NDEs are as numerous as the researchers who study them. The explanations can emphasize cultural, psychological, spiritual, and biological perspectives, with any number of variations and combinations among them. For reasons already indicated, examples from two broad categories of explanations will be presented in this thesis. In the first section of this chapter, I will describe four biological models, and in the second section I will present two spiritual models. A brief exposition of the relative strengths and weaknesses of biological and spiritual models, with particular emphasis on the treatment of veridical evidence, will follow. My overall analysis is presented in the final chapter of the thesis.

Biological Models

The first category of NDE explanations that will be examined are biological models. Biological models call upon the complexity of human physiology to explain the experience. For proponents of biological models, the NDE can be explained purely on the basis of the biological functions of a dying brain. They often invoke such processes as temporal lobe seizures or anoxia as the cause of NDE phenomena.

One such model, presented by Wettach (2001) is based on evolutionary theory and biology. In this theory, Wettach distinguishes between two parts of the human brain: a) an evolutionarily older, reptilian brain located in the pons (see Figure 1); and b) the younger, more complex mammalian brain represented by the cerebral cortex (see Figure 2). Wettach explains that the reptilian brain, like reptiles themselves, can function at lower temperatures, with less available energy resources, and under greater duress than

the more complex mammalian brain. The mammalian brain, though more fragile, is responsible for overall human consciousness. As the dominant brain, it overrides the subconscious reptilian brain under normal conditions. Because the reptilian brain is so robust, Wettach posits that it might be able to function in states of hypothermia, hypoxia, or other physical distress when the cerebral cortex no longer functions. At those times, as well as any other time when the cortex is dormant (sleep, coma, hypnosis, or psychotic episodes) the reptilian brain could become dominant.

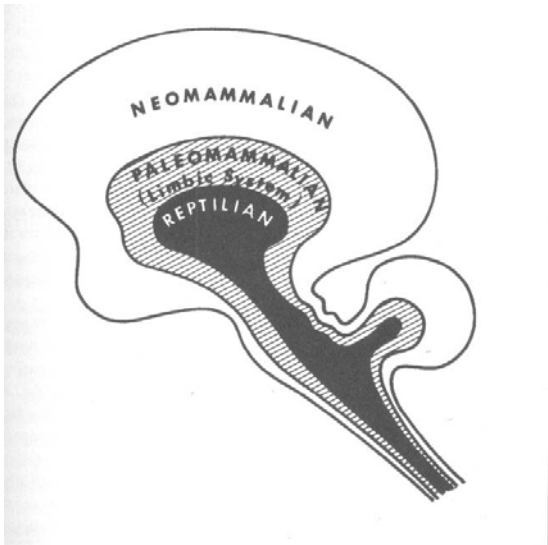


Figure 1. Three evolutionary parts of the brain.

Note. From "The Brain in Relation to Emptay and Medical Education," by Paul D. Maclean, 1967, *Journal of Nervous and Mental Diseases*, 144, 374-82, as cited in *The Humanizing Brain: Where Religion and Neuroscience Meet* (p.53), by J. B. Ashbrook and C. R. Harrington, 1997, Cleveland, OH: The Pilgrim Press. Copyright 1997 by James B. Ashbrook and Carol Rausch Harrington.

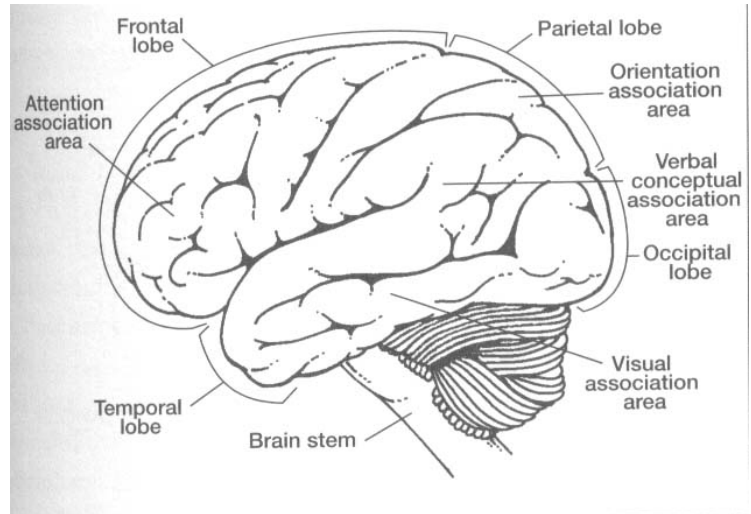


Figure 2. A view of the brain from the side.

Note. From *Why God Won't Go Away: Brain Science and the Biology of Belief* (p. 19), by A. Newberg, E. D'Aquil, and V. Rause, 2001, New York, NY: The Ballantine Publishing Group. Copyright 2001 by Andrew Newberg, M.D.

By Wettach's account, the interaction between the two brains during physical duress is the basis of the NDE. When a person experiences clinical death, the cerebral cortex ceases to function. When the patient sees a tunnel with a bright light, Wettach

assumes that some successful effort towards improving the patient's physical condition has been made. This darkness followed by a bright light would represent the cerebral cortex re-initiating and beginning to resume activity. Likewise, the life review would constitute previous memories that flash before the patient as the brain continues to regain function; Wettach finds it normal to suppose that the memories would begin with the earliest stored ones and continue to the most recent. Wettach explains the common NDE sensation of incorporeality as infant memories, relating it the feelings of an infant during birth who transitions from a cramped and restrictive uterus to the freedom of a new world. He attributes OBEs to the fact that the cerebral cortex would not yet be completely functional, providing the patient with only the sense of hearing. Since no other data is available through sensory input, the brain must create its own picture of reality; thus, it interprets the loss of sensation as an OBE. Wettach explains,

In fact, our body is gone from a sensory standpoint because we have no spatial sensory ability, and our rational, conscious mind is also gone. Illusory free floating becomes possible, if not mandatory, because we have lost all our normal spatial clues. (p.82)

The fact that many NDErs claim to see deceased friends and relatives who act as their guide is, like the OBE, explained by primitive memories. Wettach considers these to come from memories of infancy and early childhood in which adults provide love and care. Such memories are normally suppressed by the cerebral cortex, but they reassert themselves in the form of visions when the cortex is only partially functional. The feeling of warmth reported by NDErs is explained as the physical re-warming of the body that accompanies restored cardiopulmonary and respiratory function. Wettach considers

the being of light or God to represent another reassertion of memories of religious teachings from childhood. Finally, the patient's cerebral cortex resumes normal functioning, represented by a return to the physical body. In this way, Wettach attempts to account for NDE phenomenon using only biological factors. He writes of his own theory: "This paper suggests that physiological explanations for NDEs are possible, particularly if creative, speculative, scientific fantasy is also allowed" (p.88).

