

Journal
of
Near-Death Studies

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A Prospective Analysis of Near-Death Experiences in Cardiac Arrest Patients •

*Janet Schwaninger, R.N., B.S.N., Paul R. Eisenberg, M.D., M.P.H.,
Kenneth B. Schechtman, Ph.D., and Alan N. Weiss, M.D., F.A.C.C.*

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Editor's Foreword

We lead off this issue of the Journal with a landmark prospective study of near-death experiences (NDEs) among patients suffering a cardiac arrest. Cardiovascular nurse Janet Schwaninger, cardiologists Paul Eisenberg and Alan Weiss, and biostatistician Kenneth Schechtman evaluated all patients experiencing a cardiac arrest at a major teaching hospital, and found that 23 percent of those who could be interviewed reported having had an NDE. They describe the NDEs reported, and compare the psychosocial adaptation of those NDErs with cardiac arrest survivors who did not report NDEs. They conclude that NDE are common following cardiac arrest and lead to significant changes in psychosocial and spiritual attitudes and beliefs.

In our second article, philosopher Michael Potts examines the evidential value of NDEs for the question of whether we survive bodily death. He concludes that the evidence from NDEs is suggestive of survival but not overwhelming, although it is usually persuasive for individual NDErs; and he recommends research into veridical perceptions during NDEs as offering the most promising prospects for more compelling evidence of survival.

This issue of the Journal includes two book reviews. In the first, hospice chaplain and psychotherapist Dianne Arcangel reviews nursing educator Susan Schoenbeck's *The Final Entrance*, a description and analysis of spiritual experiences as death approaches. In the second, psychologist David Chamberlain reviews Elizabeth and Neil Carman's *Cosmic Cradle*, an encyclopedic analysis of purported communications between the souls of children not yet conceived and their prospective parents, from a wide range of cultures throughout history.

We end this issue with a Letter to the Editor from P. M. H. Atwater responding to sociologist Harold Widdison's review of her *Children of the New Millennium* in the Summer 2001 issue of the Journal; and a rejoinder by Widdison.

Bruce Greyson, M.D.



A Prospective Analysis of Near-Death Experiences in Cardiac Arrest Patients

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ABSTRACT: The objective of this study was to assess prospectively the frequency of near-death experiences (NDEs) in patients suffering a cardiac arrest, to characterize these experiences, and to assess their impact on psychosocial and spiritual attitudes. We prospectively evaluated all patients who suffered a cardiac arrest at Barnes-Jewish Hospital from April 1991 through February 1994, excluding those in the surgical intensive care unit, using a scale designed to specify criteria for NDEs, a recorded interview regarding the experience, an experience rating form, and a follow-up questionnaire regarding psychosocial attitudinal life changes. Of the 174 patients who suffered a cardiac arrest, 55 patients survived, of whom 30 patients were interviewable. Of those 30 patients interviewed, seven (23 percent) had a NDE, and four others (13 percent) reported an NDE during a prior life-threatening illness. The experiences were most frequently characterized by ineffability, peacefulness, painlessness, lack of fear, detachment from the body, and no sense of time or space. Significant differences were noted in the follow-up psychosocial assessment between patients

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who experienced an NDE and those who did not with regard to personal understanding of life and self, attitudes toward others, and changes in social customs and religious/spiritual beliefs. Of importance, patients reported it was beneficial to receive psychosocial support before hospital discharge after having an NDE. The results suggest that NDEs are fairly common in cardiac arrest survivors. The experiences consisted of a number of core characteristics and changed psychological, social, and spiritual awareness over both the short and long term.

KEY WORDS: prospective study; cardiac arrest survivors; near-death experiences; life changes; psychosocial support.

