

Life Beyond?

Scientific Studies Address

Near Death Experiences (NDEs)

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By Marjorie L. Coppock

Table of Contents

The Age of Enlightenment Plus	3
Ground Breaking Research on Near-Death Experiences	4
Prevalence and Reality of NDEs	7
Changes in Personality	8
Developing Scales for NDE Research	8
Researching NDEs – From Doubt to Growing Awareness	10
Scientific Research into Childhood NDEs	13
Distressing Near-Death Experiences	14
Associations for Near-Death Studies	15
Other Circumstances That May Include an NDE	16
Proposed Explanations for NDEs and OBEs	17
Acknowledging NDEs: Implications for Health Care	19
In Search of a New Paradigm	20
Summary and Conclusion	21
References	24

LIFE BEYOND? SCIENTIFIC STUDIES ADDRESS NEAR DEATH EXPERIENCES (NDEs)

Dr. Marjorie L. Coppock April, 2015

Research into conceptions of afterlife across cultures reveals that from ancient times philosophical and religious accounts have testified to life beyond death. Ancient Egyptian religion had elaborate beliefs in the afterlife. Humans were thought to possess a *ka* or life force which left the body at the point of death. For Hindus life is a cycle of birth, death, and rebirth, a cycle that ends only when spiritual enlightenment is attained. Christianity, Judaism, and Islam all believe in a spiritual realm to which humans are accountable. A main theme in Plato's *Phaedo*, 357 BCE, is that the soul is immortal. In a dialogue with friends before his death Socrates discussed his belief in the immortality of the soul.

While culturally specific differences are reported, the recurring elements that are frequently reported in what is now termed 'near-death experiences' (NDEs) suggest that the authors of ancient texts were familiar with this phenomenon. (Blackmore, 1993:8-16; Alexander, 2014:1-13; Zammit, 2014).

THE AGE OF ENLIGHTENMENT PLUS

Beginning in the 1700's, the Age of Enlightenment ushered in an era of progress through science with an emphasis on human reason and scientific discovery. Supernaturalism was viewed as outdated. Only that which could be observed and verified scientifically was considered meaningful.

However at the beginning of the 20th century the study of physics raised questions about the reality of 'matter' as atoms, thought to be the building blocks of reality, turned out to be a matrix of 'super-powerful but nonmaterial forces' (Alexander, 2014:xx).

Another factor was thrown into question as the consideration arose as to the meaning of consciousness, 'knowing oneself and the world around one'. In the 1920's, quantum mechanical experiments revealed that at a subatomic level consciousness could be detected. "Consciousness is so tied up with reality that there is no way of conceiving reality without it. Consciousness is the true bedrock of existence" (Alexander, 2014:xxii). One of the founding fathers of the field of quantum mechanics, Max Planck wrote: (Alexander, 2014:xx)

I regard consciousness as fundamental. I regard matter as derivative from consciousness. We cannot get behind consciousness. Everything that we talk about, everything that we regard as existing, postulates consciousness.

Despite the questions raised about consciousness by researchers of quantum physics, scientists chose to ignore them. Materialistic science contends that consciousness is created by the brain and when the brain dies, consciousness ceases. Because subjective experiences have been objectively non-verifiable, scientists dismiss reports of experiences by people who have come back to life after being pronounced clinically dead as personal hallucinations or science fiction. People have been reluctant to share these experiences because it was something you 'don't talk about', lest you be ignored, ridiculed or labeled as mentally disturbed and committed to a mental hospital.

GROUND BREAKING RESEARCH ON NEAR-DEATH EXPERIENCES

Within the last 50 years modern techniques of resuscitation have improved survival rates of people who have been brought back to life after having been pronounced clinically dead. With increases in rates of cardiac resuscitation, the number of reported NDEs has increased, drawing a growing number of researchers into the field of near-death studies.

Contemporary interest in the study of NDEs was spurred by writings of psychiatrists, Drs. Elizabeth Kubler Ross and George Ritchie and by Dr. Raymond Moody. In 1943, when he was 20 years old, George Ritchie died in an army hospital. Nine minutes later he was brought back to life. His account of a profound out of body experience, travel through time and space, and his conversations with Jesus have been translated into 9 languages (Wikipedia, Ritchie, 2014).

In 1965, Raymond Moody was an undergraduate student studying philosophy at the University of Virginia. There he met Dr. Ritchie, then a clinical professor of psychiatry in the School of Medicine. Moody heard him relate the fantastic account of what happened to him while he was 'dead'. Moody was impressed and filed a tape recording of his talk. Some years later, as a Ph.D. professor of philosophy, Moody was discussing Plato's *Phaedo* in class. After class a student approached him to tell him about an experience that his grandmother had when she had 'died' during an operation. He related almost the same events discussed by Dr. Ritchie.

Dr. Moody began to include readings on human survival of death in his philosophy classes. He was amazed to find that in almost every class of 30 or so students, a student would come to him after class to relate a personal near-death experience. Moody's search for cases became more active. He was amazed at the similarities in the reports. He gave a talk at a medical society and other talks followed. Again, after every talk someone would come up to relate a personal experience.

By 1975 he had collected 150 cases of this phenomenon which fell into three categories:
1) persons resuscitated after having been pronounced clinically dead,

- 2) persons who came very close to physical death through injury, accident or illness, and
- 3) persons who told others about their experience as they were dying.

Although the reports of the third category agreed with the reports of the first two categories, Dr. Moody included only first hand reports for his study. Fifty persons were interviewed in great detail. The cases in the first type in which physical death had occurred were the more dramatic.

Moody outlined 15 separate elements which occurred frequently in the narratives to develop a theoretical model of common elements. While not every NDE included all of these stages, the model describes elements found in many stories:

- * Ineffability – finding it difficult to describe the experience in words
- * Feelings of Peace, quiet, comfort, warmth, ease
- * Hearing a ringing, buzzing or whirling sound
- * Feeling of moving through a dark tunnel or valley toward a light
- * A sense of being out of the body and watching activities from above
- * A sense of being in a new type of body which Moody summarizes as ‘the spiritual body’
- * Being greeted by other spiritual beings, by spirits of relatives and friends who have died
- * Being in the presence of a Being of Light which exudes a sense of love, warmth, acceptance
- * Being given a life review and being asked to evaluate ones life
- * Approaching a border or boundary which cannot be crossed
- * Being told to return to earth to finish a task
- * Resisting and wanting to stay rather than return
- * Reuniting with the physical body and returning to life
- * Corroborating with medical staff and relatives about events viewed while ‘out of body’
- * Having the experience affect the way life is evaluated and lived

In 1975 Moody published his ground-breaking book *Life After Life*. Calling these experiences near-death experiences (NDEs), Dr. Moody pioneered the NDE movement, opening the door to the scientific study of this phenomenon. This book brought public attention to the topic of NDEs.

In his book, Moody includes a brief construct or “complete “ experience which includes all of the common elements of an NDE, in the order of typical occurrence.

A man is dying and, as he reaches the point of greatest physical distress, he hears himself pronounced dead by his doctor. He begins to hear an uncomfortable noise, a loud ringing or buzzing, and at the same time feels himself moving very rapidly through a long dark tunnel. After this, he

suddenly finds himself outside of his own physical body, but still in the immediate physical environment, and he sees his own body from a distance, as though he is a spectator. He watches the resuscitation attempt from this unusual vantage point and is in a state of emotional upheaval.