Wettach's biological model is by no means the only one found in near-death research. Another model, proposed by Jansen (1997) focuses on the action of neurotransmitters in the hippocampus. Jansen explains that most features of the NDE can be induced by administering the drug ketamine. Among the elements mentioned are traveling through a tunnel, entering a light, telepathic exchanges with a God-like entity, life reviews, and the belief that one is dead. To explain this similarity, Jansen highlights the biochemical effects of ketamine on the hippocampus.

Jansen (1997) recounts some of the physiology of the brain to explain this interaction. He mentions that the large neurons in the cerebral cortex use glutamate as a neurotransmitter. If the brain is flooded with too much glutamate, which is an excitatory substance, then the neurons will die from excitotoxicity. Glutamate excitotoxicity occurs in hypoxia and epilepsy, to name two common examples. How is this process related to ketamine? Jansen explains that ketamine suppresses glutamate, resulting in the bizarre effects of the drug. Since too much glutamate is lethal to neurons, and since the human body possesses so many protective processes, Jansen posits a natural ketamine-like substance that would prohibit excitotoxicity when the brain is flooded with glutamate during physical duress.

By Jansen's own admission, this explanation cannot account for all NDEs. He supposes that the brain's natural ketamine process might work in conjunction with other processes (like hypoxia, temporal lobe epilepsy, reactivation of birth memories, and regression as an ego-defense mechanism) to produce NDEs. Yet it is considered by many to present a very valuable theory of causality for NDEs.

Similar to Jansen's theory that attributes the NDE to several possible processes, Blackmore (1993) presents a very interesting explanation of near-death phenomenon. In her book, *Dying to Live*, Blackmore describes each facet of the NDE and provides a thorough biological explanation for them. Here, I will concentrate on her explanation of mental models, since it functions as the foundation for her interpretation of NDEs.

Blackmore (1993) begins by explaining that everything we experience in the world, either internally or externally, is the result of mental models. The brain is constantly collecting input from our senses and arranging it into meaningful data based on our memory, knowledge and experience. She writes, "reality is simply a vast set of mental models" (p.158); and one's sense of self is no less constructed than any other facet of reality. She explains that the 'I' that each person assumes to exist is merely a "model of self who appears to inhabit the body and be in charge of it" (p.158). The following passage clearly portrays her position:

I am not a special being inside the head directing attention to one thing or another. Rather, 'I' am just one of many models built by this system and 'my' awareness is just a product of the way that system builds its model of reality. (p.160)

(Interestingly, Blackmore acknowledges that within her mental model paradigm, one can never know if anything in the world is ‘real’ or actually occurring since all of one’s perceptions are based on composite models created by one’s brain.)

Given this sense of self, Blackmore asserts that the stability of the mental models determines one’s subjective feeling of reality. Based on sensory input, the system takes the most stable models, i.e., those that most accurately predict actions and promote functioning, and considers those models to represent reality. Erratic, chaotic models are interpreted as fantasy or hallucinations. The NDE seems like a real occurrence because it presents the most stable model of self during the brain’s weakened state. For instance, during the OBE phase of the NDE, one perceives oneself to be a spirit or mind absent of a physical body because this model is the most stable in accommodating the lack of sensory input from the impaired physical systems. Thus, biological processes of physical distress cause all of the elements of the NDE, like the tunnel, light, life review, etc., and the system creates a mental model to accommodate them. NDErs may believe that they have traveled out of their bodies, visited spiritual realities and beings, and then returned to their bodies, when in fact the experience only constitutes another of the brain’s many mental models.

The final biological model that will be presented here, the quantum biomechanical model, employs concepts from biology, holography and quantum physics to explain the NDE. Beck and Colli (2003) proposed their model to redress the inadequacies in the current views of human memory function. As they explained, current views of human memory cannot account for three salient facets of the life review in NDEs. (Though the model is aimed specifically at the life review, it is applicable to the NDE in general.)

Those facets are 1) the immense amount of memory recall that occurs during a life review; 2) the panoramic and instantaneous nature of the memory recall; and 3) the fact that such recall can include events from the perspective of others in addition to the experiencer's own perspective.

Beck and Colli's (2003) explanation of these enigmatic properties is based on the biological functions of microscopic structures called microtubules. They describe microtubules as "self-organizing, tubular proteins" (p.179) which form networks of bundles within human cells. These networks provide structure, shape, and communication within the cell. Microtubules provide intercellular as well as intracellular communication, and they function macroscopically in human communications, memory recall, and learning.

So, how do the microtubules affect a life review? To answer that question, Beck and Colli (2003) incorporate two related concepts from quantum physics: quantum coherence and non-local communication. Quantum coherence is a state in which quantum particles vibrate coherently, that is, at the same frequency. One example of quantum coherence that Beck and Colli use to explain the concept is the laser; in a laser, all the particles vibrate together in the same frequency, phase, and direction. This process is crucial to their theory since they assert that microtubules, like lasers, exhibit quantum coherence; that is, they all vibrate on the same frequency, thus providing solidarity and communication among them.