The near-death experience (NDE) is a subjective event with transcendental or mystical components that many people experience on the threshold of death. The five main stages of the experience are (1) a feeling of peace, calm, painlessness, and lack of fear; (2) a sense of detachment from the physical body or sensation of floating out of the body, in which experiencers may find themselves looking down on their physical body and surroundings and perceive themselves as dying or being dead; (3) encountering some form of darkness and passing through a dark tunnel; (4) ascending toward a light at the end of the darkness; and (5) entering the light or entering into a world or state in which the light appears to have its origin (Ring, 1980). Other components often associated with the experience include ineffability of the experience; a life review in the form of vivid and nearly instantaneous visual images; an encounter with a presence, which may be seen, sensed, inferred, or intuited; an encounter with deceased loved ones and/or spiritual or religious figures; and reaching a boundary (the "threshold effect") or participating in the decision to return to this existence and to the body (Ring, 1980). The number of stages or components, their order of occurrence, and the quality of experience vary from individual to individual.

Accounts and awareness of NDEs date to antiquity. In 1975, Raymond Moody introduced the term "near-death experience" and characterized the NDE based on a retrospective analysis of experiencers' accounts. The NDE is a complex subjective experience with certain common components that can occur in association with a wide range of life-threatening situations, including cardiac arrest. The significance of these experiences remains widely disputed, as does their potential impact on the health and well-being of patients. Previous retrospective studies have shown that NDEs occur independent of age, sex, education, and cultural or religious backgrounds (Moody, 1975; Ring, 1980).

The findings of these studies suggest that NDEs may result in changes in attitudes, values, and spiritual beliefs (Corcoran, 1988; Greyson, 1983a; Greyson and Stevenson, 1980; Morse and Perry, 1992; Noyes, 1980; Ring, 1980).

The objective of this study was to characterize prospectively these experiences and their frequency in patients surviving cardiac arrest and to assess the impact of NDEs on psychosocial and spiritual attitudes. We conducted a prospective study to reduce sampling bias, and characterized NDEs at least 24 hours after the event but before hospital discharge by use of a structured interview, experience analysis form, and Bruce Greyson's NDE Scale (Greyson, 1983b). We also administered a follow-up questionnaire to the entire sample 6 months after the interview, and compared the results of those patients who had NDEs (NDErs) with those of patients who suffered a cardiac arrest without an NDE (nonNDErs).

Methods

Selection of Participants

From April, 1991, through February, 1994, all patients who experienced a cardiac arrest in Barnes-Jewish Hospital excluding those in the surgical intensive care unit were identified and evaluated for inclusion in the study. Surgical intensive care patients were excluded due to difficulty with tracking the occurrence of cardiac arrest in that unit. Cardiac arrest was defined as the absence of a cardiac rhythm that could sustain circulation, that is, ventricular fibrillation or cardiac standstill, with no discernable blood pressure or respirations. Patients were excluded from the study if they suffered from a drug overdose, emotional instability with a prior psychiatric diagnosis, or medical instability that rendered them unable to answer questions.

Procedure

Patients who suffered a cardiac arrest were approached no sooner than 24 hours after the arrest, to allow confusion or lethargy to resolve and to permit stabilization of their medical problems, but before their discharge from the hospital. The average time period was 2 to 3 days following the cardiac arrest. Patients were interviewed by a member of the study team to determine their eligibility; all patients who were eligible

based on the inclusion criteria consented to participate in the protocol, which was approved by the Human Studies Committee (Institutional Review Board) of Washington University Medical Center.

Those patients who reported no subjective experience during their cardiac arrest were included in the study but did not undergo the complete interview. Those who recalled any subjective experience, including those with an NDE before the index cardiac arrest, were asked all of the interview questions. In order to avoid influencing responses, we allowed the patients to report their experience subjectively before starting the structured interview. The interview was tape recorded or taken in written form, at the patient's request. The average interview lasted 30 minutes, and could be extended at the patient's request.

All patients evaluated in the hospital were contacted 6 months after the initial interview and sent a follow-up questionnaire.