After a while, he collects himself and becomes more accustomed to his odd condition. He notices that he still has a 'body', but one of a very different nature and with very different powers from the physical body he has left behind. Soon other things begin to happen. Others come to meet and to help him. he glimpses the spirits of relatives and friends who have already died, and a loving, warm spirit of a kind he has never encountered before – a being of light – appears before him. This being asks him a question, nonverbally, to make him evaluate his life and helps him along by showing him a panoramic, instantaneous playback of the major events of his life. At some point he finds himself approaching some sort of barrier or border, apparently representing the limit between earthly life and the next life. Yet, he finds that he must go back to the earth, that the time for his death has not yet come. At this point he resists, for by now he is taken up with his experiences in the afterlife and does not want to return. He is overwhelmed by intense feelings of joy, love, and peace. Despite his attitude, though, he somehow reunites with his physical body and lives.

Later he tries to tell others, but has trouble doing so. In the first place, he can find no human words adequate to describe these unearthly episodes. he also finds that others scoff, so he stops telling other people. Still, the experience affects his life profoundly, especially his views about death and and its relationship to life (Moody, 1975:21-23).

Dr. Elizabeth Kubler-Ross wrote the Foreword to *Life After Life*. She writes ..."it is evident from his findings that the dying patient continues to have a conscious awareness of his environment after being pronounced clinically dead. This very much coincides with my own research, which has used the accounts of patients who have died and made a comeback, totally against our expectations...We have to have the courage to open new doors and admit that our present-day scientific tools are inadequate for many of these new investigations...I congratulate Dr. Moody for the courage to put his findings into print" (Moody, 1975:Foreword).

PREVALENCE AND REALITY OF NDEs

Several major surveys have estimated the prevalence of NDEs in the adult population. In 1992 a Gallup Poll of Americans estimated that 13 million people, representing 5% of the population, had experienced an NDE. A survey in Germany found that 4% of approximately 2000 people had reported having an NDE. The Near Death Experience Research Foundation (NDERF) estimates that approximately 774 NDEs occur daily in the U.S. The NDERF is the largest NDE website in the world with almost 3900 recorded experiences in over 23 languages. It was founded in 1998 by Dr. Jeffrey Long. As a scientist Dr. Long wanted to know if NDEs were real so he invited NDErs to contribute their experiences. They are available to read on the website www.nderf.org (NDERF,2014).

In his book *Life After Life*, Moody records verbatim accounts of the experiences people shared with him about their NDE. People who have an NDE have no doubt at all about its reality and its importance. Unlike dreams, they remain vividly real in the memories of those who experience them. The following brief excerpts give an example of their intense accounts.

“This feeling was so indescribable. It has stayed with me, in a way. I’ve never forgotten it. I still think about it often... “ page 80.

“I was out of my body looking at it from about ten yards away, but I was still thinking, just like in physical life...” page 48.

“There was a feeling of utter peace and quiet, no fear at all, and I found myself in a tunnel...” page 32.

“It was beautiful, and everything was an intense green – a color unlike anything on earth. There was light – beautiful, uplifting light – all around...” page 70.

“The light was so bright that I couldn’t see through it, but going into its presence was so calming and wonderful...” page 71.

“When the light appeared, the first thing he said to me was “What do you have to show me that you’ve done with your life?”, or something to that effect...” page 62.

“I tried to tell my nurses what had happened when I woke up, but they told me not to talk about it, that I was just imagining things....” Page 82.

“(My being) felt as if it had a density to it, almost, but not a physical density... waves or something, I guess...” page 46.

“It was always such a real thing to me, but I never would tell anybody...” page 84.

“ It opened up a whole new world for me that I never knew could possibly exist. I kept thinking, ‘There’s so much that I’ve got to find out.’...” page 85.

“Following this experience, it almost seemed as if I were filled with a new spirit...” page 87.

“Now, I am not afraid to die...I know where I’m going when I leave here, because I’ve been there before...” page 91.

CHANGES IN PERSONALITY

NDEs are associated with changes in personality and outlook on life. They become transformational experiences. Psychologist Kenneth Ring identified consistent changes in values and beliefs reported by people who have NDEs. They feel a greater appreciation for life, higher self-esteem, greater compassion for others, an increased sense of purpose, spiritual awareness and a desire to learn. Their views on what matters in life is transformed and they lose their fear of death. The small percentage of people who experience distressing NDEs often change their life patterns and turn their lives in a positive direction. (Wikipedia, NDE,2014:8; van Lommel, 2007:45-69). Researchers have identified patterns in these experiences that transcend differences based on age and cultural backgrounds

Adjusting to life after a NDE may be difficult. People can feel isolated and alone if they are unable to talk about their experience when others are unable to understand or believe that what they say really happened. The values of the experiencer may change so dramatically that relationship problems develop between the person and their spouse or other family members. Divorce becomes more common following an NDE. Some persons report a sensitivity to electricity, with some reporting that a wrist watch will not work for them (Sartori, 2014:24, 40).

DEVELOPING SCALES FOR NDE RESEARCH

Weighted Core Experience Index (WCEI)

Dr. Kenneth Ring, a psychologist at the University of Connecticut was impressed by Moody’s findings and sought to investigate unanswered questions (Ring, 1980: chap 2; Blackmore, 1993:25-26:). In 1977 He began to collect accounts from adults who had come close to death. Through hospital and physician referrals, advertising and word of mouth, 102 people were included in his study.

Ring’s objectives were to scientifically gather evidence bearing on four issues :

1. How common is the experience?

2. Is the core experience independent of the cause, i.e. accident, illness or suicide?
3. What is the relationship between religiousness and the core experience?
4. What are the subsequent life changes experienced by near-death survivors?

His interviews confirmed most of Moody's claims. Ring identified what he called the *Core Experience*. Five core features usually occurred in the following order, although all the features were not experienced by every respondent. In Ring's study, while 60 percent reported peace, only 10 percent had the experience of entering the light.

Feelings of Peace (60%)

Body separation/Out of Body Experience (OBE) (37%)

Entering the darkness (Moody's dark tunnel) (23%)

Seeing the light (16%)

Entering the light (10%)

Ring developed a *Weighted Core Experience Index (WCEI)*. Components of the NDE were assigned different weights: the subjective sense of being dead; feelings of peace; bodily separation; entering a dark region; encountering a presence or hearing a voice; taking stock of one's life; seeing or being enveloped in light; seeing beautiful colors; entering into the light; and encountering visible spirits. The presence or absence of each feature was multiplied by the weight assigned to that component and the points added, giving a score in the range of 0 to 29.

Ring further divides respondents into deep experiencers, moderate experiencers and non-experiencers. Ring made an arbitrary decision. "If a person's score was less than 6, he was adjudged not to have had 'enough' of an experience to qualify as a 'core experience.' This undoubtedly eliminates some people who might have been counted as positive instances by Moody...it seems better to err on the side of underinclusion than the reverse" (Ring, 1980:33). Other researchers have adopted the *WCEI* for use in their studies (Blackmore, 1993:26-27).