The microtubules' quantum coherence is dependent on non-local communication. Local signals (as opposed to non-local ones), such as white light, travel across distances in a finite period of time and decrease in intensity as they travel. Non-local signals

operate outside of these effects; they travel instantaneously, regardless of distance. Thus, non-local communication refers to the fact that certain quantum particles ‘communicate’ with one another instantaneously across any distance.

Beck and Colli (2003) cite the works of several other researchers, such as Mitchell (1999) and Radin (1997), who have demonstrated that humans perceive both locally and non-locally. Similarly, they note that non-local communication occurs regularly within the human body on a molecular level. One cited example of this is quantum tunneling, which is the process whereby proteins from DNA travel instantaneously from one point to another without traversing the distance between them. This effect has been demonstrated over distances of 5.5 inches. Even more surprising is that placing a barrier between the two points has no effect on the process, regardless of barrier length!

Beck and Colli (2003) assert that the microtubules interact using non-local communication, similar to the quantum tunneling mentioned above. Noting that microtubules can emit photons of light, Beck and Colli posit that microtubules communicate through the emission of these photons, which they surmise to be holographically-encoded. The resultant holographic communication has a very interesting side-effect: “if trillions of microtubules in the human body each create single-photon holograms, the amount of holographically encoded information may be effectively unlimited” (p.180). In addition, the instantaneous non-local communication between the microtubules would make it possible for “instantaneous downloading of an entire lifetime of experiences that are ‘replayed’ in a matter of moments, as if the process

occurs at a highly accelerated rate” (p.181). Thus, they are able to explain the volume of information recalled during a life review and the speed at which this recall takes place.

Even more astounding is that the authors theorize that microtubules might be responsible for another fundamental human characteristic. They surmise that a critical level of coherence across networks of microtubules might produce human consciousness. Beck and Colli (2003) write: “the net effect of countless bundles of neuronal microtubule ‘cables’ would thus be the basis for a profound emergent collective, macroscopic effect: consciousness ... resulting from the cumulative effect of countless microtubules acting in a coordinated manner” (p.181). As corroborative evidence of this theory, they cite studies that demonstrate that anesthetics, which result in the loss of consciousness, impair the functioning of microtubules.

Beck and Colli (2003) have, at this point, demonstrated how microtubules could be capable of producing consciousness and disseminating large amounts of data almost instantly, but the question of where such large amounts of data are stored or how an NDEr can have knowledge of events outside of his or her own personal experience remains to be answered. To address this issue, the authors introduce holographic memory into their model. Beck and Colli cite Ervin Laszlo as positing that human memory might be stored outside the human body in a holographic memory field that they call the zero-point field. According to Laszlo’s theory, the brain would function, not as a memory location, but as an organic processor that “interact[s] directly with the zero-point field on a quantum level” (Beck & Colli, 2003, p.185). Beck and Colli surmise that all memories reside in this holographic field, and that during an NDE the brain, aided by the processes of the microtubules, interacts directly with this memory field to access large

amounts of data very rapidly, even data from someone else's point of view. As corroboration to their theory, Beck and Colli report that the zero-point field was experimentally demonstrated by Steve Lamoreaux in 1997.

In this way, Beck and Colli account for the characteristics of the life review on a biological level. The amount of information and the speed of transfer are both accounted for. Additionally, their theory dictates that NDErs would be able to perceive events from another person's point of view by accessing others' memories stored in the zero-point field.

Yet, Beck and Colli's (2003) theory raises almost as many questions as it answers. For instance, why would one suddenly have the ability to interact with others' memories in the holographic memory field when one is near death, why can't these memories be accessed on an every-day basis? Or, how do the other features of the NDE, such as the OBE, relate to their theory? Despite the unanswered questions, though, their theory provides "for the first time, a scientifically rigorous biomechanical model" (p. 185) that is capable of addressing the more enigmatic NDE phenomena on a biological level.

Spiritual models

Spiritual models are the second category of NDE models to be examined in this thesis. Unlike the biological models, spiritual models do not seek biological functions as the primary source for the NDE, though some models (such as Murphy's algorithmic reincarnation model) do incorporate biological processes into their explanations. Though some spiritual models posit an immortal soul, spiritual realities, or alternative dimensions, others refrain from such speculation. However, what these models all have

in common is that they consider the NDE a spiritual experience: they view the NDE as an encounter that should ultimately be defined as metaphysical, that is, entailing existence outside the body.

One spiritual model that focuses on altered states of consciousness has been proposed by Todd Murphy (1999, 2001). In this model, Murphy explains that NDEs are biologically-based, algorithmic processes that systematically alter states of consciousness. These altered states carry a dying person through several stages of the dying process in order to 1) convince the person of their passing (the OBE and viewing of their physical body); 2) produce peace and assurance (the light and feelings of peace); and 3) prevent resistance to death (being of light and presence of loved ones). Murphy holds that the evolutionary process of natural selection facilitates one's rebirth. Additionally, the life review provides an important opportunity for the person to learn from their life before dying and being reborn.

Murphy's theory is partially based on a pilot study that he published in 1999. In this study, Murphy obtained seven volunteers from a meeting of the International Association of Near Death Studies who had had an NDE in the past. He led these volunteers in a guided meditation in which he asked them to imagine a presence behind them and to the left while paying close attention to their breathing. All seven experienced NDE phenomenon, such as feelings of peace and seeing spiritual beings, as a result of the meditation, and many claimed that they were the same features experienced during their actual NDE. Since the altered states of consciousness achieved through meditation produced NDE elements, Murphy posits that NDEs constitute altered states of consciousness.

Murphy includes biological processes as a key feature of his theory by employing Michael Persinger's theory of sensed presence. According to this theory, humans have two senses of self, one for each temporal lobe of the brain. Murphy (2001) writes that if the two lobes slip out of phase the "subordinate right hemisphere's sense of self intrudes into the left side's awareness, and is experienced as an external presence" (p. 262). Thus, biological processes account for the sensed presences and the other phenomena of the NDE. In this way, Murphy's algorithmic reincarnation model interprets the NDE as altered states of consciousness but incorporates a biological element to the theory.