Instruments

The interview protocol was based on Kenneth Ring's interview schedule consisting of 14 multi-part questions regarding the experience and five questions regarding religious beliefs and practices before and after the experience (Ring, 1980, pages 265-270). The interview rating form was used to analyze the experience (Ring, 1980, pages 275-279). Greyson's NDE Scale (Greyson, 1983b) was used to determine which patients satisfied empirical criteria for having had an NDE. At the request of the Washington University Medical Center Human Studies Committee, to avoid influencing patients' responses the NDE scale was not administered directly but rather was completed by study personnel based on each patient's recorded interview. NDE Scale items are categorized into cognitive, affective, paranormal, and transcendental components, with each component comprised of four items. Each item has three possible responses: a strongly positive response given 2 points, a moderately positive response given 1 point, and a negative response given no points. Patients with a total score less than 7 points were defined as not meeting criteria for an NDE.

The follow-up form consisted of Ring's 42-item Life Changes Questionnaire (Ring, 1984, pages 276-278); five questions asking about telepathic ability, the experience of seeming to know what others will say before they say it, awareness of dreams, sense of intuitiveness, and out-of-body experiences; nine additional questions addressing possible

physical changes after near-death experiences; and one question asking whether patients felt they had benefited from being allowed to verbalize their experience.

Statistical Analysis

The follow-up questionnaire items were measured on a 5-point Likert scale, with answers scored as strongly increased, increased, unchanged, decreased, and strongly decreased, so that lower values were associated with greater increases. Because ordered categorical variables were analyzed, we used nonparametric methods. Wilcoxon's 2-sample rank sum test was used to compare ranked variables, and χ^2 or Fisher's exact test for dichotomous variables. Because a large number of statistical tests were performed, it is possible that some analyses have achieved significance by chance. All data were analyzed by use of the SAS computer program.