Near-Death Experience Scale

In 1983, psychiatrist Bruce Greyson published the *Near-Death Experience Scale*, used to measure the depth of a person's NDE. Sixteen questions were asked with responses scored as 0, 1 or 2. The '0' response represented the 'no' response. The '2' response was more intense than the '1' response. The scale is used to differentiate between responders who did or perhaps did not have an NDE. A score of 7 is used as the cut off point for identifying the experience as an NDE, the higher score representing a more intense experience.

In discussing the NDE with the respondent the questions inquired about: their sense and understanding about the past, the future and the universe; feelings of peace or pleasantness; feelings of being separate from the body; the sense of entering an unearthly world;

encountering a mystical presence; seeing deceased or religious spirits; and coming to a border or point of no return. Four questions identified a cognitive component, four an affective component, four a paranormal component, and four a transcendental component. (Greyson, 1983:371-372).

Although the medical community has been reluctant to consider the phenomenon of NDEs, and grant money for studies is scarce, Ring's construction of the *Weighted Core Experience Index* and Greyson's construction of the *Near-Death Experience Scale* represent major contributions to the field of near-death studies. These tools are usable in clinical settings and are being used by other researchers to address the subject. (Wikipedia NDE, 2014).

RESEARCHING NDEs- FROM DOUBT TO GROWING AWARENESS

NDE Research has been primarily in the fields of medicine, psychology and psychiatry. When cardiologist Michael Sabom read a copy of Moody's book he thought it was fiction. He sought to prove this by interviewing survivors of cardiac arrest. To his surprise the third person he interviewed told him about a near-death experience. He went on to research NDEs and with psychiatrist Bruce Greyson and psychologist Kenneth Ring helped to launch the field of near-death studies (Blackmore, 1993:27; Wikipedia NDE, 2014).

Retrospective Studies

Early research on NDEs was done using retrospective studies. A retrospective study looks backward to examine what has already occurred. Cases are often obtained by word of mouth or through advertising. Potential sources of error are common. Between 1975 and 2005 retrospective research had recorded 2500 self-reported cases of NDEs in the U.S., 600 outside the U.S. in the west, and 70 in Asia. An additional 270 NDE cases had been recorded through prospective studies. By 2005, some 3500 NDEs had been reviewed and recorded in various studies carried out by about 55 researchers or research teams (Wikipedis, NDE, 2014).

An Early Prospective Study

Prospective studies involve a cohort of subjects, watching them for outcomes as a disease develops. These studies are less common because they are more time consuming and more expensive.

A groundbreaking prospective NDE study was developed in the Netherlands in 1988 by cardiologist Pim van Lommel and psychologists Ruud van Wees and Vincent Meijers. Included in the study were 344 patients who had been successfully resuscitated after a cardiac arrest in ten Dutch hospitals. All of the patients had been clinically dead as established by

electrocardiogram records. Most of the patients were interviewed within 5 days of resuscitation. The patient was asked a single, open question: “Do you have any recollection of the period of your cardiac arrest?” If the answer was ‘Yes’ an unstructured interview was conducted and recorded (van Lommel, 2007:141).

In follow up interviews, 62 patients (18%) reported some recollection of being aware during the time of clinical death. A core experience was described by 41 (12%) and 23 (7%) reported a deep or very deep NDE.

The demographic, medical, pharmacological, and psychological data of the patients who reported an NDE were compared with those who did not. The groups were again compared 2 and 8 years later to create a longitudinal comparison. In regard to age, sex, ethnic origin, religion, or degree of religious belief, the patients who experienced an NDE did not differ from those who did not report this experience. The study documented the reported frequency of 10 elements of NDE as follows: (van Lommel, 2007:146)

Awareness of being dead	31 (50%)
Positive emotions	35 (56%)
Out of body experience	15 (24%)
Moving through a tunnel	19 (31%)
Communication with light	14 (23%)
Observation of colours	14 (23%)
Observation of a celestial landscape	18 (29%)
Meeting with deceased persons	20 (32%)
Life review	8 (13%)
Presence of border	5 (8%)

At a 2 year-follow up, 37 patients who had experienced an NDE were available for an interview. These patients were able to recall their NDE experience almost exactly as they had previously stated. A control group of 37 patients from the same cohort who had not experienced an NDE were also interviewed. Out of 34 items, 13 answers were significantly different between the respondents who had an NDE and those who had not. These answers related to life-changing aspects of life. Those who had experienced an NDE showed an increase in the ability to show their feelings, accept others, be more loving and empathic, understand others, be involved with their family, understand the purpose of life, understand a sense of meaning for life, have an interest in spirituality, have an interest in the meaning of life, understand themselves, and appreciate ordinary things. They also had a belief in life after death and were not afraid of death (van Lommel, 2007:150-153)

An 8-year follow-up included 23 patients who had an NDE and 15 patients who had not. At this stage both groups were more self-assured, socially aware, and religious than previously; however, most of the patients who did not experience NDE did not believe in a life after death at either the 2-year or 8-year follow up.

Dr. van Lommel was unable to explain how during a period of unconsciousness brought on by a cardiac arrest people were able to have memories of this period. He says that it is unclear why so few cardiac patients report NDE after CPR. But he concludes that if it were a purely physiological explanation, most patients who were clinically dead should report one (van Lommel et.al, 2001:2039).

A Nurse Conducts a Prospective Study

As a nurse in the UK, Penny Sartori became sensitized to the care of patients in critical-care areas, especially in regard to end-of-life issues. When she came across books describing near-death experiences, she made it her goal to study this phenomenon. In 1997 she embarked on the UK's first long term prospective study on NDEs. She sought to gain an understanding of the process of dying so she could better care for dying patients.

She received permission to undertake a five-year research study to investigate NDEs in the Intensive Care Unit where she worked as a nurse. There was no leave or funding for the study, so it was done on her own time and at her own expense. She asked each patient the question, "Do you remember anything about the time you were unconscious?" If they did, then they were interviewed using the Greyson NDE Scale and an in-depth structured questionnaire.

The first year Sartori interviewed every patient admitted to intensive care. However after interviewing 243 patients, only two reported an NDE and two an out of body experience (OBE). Finding this too time-consuming and exhausting, the following four years Sartori questioned only patients who had survived cardiac arrest. By the end of five years, of 39 patients who had survived cardiac arrest, 7 reported an NDE (17.9%). During this time a few other patients volunteered a report of NDE. Over a 5 year period, 15 patients had reported an NDE and 8 reported an OBE.

Of the 15 patients reporting an NDE, 11 had reported meeting deceased relatives. Other reports included other features, including "entering another realm, seeing a bright light, feelings of joy, peace and calm, time distortion, vivid sense, being sent back to life, seeing a being of light and encountering a barrier" (Sartori, 2014: 129-130). However none reported a life review or visions of the future. One patient reported a usual NDE in a distressing way. Another patient reported a hellish experience. This experience was so terrifying for the patient that Sartori terminated the interview.

Sartori sought to verify OBEs by mounting random symbols on Day-Glo paper on the top of the cardiac monitor of each patient, expecting that a person who experienced an OBE would be able to report seeing this symbol. Of the 8 patients who reported on OBE, none reported seeing the mounted symbol. The OBEs were either not in a position to view the symbol or the patients were concerned with what was happening to their bodies.