Though some spiritual models, like Murphy's, do not contain an insistence on alternate realities, there are several that do. Theories invoking alternate realities maintain that reality is not confined to the material world; there is much more to the universe than what can be objectively seen, heard, smelled, touched, or tasted. Alternate reality theories are often paired with the belief that consciousness is at least partially non-local and continues to exist after death. There are many varieties of this view that can be categorized under traditional religious paradigms, such as Lundhal's Mormon interpretation of NDEs or Michael Sabom's Christian one. Others, like those of Moody and Ring, posit religious significance to the NDE, but do not adhere to any traditional religion. Rather, Moody and Ring present less organized and more universalistic religious concepts than their traditional counterparts. It is Ring's model of the NDE that will be discussed next.

In understanding Ring's (1980) explanation, it is important to note that he is very clear regarding his interpretation of the NDE: for Ring, the NDE represents reality. He views the OBE as an actual separation of mind from body, or of a spiritual body from a

physical one. Likewise, he believes that consciousness continues after death in some type of alternate reality. According to Ring, the NDE is exactly what is described by those who have had one – the beginning stages of transition from this reality to the one that awaits after death. Ring writes:

Most of us, most of the time, function in the three-dimensional world of ordinary sensory reality. According to the interpretation I am offering, this reality is grounded in a body-based consciousness. When one quits the body – either at death or voluntarily, as some individuals have learned to do – one’s consciousness is then free to explore the fourth-dimensional world. (p. 234)

What is this alternate reality or ‘fourth-dimensional world’? Ring (1980) surmises that it is a holographic realm made up of pure frequencies. In this ‘frequency domain,’ individuals perceive and decipher these frequencies holographically. Thus, the OBE and tunnel experience represent the transition in which individuals begin perceiving holographically, and the world of light represents the frequency domain itself. Deceased loved ones will appear in an NDE when the dying person encounters their loved ones’ holographic signatures already dwelling in the frequency domain. Interestingly, Ring interprets the being of light that one encounters in the world of light, not as God or any higher spiritual being, but as oneself. It appears infinitely loving and accepting, as well as all-knowing, because it is simply a part of oneself, one’s higher self or one’s true divine nature. Ring concludes that “the act of dying, then, involves a gradual shift of consciousness from the ordinary world of appearances to a holographic reality of pure frequencies” (p.237).

Chapter Five

Evaluation and Conclusions

The debate that rages between the spiritual and the biological models is heated and intense. As one example, Blackmore asserts that the biological models are much more useful theories than spiritual ones. To support her position, Blackmore (1993) cites three criteria for a good theory: First, a good theory must be specific, that is, it must be able to account for the very specific phenomenon associated with NDEs, such as why NDErs see a tunnel instead of a door, or why they experience one set of emotions rather than another. Second, Blackmore asserts that adequate theories should not invent alternate worlds without valid evidence. She writes, “Generally speaking, a theory that uses known and well-understood principles is to be preferred to one that just invents a new ‘force’ or ‘plane’ to account for any findings that come along” (1993, p. 75) Finally, Blackmore argues that a good theory should make testable predictions, since a theory that produces no testable predictions is useless.

Many researchers, including Blackmore, find that biological models tend to have little difficulty satisfying these criteria. For instance, each of the biological models presented above is able to address specific NDE phenomena, make testable predictions, and refrain from *ad hoc* invention of alternate realities. Moreover, biological models have years of biological and scientific advances to back them up.

Yet, as compelling as some of the biological arguments may be, they are far from universally accepted. Each of the biological models presented above has attracted criticisms, both with their theoretical aspects and with their biological data [for specific commentary on Jansen’s model see especially Strassman (1997), Fenwick (1997),

Kungurtsev (1997), and Morse (1997)]. For instance, Fenwick (1997) argues against Jansen's theory by asserting that temporal lobe activity is an unlikely candidate for producing the NDE since the effects caused by such activity share little similarity to NDEs. In addition, Ring raises some objections about placing too much emphasis on anoxia as the stimulus for the NDE, citing that many experiences occur when anoxia can be definitively ruled out. A detailed exposition of all of the objections would be tangential for my thesis; only let it be noted that even the most empirical, biological theory is far from airtight, even on the basis of the workings of biological processes themselves.

Yet, there are two significant objections that generally apply to biological models which require particular mention. First, biological models, based on the functioning of a distressed brain, fail to account for NDEs reported when the person had no brain wave activity. Many of these cases have been recorded; one study accumulated 55 cases of NDEs occurring while the patient showed no brain response on an EEG (Shoonmaker, as cited by Lundhal, 1983). There were also many cases of NDEs with flat EEGs in the von Lommen (2001) study, as the authors note that most patients lost all measurable brain response about 10 seconds after the onset of the cardiac episode.

One particular case of a NDE occurring when there was no perceptible brain activity is so striking that it bears detailed attention. I encountered this widely publicized account in an article by Kelly et. al. (2000), although it has been recorded elsewhere. This is the case of Pam Reynolds (pseudonym), a person who underwent a radical surgical procedure to remove an aneurysm from her brain. Ms. Reynold's physical state during her operation is described as follows:

At the time the aneurysm was removed, Ms. Reynold's core body temperature was 60 degrees Fahrenheit, her heart was stopped, and electroencephalogram (EEG) showed no brain wave activity, there was no brain stem (including auditory) response, and all blood had been drained from her brain. (p.517)

After the procedure, Ms. Reynolds reported a NDE. She experienced common elements such as an OBE, a tunnel, a light, and seeing several deceased loved ones who sent her back to her body. What is truly incredible is that during her OBE, Ms. Reynolds claimed to be able to observe the surgery from outside her body. She was able to accurately describe the unusual bone saw used during the procedure and she recounted some remarks made by the surgeon. The veracity of both the remarks and the description of the bone saw were later confirmed by the physicians.

Clearly, cases like this one present a serious obstacle for biological models. All theories of neurotransmitters, temporal lobe activity, or anoxia are insufficient if the brain is no longer active. A brain that is no longer active cannot be responsible for anything at all, much less such accurate observations as those recounted by Pam Reynolds.