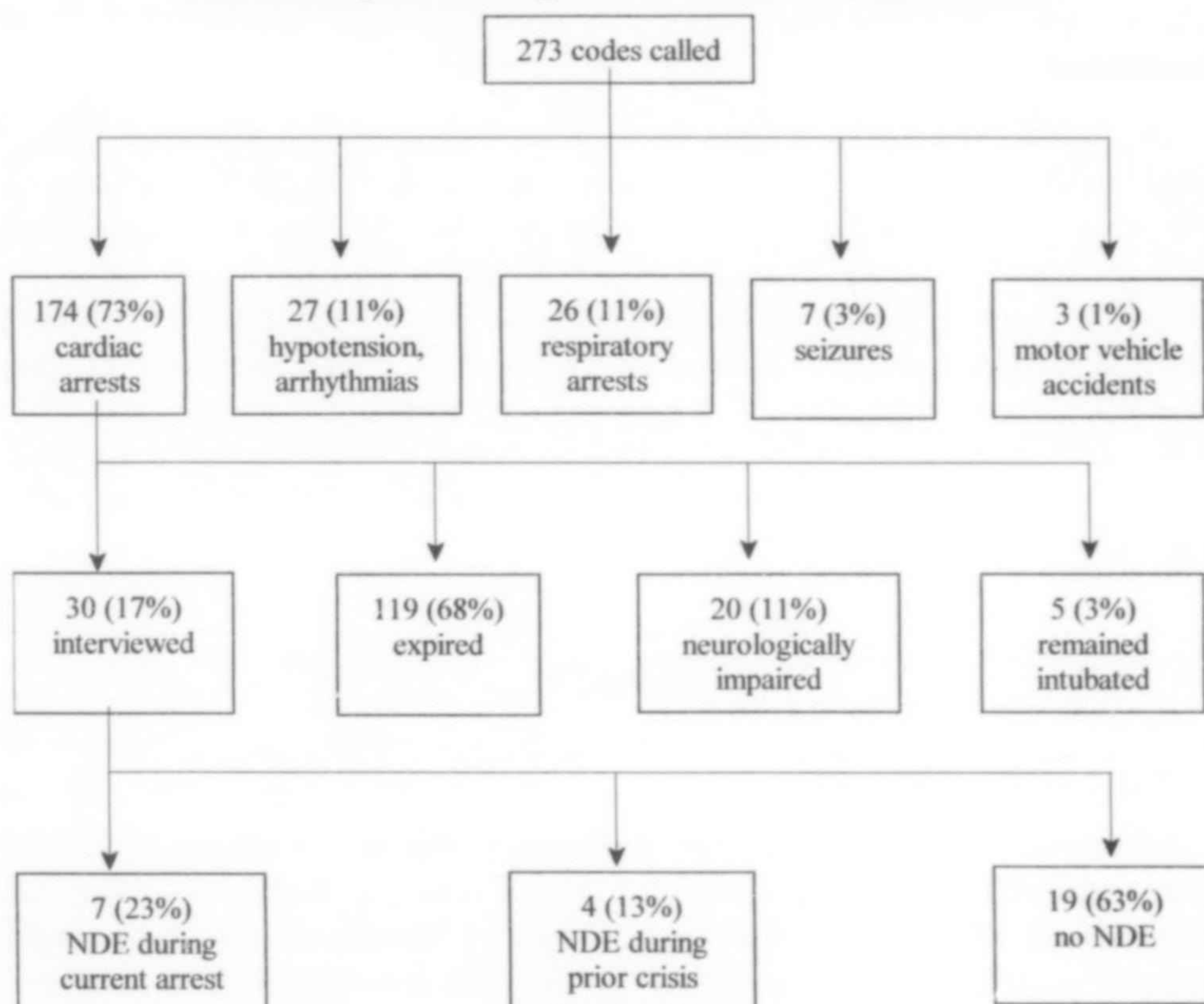
Results

Sample Demographics

During the study period, 174 patients suffered a cardiac arrest, of whom 119 (68 percent) died. Of the 55 surviving patients, 25 were not interviewed: 20 patients (12 percent) had suffered neurologic damage, 3 (2 percent) had neurologic damage prior to the arrest, and 5 (3 percent) remained intubated through discharge. The remaining 30 patients (17 percent) were interviewable and constituted our study sample (see Fig. 1).

Of the 30 patients in the study sample, 15 (50 percent) were male and 15 (50 percent) female. Twenty-nine patients (97 percent) were Caucasian and one (3 percent) African-American. The age range was 23 to 86 years, with a mean of 60 years. Eighteen patients (60 percent) described their religious preference as Protestant, 3 (10 percent) as Catholic, 1 (3 percent) as Jewish, and 8 (27 percent) described no preference. Twenty-two patients (73 percent) were married, 3 (10 percent) widowed, 2 (7 percent) single, 2 (7 percent) divorced, and 1 (3 percent) separated. Six patients (20 percent) had attended college, 19 (63 percent) had graduated from high school but not gone to college, 2 (7 percent) had not gone to high school, and 3 (10 percent) did not describe their educational level.

Figure 1
Study Population Derived from all Codes Called in
Barnes-Jewish Hospital from April 1991 to February 1994,
Excluding the Surgical Intensive Care Unit.



Near-Death Experiencers and Nonexperiencers

Of the 30 interviewable survivors of cardiac arrest, 7 (23 percent) described experiences classified as NDEs by scoring 7 or more points on the NDE Scale. Four additional patients (13 percent) did not have an NDE during the index cardiac arrest, but had had one in association with a prior life-threatening event. For purposes of comparison, these 11 patients comprised the group of near-death experiencers (NDErs), and the remaining 19 patients who had never had an NDE comprised the group of nonNDErs. Of the 19 nonNDErs, 16 had no recollection of their cardiac arrest, and 3 had some recollection but no NDE. Sociodemographic variables of NDErs and nonNDErs are shown in Table I; there were no significant differences between the two groups on these variables. The occupations of the NDErs included four homemakers,