Sartori concludes that prospective hospital research provides details of the NDE that make it more difficult to dismiss them and reduce them to factors such as anoxia or drugs (Sartori, 2014:chap. 7). In 2005, Dr. Sartori was awarded a Ph.D. for her research into NDEs. She lectures internationally and gives study days on NDEs. Her recently published book, *The Wisdom of Near-Death Experiences* (2014), is an invaluable resource for health care workers in helping them understand the spiritual aspects of patient care at the end-of-life.

SCIENTIFIC RESEARCH INTO CHILDHOOD NDEs

In 1982, pediatrician Dr. Melvin Morse was called to revive a nine year old girl who had nearly drowned in a swimming pool. Although she had no heartbeat for 19 minutes, she completely recovered. What surprised Dr. Morse was the story she told upon awakening. She told him about a tunnel that opened up and 'Elizabeth' with golden hair came to take her to meet her dead grandfather, other spirits and the Heavenly Father. When Jesus asked her if she wanted to see her mother again, she said that she did and then awoke (Blackmore, 1993:20).

Dr. Morse was motivated to develop the first systematic study of childhood NDEs. Over a 10 year period he interviewed 121 children who were critically ill, 37 children who had been given possible mind-altering drugs and 12 children who survived a cardiac arrest or coma. Of the critically ill children only 3 reported hallucinations but no NDE. Those administered drugs did not report NDEs. However 8 of the children who survived a cardiac arrest or coma reported an NDE. Dr. Morse concluded that children experience NDEs only in actual situations of physical death, whereas adults may experience an NDE in life threatening situations. Unfamiliar with the concept of death, the children may not fear it (van Lommel, 2007:72; Morse, 1990).

Circumstances precipitating NDEs in children include near-drowning, coma after head trauma, coma caused by diabetes or inflammation of the brain, cardiac arrest, asphyxia caused by an asthma attack, diphtheria, muscular dystrophy, or electrocution. Reports of childhood NDEs have been recorded as early as nine months of age. Researcher P.M.H. Atwater has come across very young children who told their parents about their experience as soon as they could talk. The reports of NDEs by children are similar to that of adults. Atwater notes that more than three-quarters of the many children she interviewed reported a loving and peaceful

environment, kind beings, and an out-of-body experience. About a fifth reported a heavenly experience, while 3 percent reported a frightening experience (van Lommel, 2007: 73-74).

A childhood NDE has recently been popularized by a book that records an experience of a 4 year old boy following an emergency appendectomy. The young boy told his parents that during the surgery he had left his body and visited heaven, meeting people whom he had not met in real life and talking to Jesus. He astonished his parents with details of heaven. The book, *Heaven is for Real*, sold over 5 million copies and the story was made into a movie that is shown in theaters and sold in stores on CDs (Burpo, 2010).

DISTRESSING NEAR DEATH EXPERIENCES (dNDE)

Most reports of NDEs describe feelings of peace, joy and bliss. However some reports have described feelings of distress, including fear, terror, horror, anger, loneliness, isolation and/or guilt. In 1996, Professor Bruce Greyson and Nancy Evans-Bush studied 50 reports of distressing NDEs and classified them into three categories:

- 1) the most common was feeling the experience of an out-of-body experience and moving through a dark tunnel toward the light as frightening,
- 2) less common was the experience of nonexistence or an absolute void, and
- 3) the rarest type included hellish imagery of demonic beings, annoying noises, and beings in extreme distress.

Barbara Rommer proposed a fourth type of distressing experience in which the subjects feel negatively judged in their life review. In most cases of NDEs that include the life review, the review takes place in a context of concern and being unconditionally loved. In a life review of a dNDE the person feels only negatively judged. In her book, *Blessings In Disguise* (2000), Rommer examines 300 case studies and concludes that this type is the rarest of all. Yet it often becomes a positive experience as the person may evaluate his or her life and move into a positive direction.

The dNDE is relatively rare. R. J. Bonenfant estimates the incidence of dNDEs as ranging between 1% to 15% of all NDEs (IANDS, 2012; Bonenfant, 2001). In a study of over 700 NDEs, Atwater found 105 dNDEs, approximately 15%. Dr. Rommer reported 18% of 300 NDEs to be distressing (Sartori, 2014:23).

Distressing NDEs may occur more often than they are reported. People who have experienced one may feel ashamed to talk about them, afraid that others will judge them negatively. Also they may hope the experience will go away, wishing to avoid re-experiencing the experience through not talking about it.

Distressing NDEs, as with pleasurable NDEs, occur about equally to people of all genders, ages, and social-economic circumstances. No relationship between life deeds and type of NDEs are evident, although the way one dies may be a factor. In her research, Rommer found that attempted suicides made up 55% of people who reported an eternal void experience, 18% who had reported a hellish experience and most of those who reported a negative judgment experience. However the overall majority of dNDEs did not occur in the context of attempted suicide and many pleasurable NDEs were the result of attempted suicides. (IANDS, 2012:2).

ASSOCIATIONS FOR NEAR-DEATH STUDIES

The need for a network for integrating the knowledge obtained from studies relating to NDEs led to the development of organizations capable of sharing information. A number of scientific and academic journals also have published or regularly publish research on the subject of NDE's. These include: *Journal of Near Death Studies*, *Journal of Nervous and Mental Disease*, *British Journal of Psychology*, *American Journal of Disease of Children*, *Resuscitation*, *The Lancet*, *Death Studies* and the *Journal of Advanced Nursing* (Wikipedia, NDE, 2015:5).

International Association for Near-Death Studies (IANDS)

In 1978 the *International Association for Near-Death Studies (IANDS)* was founded to meet the needs of researchers interested in pursuing questions raised by people who reported NDEs and to meet the needs of experiencers for understanding. IANDS was conceived and organized by John Audette, a friend of Raymond Moody, who was touched by the phenomenon of near-death experiences. The formal organization was co-founded by Audette, Raymond Moody, Kenneth Ring, Bruce Greyson and Michael Sabom.

In 1980, IANDS began publishing a scholarly peer-reviewed journal, the *Journal of Near-Death Studies*, edited by Dr. Bruce Greyson. It also publishes a quarterly newsletter, *Vital Signs*. IANDS maintains a website, “ publishes a member newsletter, sponsors conferences and other programs, works with the media, and encourages the formation of regional discussion and support groups.” The mission of IANDS has remained constant: to support experiencers, promote education about NDEs and encourage research (IANDS, 2015).

As the first organization in the world directed toward the study of near-death experiences, it's membership is now worldwide. The offices of IANDS are currently located in Durham, North Carolina under the leadership of it's president, Dr. Diane Corcoran, R.N. Information is provided for experiencers, researchers, health care professionals, people close to experiencers, educators and other interested persons (IANDS, 2014).

Horizon Research Foundation

The Horizon Research Foundation is an independent charitable organization operating in the UK with the aim of supporting scientific research into an understanding of the human mind at the end of life. They raise funds for quality research and provide lectures, conferences and information booklets for health care professionals.