Some might object to accounts like these, claiming that perhaps EEGs are not very accurate or perhaps the brain was functioning at such a low level that weak brain waves did not register. Such a rebuttal is not very convincing for cases like Ms. Reynold's, but it is possible that such a criticism is founded.

Yet, even if one casts doubt on the accuracy of EEGs as a measure of brain activity or if it is proven beyond doubt that the brain is actually still functioning, even if only weakly, during the NDE, another serious obstacle to biological explanations of NDEs remains: veridical evidence. Any good theory of the NDE should take *all* aspects

of the NDE into consideration; yet, biological processing is hard-pressed to explain individuals being able to see, hear, or know things that they should have no ability to perceive (like the case of Maria's shoe).

Blackmore (1993) readily admits that her theory is disproved if such cases of veridical evidence are found to be true. She then makes an attempt to discredit veridical accounts. Blackmore asserts that if the brain is still functioning, even if only weakly, then it will be capable of imagery, and it is this imagery that a person interprets as OBEs. In order to construct the images, the brain uses "prior knowledge, fantasy and lucky guesses, and the remaining operating senses of hearing and touch" (p.115). Blackmore explains that an NDEr might claim to have seen so-and-so talking to so-and-so, wearing this particular thing or holding that particular item during their episode. But this is hardly convincing evidence for her: When re-telling their experience, the NDEr may be only 50% correct, but no friend would bother to correct them, since they would have been through such a tremendous physical ordeal. Cases in which NDErs can accurately describe resuscitation procedures are not convincing to Blackmore either, since a person might be able to recount the procedures performed on them based on the remaining sense of touch (thus explaining Sabom's experiment in which the cardiac patients who did not have an NDE could not imagine an accurate resuscitation: they had never been resuscitated whereas the NDErs could recount their experiences because their bodies could feel the procedures).

Yet, when one considers cases such as Maria's in which there was no prior knowledge of the hospital or no conceivable way for her remaining senses to apprehend the shoe in such detail, and when one considers that explanations of coincidence and

lucky guesses push the limits of credibility (to say the least), one finds Blackmore's objections critically lacking. Blackmore (1993) vaguely mentions the case of Maria and the shoe in her book, and concludes that the account is unsatisfactory. She simply explains that she was "unable to get any further information" (p.128) about this case and subsequently dismisses it from consideration. One is left wondering what additional information was required, since complete accounts have been published. Even more telling, though, is the fact that Blackmore dismisses Maria's case, apparently believing it to be unverified, yet she does not give any indication why she came to that conclusion nor does she present the criteria required for an account to qualify as verified. For this reason, one is left wondering if *any* account would seem verified to her!

Blackmore's theory is not the only one that fails to account for veridical evidence. Neither Wettach's dual brain theory nor Jansen's ketamine model provide an explanation for veridical evidence, nor do they mention this aspect of NDEs at all. Unfortunately, this shortcoming is common in biological models.

The one biological models discussed in this chapter that appears to accommodate veridical evidence is the Beck and Colli quantum biomechanical model. According to their model, conversations overheard by the NDEr, resuscitation procedures being witnessed, or strange objects seen in strange places could all result from the access of others' memories located in the zero-point field.

Though the Beck and Colli model successfully accommodates veridical evidence, the correct categorization of the model is complex. Beck and Colli present their model as a biological one, yet they claim that memory resides outside of the body. What begins as a biological explanation concludes within the realm of metaphysics. Thus, what they

really offer is a non-reductionistic view that, despite its biological basis, could be best classified among the spiritual models.

Like Beck and Colli's model, the other spiritual models have little difficulty explaining veridical evidence. For Ring, people can report overheard conversations or strange objects that they saw because they experienced, in actuality, everything they claimed to have seen or heard. One's soul/mind continued to exist outside of one's body and experience the world, at least enough to see objects and overhear conversations. Though he does not explicitly enunciate it, Murphy's model could also account for veridical evidence. Presumably, whatever portion of the person that is being reborn would be conscious and capable of observing and remembering objects or conversations.

Unfortunately, though both spiritual models account for all NDE phenomena, including veridical evidence, some find that they do not satisfy Blackmore's criteria for a good theory. According to Blackmore, they 1) do not adequately explain the specifics of an NDE; and 2) in Ring's case, they invent alternate worlds. However, both make testable predictions. Murphy, for instance, tests his theory about altered-states of consciousness on seven NDErs in the study reported above. Ring makes predictions from his theory about NDEs in the blind and gathers data to test those predictions in his book *Mindsight* (1999).

Of course, how well the theories satisfy Blackmore's criteria is open to interpretation. For instance, Ring and Murphy might argue that their theories do account for the specifics of NDEs: people experience the particular things that they do because the things they experience represent reality. Also, Ring would hardly consider himself as inventing alternate worlds without adequate evidence. For Ring, as well as many others

who espouse spiritual models, veridical evidence provides strong proof of an alternate reality.

Yet, perhaps the most crucial factor in the argument between biological and spiritual models is simply whether or not the models can accommodate all of the elements of an NDE. As I noted above, it only makes sense that a good theory should do so. If that is the case, then veridical evidence becomes the crux of the argument; and, only the spiritual models and the Quantum Biomechanical model offer any kind of explanation of veridical evidence.

More importantly, the Quantum Biomechanical model and the spiritual models (particularly Ring's model) share a very interesting characteristic: they need not be mutually exclusive. In fact, many biological models could easily be advocated in conjunction with spiritual models. As long as a given biological model is not reductionistic, that is, as long as it does not reduce reality to merely the biological processes it describes, there is nothing to keep one from espousing both a spiritual model *and* a biological one. Such a hybrid would combine the advantages of biological explanations with an ability to account for the more enigmatic phenomena of NDEs.