Table I
Sample Demographics

	<i>NDErs (N = 11)</i>	<i>nonNDErs (N = 19)</i>
Gender	4 (36%) male 7 (64%) female	11 (58%) male 8 (42%) female
Race	10 (91%) Caucasian 1 (9%) African-American	19 (100%) Caucasian
Age	23 to 84 years (mean = 53)	29 to 86 years (mean = 64)
Religion	9 (82%) Protestant	9 (47%) Protestant 3 (16%) Catholic 1 (5%) Jewish
Marital status	2 (18%) none 7 (64%) married 1 (9%) widowed 1 (9%) single 1 (9%) divorced 1 (9%) separated	6 (32%) none 15 (79%) married 2 (11%) widowed 1 (5%) single 1 (5%) divorced
Education	2 (18%) attended college 8 (73%) graduated high school 1 (9%) less than high school	4 (21%) attended college 11 (58%) graduated high school 1 (5%) less than high school 3 (16%) unknown

a cook, an electrical engineer, a receptionist, a schoolteacher, a housekeeper, an administrator, and a retiree.

NDE Scale Responses

Table II presents positive responses (responses scoring either 1 or 2 points) to the 16 items on the NDE Scale among the 11 patients who reported NDEs. Transcendental and affective component items received the highest number of positive responses, whereas cognitive component items received the fewest. Those items receiving the highest number of positive responses were a feeling of peace (100 percent of NDErs), an out-of-body experience (90 percent), seeing deceased spirits or religious figures (72 percent), and encountering a brilliant light and a mystical being or presence (63 percent each). Only one of these NDErs reported a life review, and none reported apparent extrasensory perception.

Table II
Number of NDErs (N = 11) Giving Positive Responses to NDE Scale Items

Cognitive Component	
Time distortion	1 (9%)
Thought acceleration	1 (9%)
Life review	1 (9%)
Sudden understanding	2 (18%)
Affective Component	
Peace	11 (100%)
Joy	2 (18%)
Cosmic unity	5 (45%)
Brilliant light	7 (63%)
Paranormal Component	
Sensory vividness	6 (54%)
Extrasensory perception	0 (0%)
Precognitive visions	1 (9%)
Out-of-body experience	10 (90%)
Transcendental Component	
Otherworldly experience	6 (54%)
Mystical presence	7 (63%)
Deceased spirits/religious figures	8 (72%)
Border/point of no return	5 (45%)

Phenomenological Descriptions of NDEs

Those patients who reported an NDE with the index cardiac arrest tended to focus on the specific phenomenological features of the experience and on its significant emotional impact. Those patients who reported an NDE associated with a life-threatening event in the past reported their experiences with the same clarity of detail as if it had also just occurred. Although they had had time to assimilate and integrate the experience into their cultural and religious framework, they had only a slight reduction in emotional response upon discussing their experience.

Patients' narrative accounts of their NDEs were analyzed with Ring's (1980) rating form. All 11 NDErs (100 percent) described ineffability of the experience. Five patients (45 percent) reported a subjective sense of dying, and five (45 percent) reported a subjective sense of being dead. In terms of feelings or sensations during the NDE, all 11 (100 percent) reported peacefulness, 10 (90 percent) reported calmness, 10 (90 percent)

reported painlessness, 10 (90 percent) reported no fear, 7 (63 percent) reported relaxation, 6 (54 percent) reported pleasantness, 6 (54 percent) reported happiness, 5 (45 percent) reported quiet, 4 (36 percent) reported serenity, 4 (36 percent) reported lightness, 2 (18 percent) reported warmth, 2 (18 percent) reported joy or exaltation, 1 (9 percent) reported relief, and 1 (9 percent) reported thoughts speeded up. None of the NDErs reported resignation, curiosity, anxiety, fear, anger, dread, despair, or anguish. Two patients (18 percent) described unusual noises during the NDE.