The Human Consciousness Project is discussed on the website of the Horizon Research Foundation. This project was launched in Sept. of 2008 at a symposium held at the United Nations. It consists of a group of international, multidisciplinary scientists and physicians interested in conducting “the world’s first large-scale study of what happens when we die and the relationship between mind and brain during chemical death.” The traditional position held by most scientists is that consciousness and self are merely by products of electrochemical activity within the brain. However, prominent researchers, including the Nobel-prize winning neuroscientist Sir John Eccles, are now proposing a dualist view, contending that consciousness represents a separate entity apart from the brain. Research studies have found that 10-20% of persons who have been resuscitated after cardiac arrest report vivid and lucid thought processes, reasoning, memories and recall of their bodies during cardiac arrest (Horizon Research Foundation, 2015).

OTHER CIRCUMSTANCES THAT MAY INCLUDE AN NDE

It is not always necessary for a person to be clinically dead to experience some of the elements related to near-death experiences. NDEs have been reported in many different situations besides brain impaired circumstances such as cardiac arrest and coma. They have occurred under general anesthesia and electric shock. NDEs can occur when the brain is unimpaired, including stressful events such as illness with a high fever, isolation, extreme dehydration, hypothermia and depression. Similar experiences can be caused by an acute fear of death. So-called fear-death experiences can occur after a traffic accident or a mountain climbing accident. NDEs have also been reported without clear medical concerns during times of deep meditation or on a walk in the countryside (van Lommel, 2007:8-9).

Deathbed Visions

Nurses are aware that on the deathbed approaching the end of life patients may report seeing deceased relatives, friends or even pets coming to meet them. Patients may appear to be communicating with unseen persons as their death approaches. Although these episodes are often dismissed as hallucinations by onlookers, caregivers argue that they occur during times of clear consciousness and result in a peaceful end-of-life experience (Sartori, 2014:86).

Terminal Lucidity

Terminal lucidity has been documented by a number of recent studies which record the experiences of people as they approach death. Recent research documents that sometimes a patient who has been confused, unable to communicate, suffers from Alzheimer's disease, brain abscess, brain tumor, stroke, meningitis, or schizophrenia may become lucid just before death, being enabled to talk coherently and say farewell to relatives (Sartori, 2014:100; Nahm, 2011).

Shared Death Experiences

Although accounts of shared death experiences are rare, Dr. Sartori records some examples of shared experiences (Sartori, 2014:94-100).

After reading a newspaper article about her research, a man called her to share his experience when his wife died. He says, "I saw this very bright light and a tall person stepped forward out of the light. I was watching this as if from my wife's eyes. This tall person was holding his arms outstretched as if to greet my wife and welcome her. She walked further along this path until she reached this man. He was waiting there as if to give her a welcome hug; there was a sense of peace and love. There had been such sadness leading up to my wife's death then this happened and we were left elated".

Another account is of a lady who had been present at her dying mother's bedside. She reports, "Three days before Mum died she slipped into a coma...I was sitting next to her bed, holding her hand, I held her hand next to my cheek. Then she was walking a foot pace in front of me, Mum turned around and she looked so happy and well. Then she said, 'Go back now, it's not your turn,'".

PROPOSED EXPLANATIONS FOR NDEs AND OBEs (Sartori, 2014: 111-126; van Lommel, 2007:110-135)

Many who experience an NDE see it as a verification of life after death. A growing number of researchers in the field of near-death studies contend that consciousness may continue to exist after death. Other researchers are more skeptical, claiming that changes occurring in the brain cause these experiences. Materialistic scientists are generally unable to accept the idea of endless consciousness after death. Many theories have been put forward to explain the NDE. Both physical and psychological factors are offered as an explanation.

Anoxia and Hypoxia

A popular explanation for NDE is that it is due to a total absence of oxygen to the brain (anoxia) or deficient oxygen in the brain (hypoxia). When pilots are exposed to fast acceleration, they can experience visions, feelings of euphoria, positive emotions and OBEs when the heart is unable to circulate blood effectively through the body. These experiences can be compared to NDEs. However these experiences are generally difficult to recall and the pilots do not report life changes that are common to NDEers.

When blood flow to the brain stops completely, consciousness is lost within 10-20 seconds. Irreversible brain damage occurs after 5-10 minutes. However NDEs are reported with a heightened sense of consciousness and clarity of thought. Dr. Sartori notes, "If an NDE is due to anoxia then all patients who have a cardiac arrest should report an NDE, but approximately 80 percent of cardiac arrest survivors do not report an NDE" (Sartori, 2014:113).

Carbon Dioxide Overload

Oxygen deficiency creates carbon dioxide in the body which has been cited as a possible cause of the NDE. High levels of carbon dioxide in the blood may produce OBEs, past memories, bright colors, pleasant feelings, and feelings of discovery. These side effects were first noted by psychiatrist Charles Meduna, who attempted to use carbon dioxide to treat psychiatric patients. However none showed the after effects characteristic of NDEs.

Situations Causing Out of Body Experience

OBEs can occur in various situations. Extreme physical effort such as high altitude climbing and marathon running can bring about an OBE. They have been reported during epileptic seizures, psychosis and temporal-lobe epilepsy. However these cases exhibit confused, bizarre and fragmentary variables, unlike the integrated reports of NDE. During experimentation, electrical stimulation of the brain has evoked experiences that appear to be similar to an OBE. However scrutiny reveals differences. Some patients describe these experiences as out of context and place.

Drug Reactions

A state of blissful euphoria and feelings of serenity, expanded consciousness and cosmic insights have been reported by users of medical and recreational hallucinogens such as ketamine, DMT, MDA, LSD, cannabis and mescaline. However drugs taken through intent create a different pattern in which the context unfolds. Drug reactions are random and do not exhibit the set pattern of the NDE. Neither do the drug users display the behavioral transformation typical of an NDE.

Endorphins

An early explanation for NDEs was that during times of stress the body naturally releases large quantities of endorphins, a morphine substance which can lessen pain and create a sense of peace and well-being. However, the effects of endorphins may last several hours whereas after regaining consciousness, a person who has experienced an NDE immediately senses pain.

Psychological Explanations

Stress can trigger defense mechanisms within a person's mind to escape the fear of danger or death. NDEs are sometimes explained by a person's religious or cultural expectations; by a sense of detachment known as depersonalization; by escape from a frightening reality through dissociation; or through fantasies, hallucinations or dreams. It is also suggested that NDEers are deliberately lying in order to impress others.

In summarizing the considerations of personal psychological explanations for NDEs, Dr. van Lommel contends that they fail to explain the typical patterns of similar experiences reported in NDEs and the fact that NDEs can be experienced during a cardiac arrest or coma in which brain function is seriously impaired.

ACKNOWLEDGING NDEs: IMPLICATIONS FOR HEALTH CARE

When Dr. Penny Sartori was a student nurse and heard a patient recount an NDE, her first reaction was to assume that the patient was hallucinating. However, after researching the NDE for five years she was convinced that hallucinations and NDEs are not the same type of experience. Her research included interviewing 15 patients who reported an NDE and 8 who reported an OBE. She realized the profoundly positive influences the NDE had for the patient. "An NDE is a transcendent experience and there is nothing to compare it to. Many describe it as 'realer than real'" (Sartori, 2014:152). She concludes that treating patients holistically accelerates healing and recovery

Dr. Sartori contends that the spiritual aspects of patient care are given little attention within the current healthcare system. "Healing the body through mind and spirit... is seldom acknowledged within the current scientific paradigm" (Sartori, 2014:150). In a recent survey of nurses only 5% responded that they felt they had met the spiritual needs of their patients.