Beyond the expected conclusions I attained regarding biological and spiritual models, this study revealed two other aspects of near-death research that merit particular mention in this thesis. First, I noticed a significant trend in NDE research during the course of my investigation: Many of the more recent articles that I surveyed seemed to be more about religion than NDE research (Ring, 2000; Sabom, 2000). In fact, two were downright theological: one criticizing Sabom's work on the basis of his theology (Ellwood, 2000) and one containing Sabom's defense of his religious position (Sabom,

2000). I attribute this surprising trend to the fact that the NDE can be made to support so many different religious worldviews. That is, several explanations of the NDE fit comfortably within religious paradigms, allowing many people to find corroboration for their religious views in NDEs. For example, Murphy and Blackmore interpret the NDE to support their Buddhist beliefs, Sabom asserts Christianity through it, and Ring and Moody find expression of their own spiritualities in it.

That many individuals seek affirmation of their religious views within NDE research is not necessarily misplaced, for all research begins with a hypothesis that the researcher is attempting to prove. However, the fact that the NDE lends itself to such varied interpretations creates the unexpected religious tension found in NDE literature. Such discussions, like the debate between Ellwood and Sabom concerning the proper interpretation of the Bible that was mentioned previously, are much better suited to journals on apologetics or theology rather than near-death studies.

This transition from science to theology within the near-death research community has also been noticed by Ring, who published an article lamenting that fact and urging researchers to return to strict scientific investigation (Ring, 2000). I must agree with Ring that as long as the primary focus of researchers' articles is to propagate their religious views, then further progress in NDE research will cease to be useful. On the other hand, I fully appreciate the fact that the NDE's appeal arises largely from its relevance to religion. A phenomenon that could potentially provide evidence of spiritual realities (or the lack thereof) or that could settle the mystery of life after death could not help but attract religious attention, for those issues are of paramount religious significance. In fact, the religious implications of NDEs could be so serious that one

might describe NDE research as an empirical inquiry into a facet of the religious domain. Yet, caution is still warranted when investigating such issues, and the need for empirical, objective studies still stands.

Religious debates aside, the implications that NDE research has on the survival hypothesis remains one of the most important facets of the field. Presented below is the second set of corollary conclusions, which are derived from those implications.

Within the NDE research community, there is much debate concerning human survival after death. Veridical evidence is the crucial element in the NDE's relationship to the survival hypothesis. For example, Blackmore rejects the survival hypothesis because she discounts the validity of veridical evidence. Yet, I find her objections against veridical evidence seriously lacking. Such bizarre occurrences cannot be ignored, dismissed, or overlooked, and their implications are far reaching. Regardless of whether or not veridical evidence proves human survival, however, I find that it clearly provides compelling, empirical evidence that there is more to the universe than strict materialistic science would permit.

But what of life after death? My own interest in NDEs was piqued by the possibility of answering the age-old debate of human survival. Taken at face value, the stories reported by those who were clinically dead and then revived surely seem to support life after death, especially when such stories include strong veridical evidence. Yet, even though the paranormal aspects of NDEs hint at an existence after death, asking for definite proof of a hereafter from the NDE is asking for too much. Many researchers, including Ring and Moody, admit that though the NDE might provide tantalizing glimpses of the hereafter, it could never provide absolute proof since those who are

revived did not pass into the final, irreversible realm of death. For this reason, what lies on the other side of physical death is still as much a mystery as it has always been, at least from a scientific point of view. Yet, if one is able to set aside the need for irrevocable proof for just a moment, I think one will find the strong hints of an afterlife in the NDE to be quite compelling, if not completely convincing.

References

- Alvarado, C. S. & Zingrone, N. L. (1998). Factors related to the depth of near-death experiences: Testing the “embellishment over time” hypothesis. *Imagination, Cognition and Personality*, 17(4), 339-344.
- Ashbrook, J. B. & Albright, C. R. (1997). *The humanizing brain: Where religion and neuroscience meet*. Cleveland, OH: The Pilgrim Press.
- Beck, T. E. & Colli, J. E. (2003). A Quantum biomechanical basis for near-death life reviews. *Journal of Near-Death Studies*, 21(3), 169-189.
- Blackmore, S. (1993). *Dying to live: Near-death experiences*. Buffalo, NY: Prometheus Books.
- Eliade, M. (1964). *Shamanism: Archaic techniques of ecstasy* (W. R. Trask Trans.). Princeton University Press (Original work published in 1951).
- Ellwood, G. F. (2000). Religious experience, religious worldviews, and near-death studies. *Journal of Near-Death Studies*, 19(1), 5-21.
- Fasching, D. J. (2004). *The shamanistic roots of afterlife beliefs in the world's religions*. Unpublished manuscript.
- Fenwick, P. (1997). Is the near-death experience only n-methyl-d-aspartate blocking?. *Journal of Near-Death Studies*, 16(1), 43-53.
- Green, J. T. (1998). Near-death experiences, shamanism, and the scientific method. *Journal of Near-Death Studies*, 16(3), 205-222.
- Green, J. T. (2001). The Near-death experience as a shamanic initiation: A case study. *Journal of Near-Death Studies*, 19(4), 209-225.
- Greyson, B. (1999). Defining near-death experiences. *Mortality*, 4(1), 7-19.

- Grosso, M. (2001). Afterlife research and the shamanic turn. *Journal of Near-Death Studies*, 20(1), 5-14.
- The Holy Bible: New international version.* (1973). Grand Rapids, MI: Zondervan Publishing House.
- Jansen, K. L. R. (1997). The ketamine model of the near-death experience: A central role for the n-methyl-d-aspartate receptor. *Journal of Near-Death Studies*, 16(1), 5-26.
- Kellehear, A. (1993). Culture, biology, and the near-death experience: A reappraisal. *Journal of Nervous and Mental Disease*, 181(3), 148-156.
- Kelly E. W., Greyson, B., & Stevenson, I. (2000). Can near death experiences furnish evidence of life after death?. *Omega*, 40(4), 513-519.
- Kungurtsev, I. (1997). Which comes first: Consciousness or aspartate receptors?. *Journal of Near-Death Studies*, 16(1), 55-57.
- Lundhal, C. R. (Ed.). (1982). *A Collection of near-death research readings*. Chicago, IL: Nelson-Hall Inc.
- Moody, R., Jr. (1975). *Life after life*. Atlanta, GA: Mockingbird Books.
- Morse, M. L. (1997). Commentary on Jansen's paper. *Journal of Near-Death Studies*, 16(1), 59-62.
- Murphy, T. (1999). Recreating near-death experiences: A cognitive approach. *Journal of Near-Death Studies*, 17(4), 261-265.
- Murphy, T. (2001). The structure and function of near-death experiences: An Algorithmic reincarnation hypothesis. *Journal of Near-Death Studies*, 20(2), 101-118.