In terms of the sense of movement during the NDE, 5 patients (45 percent) reported floating, 3 (27 percent) reported moving without the body, 1 (9 percent) reported walking, and 1 (9 percent) reported dreamlike movement. None of the NDErs reported running, flying, or echoic movements. Five NDErs (45 percent) reported feeling peaceful on moving; none reported feeling exhilarated, fearful, panicky, or struggling.

In regard to features sensed, 4 NDErs (36 percent) described a tunnel, 3 (27 percent) described gates, 3 (27 percent) described human figures, 2 (18 percent) described other beings, 2 (18 percent) described a dark void, 2 (18 percent) described an illuminated scene, 2 (18 percent) described music, and 1 each (9 percent) described a city, a long archway, a mansion, a golden palace, a stairway, clouds, and vivid colors. None of the NDErs described a path or road, garden, valley, meadow, or fields.

In regard to a sense of bodily separation, 10 NDErs (90 percent) reported feeling detached from the body but did not see it, whereas 2 (18 percent) reported being able to view their bodies. Nine NDErs (82 percent) reported no sense of time and 1 (9 percent) reported that time speeded up; none reported a sense of timelessness or a normal sense of time. Nine (82 percent) reported no sense of space and 1 (9 percent) reported a sense of infinite space with no boundaries; none reported a normal sense of space. Ten (90 percent) reported no sense of their body, 2 (18 percent) reported feeling light, 2 (18 percent) reported a sense of weightlessness, and none reported ordinary bodily weight. No NDErs reported a sense of loneliness.

In regard to the presence of others, 6 NDErs (54 percent) described God or a higher power, 4 (36 percent) described angels, 4 (36 percent) described a guide or voice, 3 (27 percent) described deceased relatives, and 1 (9 percent) described ambivalent entities. None described living persons or deceased friends.

Seven NDErs (63 percent) reported light or illumination, while none reported colors or that the light hurt their eyes. One (9 percent) reported visualizing scenes from the future, and one (9 percent) reported

scenes from her past. Five (45 percent) reported reaching a border, the "threshold effect."

In regard to feelings upon recovery from the NDE, 9 respondents (82 percent) described a sense that the experience was "real," 7 NDErs (63 percent) described happiness, 3 (27 percent) described disappointment, 2 (18 percent) described resentment, 2 (18 percent) described peace, 1 (9 percent) described anger, 1 (9 percent) described relief, and 1 (9 percent) described joy. No NDErs described shock, pain, or gladness, and none thought the question about feelings upon recovery was irrelevant.

In regard to their concept of death, all 11 (100 percent) mentioned survival of the soul after death of the body, 10 (90 percent) mentioned continuance of life at another level, 7 (63 percent) mentioned peace, 6 (54 percent) mentioned a beautiful experience, 1 (9 percent) mentioned bliss, 1 (9 percent) mentioned a journey, and 1 (9 percent) mentioned reincarnation. None of the NDErs mentioned annihilation, nothingness, a transitional state, merging with universal consciousness, or having no concept of death.

Ten NDErs (90 percent) reported increased appreciation of life after the NDE, 9 (82 percent) reported a renewed sense of purpose, 8 (72 percent) reported feeling more caring or loving; and none reported feeling vulnerable, fearful, curious, or more interested. Ten NDErs (90 percent) reported stronger religious beliefs, whereas none reported weaker religious beliefs. Ten (90 percent) reported decreased fear of death, 7 (63 percent) reported no fear of death, and none reported increased fear of death. Three (27 percent) reported that the NDE helped them recover quicker and 1 (9 percent) reported that it helped save his life.

Follow-Up Questionnaire

Eight of the 11 NDErs in this study (73 percent) returned completed follow-up questionnaires mailed 6 months after the initial interview; two NDErs had died in the interim and one could not be located. Ten of the 19 nonNDErs (53 percent) returned completed follow-up questionnaires; two non NDErs had died in the interim.