With our advances in technology, many patients spend days or weeks hooked up to machines. The process of dying is less certain. The people who come in contact with a person after an NDE are all the people who have patient contact, including doctors, nurses, healthcare

support workers, hospital chaplains, psychologists and psychiatrists. It is important that all healthcare workers become educated about NDEs so they can understand these experiences and provide the necessary support for patients and their families and friends. Numerous cases are reported where NDEs have been misdiagnosed as psychiatric illness or have been disbelieved or ridiculed. Listening to patients with understanding and respect helps them to come to terms with their experience. Assuring them that others have experienced similar events helps them validate their experience and allows them to heal and move on. Distressing NDEs need also to be recognized to help the patient work through emotions and be assured that they are not alone.

Dr. Sartori writes, "Healthcare workers are in a unique position of being able to provide both physical and spiritual care; as death approaches, addressing the patient's spiritual needs is crucial" (Sartori, 2014:175). "If healthcare workers were more aware of the therapeutic benefits of understanding NDEs, many patients could be greatly helped during a time when they are most vulnerable and frightened"(Sartori, 2014:163).

IN SEARCH OF A NEW PARADIGM

As reports of near-death experience occur more frequently with the increase in survival rates resulting from resuscitation, questions are raised as to the cause and meaning of these experiences. The field of near-death studies is drawing a growing number of researchers in the fields of psychology, psychiatry, and medicine who are interested in the study of near-death experience as phenomena.

The philosopher of science, Thomas Kuhn (Kuhn, 1962), claimed that scientists are not independent, objective thinkers. He contends that normal science operates within paradigms, which he describes as shared understandings of appropriate law, theory, application and instrumentation. Research is based on shared paradigms and researchers are committed to the same rules and standards for scientific practice. Scientists attempt to reconcile their 'facts' within the accepted paradigm.

Results that cannot be explained within the current paradigm are labeled as 'anomalies'. These findings are generally ignored, overlooked or ridiculed. However when anomalies that do not fit within the current understanding become prevalent, fundamental generalizations of the existing paradigm are called into question. As more and more attention is devoted to the anomalies, a political struggle ensues as eminent scientific 'experts' seek to protect their conclusions and perspectives.

The rules of normal science are challenged as facts are gathered in support of a new theory. A scientific crisis emerges. “All crises begin with the blurring of a paradigm and the consequent loosening of the rules for normal research...a crisis may end with the emergence of a new candidate for paradigm and with the ensuing battle over its acceptance... When the transition is complete; the profession will have changed its view of the field, its methods, and its goals” (Kuhn, 1962:82-85).

Within the current scientific culture, the experience of enhanced consciousness during times of clinical definitions of death are at odds with conventional wisdom. Current medical understanding contends that experiencing consciousness during a cardiac arrest is not possible. The NDE reports of enhanced awareness and personal experience within another realm that includes emotions and self-identity cannot be included within the present-day paradigm that assumes that at the death of the body, consciousness ceases.

Researchers, Dr. van Lommel and Dr. Sartori are in agreement that the phenomenon of the NDE can no longer be scientifically ignored. Dr. van Lommel writes, “...It is quite impossible to find a scientific explanation for the NDE as long as we ‘believe’ that consciousness is only a side effect of a functioning brain. The fact that people report lucid experiences in their consciousness when brain activity has ceased is...difficult to reconcile with current medical opinion...By making a scientific case for consciousness as a non-local and thus ubiquitous phenomenon, we should of course question a purely materialist paradigm in science” (van Lommel, 2007:xii).

As the development of technologies result in more people surviving life-threatening illness, more NDEs are reported by survivors. Dr. Sartori summarizes this dilemma. “There is no room to accommodate or understand spiritual aspects of life in the current scientific paradigm...NDEs have previously been considered unworthy of science but, now that these experiences are being seriously acknowledged and are a valid area for scientific study, it seems that we are on the threshold of expanding our current knowledge about the meaning of life and death” (Sartori, 2014:182).

SUMMARY DISCUSSION

Research into conceptions of afterlife across cultures reveals that from ancient times, philosophical and religious accounts have testified to life beyond death. While culturally specific differences are reported, the recurring elements that are frequently reported in what is now termed ‘near-death experiences’ (NDEs) suggest that the authors of ancient texts were familiar with this phenomenon. Because these subjective experiences have been objectively non-verifiable, science has dismissed these reports as personal hallucinations or science fiction.

People were reluctant to share their experience lest they be ignored, ridiculed or labeled mentally ill and placed in a mental hospital.

Modern techniques of resuscitation have improved survival rates of people who have been brought back to life after having been pronounced clinically dead. With increases in rates of cardiac resuscitation, the number of reported near-death experiences has increased. In 1992, a Gallup Poll of Americans estimated that 13 million people, representing 5% of the population, had experienced an NDE.

A growing number of researchers, especially in the fields of psychology, psychiatry, and medicine, are being drawn into the field of near-death studies. Public and scientific attention to the topic of NDEs was spurred by Dr. Raymond Moody who published his book *Life After Life* in 1975. In 1981 the International Association of Near-Death Studies (IANDS) was established. This organization encourages scientific research and education of the ramifications of NDEs. IANDS publishes the peer-reviewed *Journal of Near Death Studies* and the quarterly newsletter *Vital Signs*. Other scientific and academic journals have published or regularly publish research on the subject of NDEs, including: *Journal of Nervous and Mental Disease*, *British Journal of Psychology*, *American Journal of Disease of Children*, *Resuscitation*, *The Lancet*, *Death Studies* and the *Journal of Advanced Nursing*.

Researchers have identified patterns in NDEs that transcend differences based on age and cultural backgrounds. Frequently noted experiences include: awareness of being dead; looking down on one's own body from above; moving through a tunnel or valley; movement toward a brilliant light; an overwhelming sense of peace, well being and love; reuniting with deceased loved ones; receiving a life review by a figure of Light; and approaching a border with a decision or request to return to one's body. While most NDEs include pleasurable experiences, some experiences have been reported as distressing, dominated by fear, terror, horror, anger, loneliness, isolation, and/or guilt.

It is not necessary for a person to be clinically dead to experience NDEs. They have occurred under general anesthesia, electric shock, illness with a high fever, extreme dehydration, hypothermia, depression, or isolation. They can be caused by fear of death as in an automobile or mountain climbing accident. They have also been experienced during times of deep meditation or on walks in the countryside.

NDEs are associated with changes in personality and outlook on life. Psychologist Kenneth Ring identified changes in values and beliefs. These included: a greater appreciation for life, higher self-esteem, greater compassion for others, increased sense of purpose, spiritual

awareness, and a desire to learn. Those who had experienced a distressing NDE often change their life patterns and turn their lives in a positive direction.