- Newberg, A., D'Aquil, E., & Vince, R. (2001). *Why god won't go away: Brain science and the biology of belief*. New York, NY: The Ballantine Publishing Group.
- Ring, K. (1980). *Life at Death: A Scientific investigation of the near-death experience*. New York, NY: Coward, McCann & Geoghegan.
- Ring, K. (1990). Shamanic initiation, imaginal worlds, and life after death. In G. Doore (Ed.), *What survives: Contemporary explorations of life after death*. Los Angeles, CA: Tarcher.
- Ring, K. & Valarino, E. E. (1998). *Lessons from the light: What we can learn from the near-death experience*. Portsmouth, NH: Moment Point Press.
- Ring, K. & Cooper, S. (1999). *Mindsight: Near-death and out-of-body experiences in the blind*. Kearney, NE: Morris Publishing.
- Ring, K. (2000). Religious wars in the nde movement: Some personal reflections on Michael Sabom's *Light & Death*. *Journal of Near-Death Studies*, 18(4), 215-244.
- Sabom, M. (2000). Response to Gracia Fay Ellwood's "religious experience, religious worldviews, and near-death studies." *Journal of Near-Death Studies*, 19(1), 22-44.
- Sabom, M. (2000). Response to Kenneth Ring's "religious wars in the NDE movement: some personal reflections on Michael Sabom's light & death." *Journal of Near-Death Studies*, 18(4), 245-271.
- Strassman, R. J. (1997). Endogenous ketamine-like compounds and the nde: If so, so what?. *Journal of Near-Death Studies*, 16(1), 27-41.

The Tibetan book of the dead: The great liberation through hearing in the bardo

(Fremantle, F. & Chogyam, T., Trans.). (1975). Boston, MA: Shambhala Publications, Inc.

Van Lommel, P.; van Wees, R.; Meyers, V.; & Elfferich, I. (2001). Near-death experience in survivors of cardiac arrest: A prospective study. *Lancet*, 358, 2039-2045.

Wettach, G. E. (2000). The near-death experience as a product of isolated subcortical brain function. *Journal of Near-Death Studies*, 19(2), 71-90.

Appendices

Appendix A: Interview with Clara

This is the transcript of the interview I conducted with Clara on December 28, 2003. This interview was conducted, recorded and transcribed by myself. I obtained verbal consent from Clara to record and print this interview in my thesis. The verbal consent can be found at the end of the interview. Because of the length of the interview and the amount of tangential material that was discussed, this is an abridged version.

Q: What was your physical condition? What kind of condition were you in? And then, what happened to you? What was your experience?

A: I had had the second stroke. I had been set up for an MRI on Monday morning. I had the stroke on Saturday. And I had been set for an MRI on Monday morning. When I woke up Monday morning, I couldn't breathe. And I went to the bathroom, and I had to call the nurse from the bathroom because I couldn't breathe. And the last thing I remember hearing is her saying was "her blood pressure's gone to 50 over 50." And I don't remember anything after that. Except that I felt myself leaving my body. And they called the doctor and he came over from his office. And he called [her husband]. And told him that he needed to get to the hospital, that the Clara we once knew wasn't there anymore. 'Cause I was gone! And there was no light, no anything. I was just immediately in heaven. One of the reason's I knew is Pete met me. And he threw his arms around me and said the same thing he always said, 'I love you, and the Lord loves you, too.' And it was just so beautiful, because I was by the crystal river. And the plants and everything ... just so clear! And I've *never* in my life seen anything so beautiful.

Appendix A: (Continued)

Q: Was it like what you would see here?

A: More. Much more. Just a glory! ... And I told Pete, 'I want to see the Lord.' And Pete said, 'He's right there.' And I turned around, and there he was! And he showed me his hands, and his feet.

Q: And then what happened?

A: Then he told me that it wasn't time for me to be there. And he touched me. [Clara describes the amazement of one particular doctor to her complete, rapid recovery] But when I went back to the doctor and [her husband] was with me, when I went back to the doctor for the first time after that, he took both of my hands in his and he said, 'I'll believe anything you tell me because,' he said, 'you did a 360-degree turn around.' He said, "I've never seen anything like it." Because I came back so whole, and I wasn't when I left.

Q: So, you were unconscious?

A: Yes, I was unconscious.

Q: Do you know how long you were unconscious?

A: Well, they tried all that day to get through to me. And the only thing I remember is that at the end of the day, and I mean it was late in the afternoon, I can remember a doctor come to talk to me because they had been taking x-rays of my brain and my brain stem to see what was going on. And they had called special doctors in to do that. And one came to me and he said, 'Are you okay?' And he said, 'Do you know who I am?' And I called him a doctor, I don't know why because I don't remember

Appendix A: (Continued)

meeting the man at all, I didn't even know him. He said, 'She's going to be alright.'

And that is the first thing I remember after I woke up.

But the doctor said I wasn't there. He tried to talk to me and I wasn't there. Well, I knew I wasn't there, 'cause I knew where I was!

Q: Now, when you saw Pete, Pete had given you a message.

A: For Darlene.

Q: For Darlene, yes. What was that message that he gave you?

A: That he was sorry he had left her before he had got the windows sealed. That she had wanted all of the windows sealed and he'd been so busy that he hadn't got them done. But she had gotten it done by somebody else!

Q: Did you get any messages for any other people?

A: For the pastor. There was [sic] three people, he and two others who had left the church. One of them had told me to talk to [name] because I saw her husband, and then I saw [another church member]. He had sent a message back to the pastor. [Clara briefly describes the message.]

It didn't seem like I was there a long time, but people who saw me the rest of that day said that I just wasn't there. And [her husband], when he came in he said that he just couldn't believe what was going on either. When I woke up, he and the pastor were there and I told him I'd been to heaven.

[We discuss some other aspects of her experience. Clara emphasizes that she did not see a tunnel, nor was she interested in seeing her body.]

Appendix A: (Continued)

Q: Had you ever heard of near-death experiences before you had this experience?

A: Yeah, I'd heard about this long tunnel that you go through and things like that. But I felt it was like Christians ought to be: It was they're just immediately in heaven. There's no pussy-footing around! [laughs]

Q: Had you read any books about near-death experiences?

A: No.

Q: Have you read any since then?

A: No. I just know what I saw and what happened to me. And I know it was only about 30 minutes from the time I started hurting until I was gone. You don't have time to pray. You don't even think about it when you are in pain. You've got to be prayed up ahead of time.

Q: When did this happen?

A: It'll be almost five years ago. I had my second stroke in May. And I had it on a Saturday night, and that was a Monday morning.

Q: And you were already in the hospital?

A: I was already in the hospital. Because they were going to do an MRI that day to find out. Because I had a stroke before and my strokes are in the head. Some of the tissue collapses. In the brain.

Q: And that was about five years ago?

A: No, that was about 8 years ago. And then four years after I had the first one, I had the second one.

Appendix A: (Continued)

Q: Do you know what your diagnosis was when you were having this experience? Did you have another stroke right then?

A: That's what they say. That I'd had a second stroke. Because my blood pressure had been real high, and then all of a sudden it just bottomed out. And they don't know why.

[We discuss some medical complications from Clara's strokes.]

Q: How long were you in the hospital before they released you?

A: About twelve days.

[We discuss Clara's amazing recovery. She recovered strong and fast. Clara reports the doctors' amazement.]

Q: Do I have your permission to use this information in a paper that I am writing?

A: Sure.

Q: Would you like me to use an alias?

A: No. It doesn't matter. It doesn't matter at all.

Appendix B: Interview with Darlene

The following is the transcript of the interview I conducted with Darlene on December 28, 2003. This interview was conducted, recorded and transcribed by myself. I obtained verbal consent from Darlene to record and print this interview in my thesis. The verbal consent can be found at the end of the interview. Because of the length of the interview and the amount of tangential material that was discussed, this is an abridged version.

Q: When was the first time you heard about Clara's experience?

A: It was after she was in the hospital when she had a stroke. I'm trying to remember if she ... I don't know if it was [the pastor's wife] who told me... uh, but just a few days after the incident we visited her in the hospital and she confronted and we talked about it. I don't know if it was somebody from the church who mentioned that she had this experience.

Q: And then did Clara talk to you about it herself also?

A: Yes. When we went to visit her in the hospital, we asked... she said "I've got messages". And [Clara's husband] had told us about the doctor and leaving and that part of the story as well, and the after death experience when she came back that she saw Jesus and she saw Pete, and that he was in his flight suit, and that he had a message for us. [...] And Jesus told her [Clara] that it wasn't her time, because she had work to do, you know, she had to deliver these messages to people. And one to our family, and several other church members, and I think, some of her own family.

Q: What was the message for your family?

Appendix B: (Continued)

A: You know, the first thing that I remember that she said first was, this is Pete talking to Clara, “Tell Darlene that it wasn’t my fault. And that I love them very much.” And that he knows that men from the church will take care of our family. And then he had a message for each child.

[She describes some encouraging messages from Pete for the two children.]

And he said, “I’m sorry that I didn’t get to caulk the windows.” We had had, after we moved back in the house, we’d been out of the house for about six and a half years, we’d been in it for about a year. And he was a very good handyman, but not the best. Because his talents were, you know, elsewhere. And he realized you do certain things and you pay other people to do certain things. Well, he thought, ‘yeah, I can caulk the windows.’ Well he started, and his bead was terrible, so I ended up doing two windows and thought ‘this is hard work!’ So we never got that project finished before his death. So he said ‘sorry about not caulking the windows.’ And since his death, before that time, a guy from the church [name] had already come over and caulked the windows and replaced a garbage disposal. So his message ‘I knew the men at the church would be able to take care of you’ were true [sic] because they had already stepped in. It wasn’t immediately after his death, but it was a couple of months somebody said, ‘can I do anything for you?’

You know it may be silly to somebody, but that [the message about the windows] was still a kind of big thing in a way, that we had started that and I knew it needed to be finished. So, that was neat. There was no way that Clara would have known about

Appendix B: (Continued)

that. Because, you know, how trivial. [Darlene talks about the reassurance of these messages and about the nature of Pete's accident.]

Q: When did Pete die?

A: August of '98. August 27 of '98.

Q: How much time had passed by the time you received this message?

A: The work was done in the fall on the house, and Clara... I think it was January. So, it was four, five... five or six months, something like that. [Darlene elaborates on Clara's vivid memory of the experience, the other people she saw, and the reassurance it brought.]

Q: Just to clarify one more time, from the time Clara had her experience until the time that she told you this message herself, do you know how many days or how long it had taken?

A: I think ... I think her experience happened on Monday. And it was either Tuesday or Wednesday when we saw her in the hospital. So, it was pretty close. [Darlene mentions the doctors' surprise at Clara's miraculous recovery.]

Q: Do I have your permission to use this story in a paper?

A: Yes. You may.

Q: I can use an alias if you like. Do you have a preference?

A: No. I don't have a preference. I know that everything happens for a reason, and it's amazing how all of the pieces fit together. You know, God's plan. So, no, I don't have any qualms at all about you using it. I hope it helps someone else.