Dr. Pim van Lommel researched NDEs that were reported by cardiology patients in hospital settings in the Netherland. He found that of 344 consecutive cardiac patients who were successfully resuscitated after cardiac arrest, 62 patients (18%) reported an NDE. He is not able to explain why so few cardiac patients report an NDE after CPR, but he concludes that if it were a purely physiological explanation, most patients who were clinically dead should report one. Research studies confirm that generally between 10-20% of resuscitated patients report an NDE.

When Dr. Penny Sartori was a nurse in the U.K., she undertook a five year study to investigate NDEs in the intensive Care Unit where she worked. Of 39 patients who had survived a cardiac arrest, 7 (17.9%) reported an NDE. Other patients volunteered a report of NDE. Over a 5 year period, 15 patients had reported an NDE to her. Dr. Sartori contends that all healthcare workers need to become educated about NDEs so they can understand these experiences and provide the necessary support for patients and their families and friends. Listening to a patient with understanding and respect helps them feel comfortable with their experience and increases their ability to heal.

Many who experience an NDE see it as verification of life after death. A growing number of researchers in the field of near-death studies contend that consciousness may continue to exist after death. Within the current materialistic scientific paradigm, consciousness is a product of the brain and when the brain dies, consciousness ceases. Drs. Van Lommel and Sartori are in agreement that the phenomenon of the NDE requires consideration of a new scientific paradigm that expands our understanding of life and death. Other researchers are more skeptical, claiming that changes occurring in the brain cause these experiences.

Many questions remain to be asked and researched in regard to an understanding of this phenomenon. How many people have had these experiences? What causes a near-death experience? Why doesn't everyone experience one? How does a religious or non-religious background influence the experience? Do the experiences differ across cultures? Do the experiences differ by age or gender? Do these experiences prove there is a conscious life after death? Researchers are increasingly addressing these questions.

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LIFE BEYOND? SCIENTIFIC STUDIES ADDRESS NEAR DEATH EXPERIENCES (NDEs)

Dr. Marjorie L. Coppock April, 2015

Paper presented at the Southwestern Sociological Association Annual Meetings
April 9-11, 2015, Denver, Colorado

The PDF file of the paper can be downloaded from the website under “Related essays”

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1975 – Dr. Raymond Moody published his report of 150 cases of NDEs in his ground-breaking book *Life After Life*, pioneering the scientific study of this phenomenon. Moody outlined 15 elements which occurred frequently, although not all occurred in every NDE.

- * **Ineffability** – finding it difficult to describe the experience in words
- * **Feelings of Peace**, quiet, comfort, warmth, ease
- * Hearing a ringing, buzzing or **whirling sound**
- * Feeling of moving **through a dark tunnel** or valley **toward a light**
- * A sense of being **out of the body** and watching activities from above
- * A sense of being in a new type of body which Moody summarizes as ‘the **spiritual body**’
- * Being greeted by other spiritual beings, by spirits of **relatives and friends who have died**
- * Being in the **presence of a Being of Light** who exudes a sense of love, warmth, and acceptance
- * Being given a **life review** and being asked to evaluate ones life
- * **Approaching a border** or boundary which cannot be crossed
- * Being **told to return** to earth to **finish a task**
- * Resisting and **wanting to stay** rather than return
- * Reuniting with the physical body and **returning to life**
- * **Corroborating** with medical staff and relatives about events viewed while ‘out of body’
- * Having the experience **affect the way life is evaluated and lived**

1977 - Dr. Kenneth Ring interviewed 102 people who had a NDE. He developed a **Weighted Core Experience Index** scale to use in interviewing. He identified what he called the **Core Experience**. In his study the five core features occurred as follows: Feelings of Peace (60%), Body Separation- out of body experience (37%), Entering the darkness (Moody's tunnel) (23%) Seeing the light (16%), Entering the light (10%)

1978 – The International Association for Near-Death Studies (IANDS) was founded to meet the needs of researchers and experiencers for understanding. In 1980 – IANDS began publishing the *Journal of Near Death Studies*. It publishes a quarterly newsletter, *Vital Signs*.

Distressing NDEs. While the majority of respondents report a positive experience, 10-15% of NDE responses report a distressing experience.

Changes in Personality. Researchers report that people who experience NDEs feel a greater appreciation for life, sense of purpose, compassion for others and spiritual awareness.

Prevalence of NDEs –1992 Gallup poll of Americans estimated - 13 million people (5%).

Research studies estimate that 10-20% of those resuscitated report a NDE.

It is not always necessary to be clinically dead to experience a NDE. They have also occurred under stressful situations such as accidents, electric shock, a high fever, isolation, dehydration, hypothermia and depression. They have also been reported during times of deep meditation.

Other Explanations for NDEs - Scientists unable to accept the idea of endless consciousness after death propose other theories: Anoxia, hypoxia, carbon dioxide overload, drug reactions, endorphins or psychological defense mechanisms.

1988 - Dr. Pim van Lommel interviewed 344 patients in Dutch hospitals who had been resuscitated after a cardiac arrest. 62 patients (18%) reported recollections of being aware.

1997 – Dr. Penny Sartori, as a student nurse in the UK, interviewed 15 patients who reported a NDE after resuscitation and 8 who reported an out of body experience.

*** Implications for Health Care** – Dr. Sartori contends that it is important that all healthcare workers become educated about NDEs so they can provide the necessary support for patients, families and friends. Drs. Van Lommel and Sartori agree that the NDE can no longer be scientifically ignored.

*** In Search of a New Paradigm** – Dr. van Lommel writes, “It is quite impossible to find a scientific explanation for the NDE as long as we believe that consciousness is only a side effect of a functioning brain...we should of course question a purely materialist paradigm in science.”

20 minute Presentation – Life Beyond? Scientific Studies Address Near Death Experiences

Dr. Marjorie L. Coppock April, 2015

From ancient times numerous accounts have testified to life beyond death. While cultural differences are reported, the recurring patterns that are reported in what is now called 'near-death experiences' suggest that the authors were familiar with this phenomenon.

When the Age of Enlightenment ushered in the era of science, supernaturalism was viewed as outdated. Only that which could be verified scientifically was considered real. Modern science contends that consciousness is created by the brain and when the brain dies, consciousness ceases. People who reported transcendent experiences have been dismissed as hallucinating or mentally ill.

Within the last 50 years modern techniques of resuscitation have improved survival rates of people who have been brought back to life after having been pronounced clinically dead. With increases in rates of cardiac resuscitation, reports of experiencing consciousness while clinically dead have increased, drawing a growing number of researchers into the field of near-death studies.

Contemporary interest in the study was spurred by writings of psychiatrists Drs. Elizabeth Kubler-Ross and George Ritchie and by Dr. Raymond Moody. In 1943, when he was in an army hospital Dr. Ritchie had died. Nine minutes later he was brought back to life. His accounts of an out-of-body experience, travel through time and space, and his conversations with Jesus have been translated into 9 languages.

In 1965, Raymond Moody heard Dr. Ritchie speak about this experience and discovered others had reported similar experiences. He collected 150 cases of this phenomenon and analyzed their accounts.

In 1975 Moody published his ground-breaking book *Life After Life* . Calling these experiences near-death experiences Dr. Moody pioneered the movement which opened the door to the scientific study of this phenomenon.

In this book he developed a model of common elements that were reported. While not every NDE included all of the elements, the model describes elements found in many stories.

- * **Ineffability** – finding it difficult to describe the experience in words
- * **Feelings of Peace**, quiet, comfort, warmth, ease
- * Hearing a ringing, buzzing or **whirling sound**
- * Feeling of moving **through a dark tunnel** or valley **toward a light**
- * A sense of being **out of the body** and watching activities from above
- * A sense of being in a new type of body which Moody summarizes as ‘the **spiritual body**’
- * Being greeted by other spiritual beings, by spirits of **relatives and friends who have died**
- * Being in the **presence of a Being of Light** who exudes a sense of love, warmth, and acceptance
- * Being given a **life review** and being asked to evaluate ones life
- * **Approaching a border** or boundary which cannot be crossed
- * Being **told to return** to earth to **finish a task**
- * Resisting and **wanting to stay** rather than return
- * Reuniting with the physical body and **returning to life**
- * **Corroborating** with medical staff and relatives about events viewed while ‘out of body’
- * Having the experience **affect the way life is evaluated and lived**

Dr. Kenneth Ring was impressed by Moody’s findings and sought to investigate unanswered questions. In 1977 through hospital referrals and word of mouth he identified 102 people who had experienced this phenomenon. His interviews confirmed Moody’s claims. Ring identified what he called the **Core experience**. Five features, although not experienced by all, usually occurred in the following order: **Feelings of Peace** (60%); **Body separation-** out-of-body experience (OBE)

(37%); **Entering the darkness** (Moody's dark tunnel) (23%); **Seeing the light** (16%); **Entering the light** (10%).

He developed a **Weighted Core Experience Index** scale which has been adopted by other researchers to use in their studies.

In 1978 the International Association for Near-Death Studies (IANDS) was founded to meet the needs of researchers and the needs of experiencers for understanding. In 1980 IANDS began publishing a peer-reviewed journal, the *Journal of Near Death Studies*. It also publishes a quarterly newsletter, *Vital Signs*. It maintains a website, works with the media and encourages the formation of regional discussion and support groups.

Distressing experiences. While most near-death experiences include pleasurable reports, some experiences have been reported as distressing, dominated by feelings of fear, terror, horror, anger, loneliness, isolation or guilt. About 10-15% of these recollections include a distressing report.

Children have also reported having these experiences at a time when they were clinically dead even as toddlers. Researcher PMH Atwater came across children who told their parents about their experience as soon as they could talk.

Personality changes. These experiences are associated with changes in personality and outlook on life. Many see it as a verification of life after death. They have a greater appreciation for life, higher self-esteem, greater compassion for others, an increased sense of purpose, a desire to learn and greater spiritual awareness. Those who had experienced a distressing experience often change their life patterns and turn their lives in a positive direction.

Prevalence of NDEs. Several major surveys have estimated the prevalence of near death experiences in the adult population, In 1992, a Gallup Poll of Americans estimated that 13 million people, representing 5% of the population had

experienced one. This % is comparable to a survey in Germany that found 4% of 2000 people had reported a near death experience.

Not everyone who is resuscitated after cardiac arrest reports such an experience. 80% of people under these circumstances do not recall any consciousness when they return to life. However researchers report that 10-20% of those resuscitated report some recollection of an altered life form.

It is not always necessary for a person to be clinically dead to experience some of the elements related to a near death experience. They have been experienced under general anesthesia, electric shock, illness with a high fever, isolation, extreme dehydration, hypothermia and depressions. They can be caused by a fear of death after a motor or mountain climbing accident. They have also been reported without medical concerns, during time of deep meditation or on a walk in the countryside. Nurses are aware that on the deathbed approaching the end of life patients may report seeing deceased relatives.

Other Explanations of NDEs. Many who experience an NDE see it as a verification of life after death. A growing number of researchers in the field of near-death studies contend that consciousness may continue to exist after death. However, materialistic scientists are generally unable to accept the idea of endless consciousness after death. Theories propose that these experiences are caused by deficient oxygen, a lack of oxygen, a carbon dioxide overload, the body endorphins, reactions to drugs or to defense mechanisms within a person's mind. Dr. van Lommel contends that these explanations fail to explain the similarities of experience reported in near death experiences and the fact that they can be experienced during a cardiac arrest or coma in which brain function is seriously impaired.

Retrospective and Prospective Studies. Early research was limited to retrospective studies where reports were obtained from people who had NDEs in their past. The increase in resuscitations made it possible to develop prospective studies where everyone who was resuscitated within a hospital setting was asked if they had any recollection of the period of their cardiac arrest.

In 1988 a groundbreaking prospective study was developed in the Netherlands by cardiologist Dr. Pim van Lommel. Included in the study were 344 patients who had been successfully resuscitated after a cardiac arrest in ten Dutch hospitals. Most were interviewed within 5 days of resuscitation. The patient was asked a single, open question. “Do you have any recollection of the period of your cardiac arrest?” If the answer was ‘Yes’ an unstructured interview was conducted and recorded.

62 patients (18%) reported some recollection of being aware during the time of clinical death. A core experience was described by 41 (12%) and 23 (7%) reported a deep or very deep experience. The study reported frequency of 10 elements:

Awareness of being dead	31 (50%)
Positive emotions	35 (56%)
Out of body experience	15 (24%)
Moving through a tunnel	19 (31%)
Communication with light	14 (23%)
Observation of colors	14 (23%)
Observation of celestial landscape	18 (29%)
Meeting with a deceased person	20 (32%)
Life review	8 (13%)
Presence of a border	5 (8%)

At a 2 year follow-up 37 patients were available for an interview. They were able to recall their experience almost exactly as they had previously stated.

Another prospective study was conducted by Dr. Penny Sartori when she was a student nurse in the UK. She took it upon herself to interview patients who had been resuscitated. Over a five year period she interviewed 15 patients who reported a near death experience and 8 who reported an out of body experience. She states that “An NDE is a transcendent experience and there is nothing to compare it to. Many describe it as ‘realer than real’.

Implications for Health Care.

Dr. Sartori contends that it is important that all healthcare workers become educated about near death experiences so they can provide the necessary support for patients and their families and friends. With our advances in technology many patients spend days or weeks hooked up to machines. Medical staff are the people they come in contact with. Assuring them that others have experienced similar events helps them to heal and move on. Distressing experiences need to be recognized also to help the patient work through emotions and be assured they are not alone.

As reports of transcendental experiences occur more frequently with the increase in survival rates from resuscitation, the field of near-death studies is drawing a growing number of researchers who are interested in the study of this phenomenon.

In Search of a New Paradigm

The reports of enhanced awareness and personal experience within another realm that includes emotions and self-identity cannot be included within the present day paradigm that assumes that at the death of the body, consciousness ceases. Researchers Dr. van Lommel and Dr. Sartori are in agreement that this phenomenon can no longer be scientifically ignored.

Dr. van Lommel writes, "It is quite impossible to find a scientific explanation for the NDE as long as we 'believe' that consciousness is only a side effect of a functioning brain. The fact that people report lucid experiences in their consciousness when brain activity has ceased is ... difficult to reconcile with current medical opinion...By making a scientific case for consciousness as a non-local and thus ubiquitous phenomenon, we should of course question a purely materialist paradigm in science."