Ring's Life Changes Questionnaire. Mean scores of NDErs and nonNDErs on the 42 items of Ring's Life Changes Questionnaire are presented in Table III. As noted above, responses on this Likert-type questionnaire ranged from "1 = strongly increased" to "5 = strongly decreased," with "3" indicating "no change." Those items that showed

Table III
Mean Scores of NDErs (N = 8) and nonNDErs (N = 10) on
Follow-Up Questionnaire

<i>Item</i>	<i>NDErs</i>	<i>nonNDErs</i>	<i>T^a</i>	<i>p</i>
1. Desire to help others	1.50 ± 0.76	2.50 ± 0.85	52.5	.027
2. Compassion for others	1.62 ± 0.91	2.20 ± 0.92	62.5	.211
3. Appreciation for ordinary things	1.37 ± 0.52	2.00 ± 0.82	58.5	.102
4. Ability to listen to others	1.50 ± 0.53	2.40 ± 0.70	50.0	.015
5. Feelings of self worth	1.62 ± 0.92	3.00 ± 0.53	44.5	.009
6. Interest in psychic phenomena	2.12 ± 0.83	2.63 ± 0.74	56.5	.197
7. Concern with material things	2.87 ± 1.13	3.00 ± 1.05	75.0	.963
8. Tolerance for others	1.75 ± 1.03	2.67 ± 0.50	49.5	.026
9. Interest in making a good impression	2.37 ± 0.92	2.90 ± 1.10	66.5	.378
10. Concern with spiritual matters	1.62 ± 0.74	2.50 ± 0.71	52.5	.030
11. Interest in organized religion	1.62 ± 0.92	3.10 ± 1.10	48.5	.012
12. Understanding of myself	1.87 ± 0.83	2.56 ± 0.53	55.0	.087
13. Desire to achieve higher consciousness	1.87 ± 0.83	2.78 ± 0.44	50.0	.023
14. Ability to express love for others	1.37 ± 0.52	2.50 ± 0.71	46.0	.006
15. Interest in living the good life	1.87 ± 0.99	3.00 ± 0.47	51.5	.015
16. Insight into problems of others	1.62 ± 0.92	2.60 ± 0.52	52.0	.025
17. Appreciation of nature	1.50 ± 0.53	2.40 ± 0.70	50.0	.015
18. Religious feelings	1.62 ± 0.92	2.70 ± 0.48	50.5	.016
19. Understanding of what life is about	1.75 ± 0.71	2.80 ± 0.42	46.0	.004
20. Sense of purpose in life	1.50 ± 0.56	2.80 ± 0.42	44.0	.002
21. Belief in higher power	1.62 ± 0.92	2.70 ± 0.67	52.0	.019
22. Understanding of others	1.50 ± 0.53	2.67 ± 0.71	44.0	.005
23. Sense of sacredness of life	1.37 ± 0.52	2.78 ± 0.44	39.0	<.001

(Continued)

Table III
(Continued)

<i>Item</i>	<i>NDErs</i>	<i>nonNDErs</i>	<i>T</i> ^a	<i>p</i>
24. Ambition for higher living standard	1.87 ± 0.99	3.20 ± 0.63	49.5	.006
25. Desire for solitude	2.25 ± 0.89	3.00 ± 0.47	57.0	.049
26. Sense of inner meaning of life	1.25 ± 0.46	2.60 ± 0.70	43.0	.002
27. Involvement in family life	1.50 ± 0.76	2.30 ± 0.82	55.5	.059
28. Fear of death	3.00 ± 1.31	3.20 ± 0.63	72.5	.761
29. Desire to become well known	2.50 ± 0.93	3.20 ± 0.63	63.0	.087
30. Tendency to pray	1.37 ± 0.52	2.60 ± 0.70	44.5	.003
31. Openness to the notion of reincarnation	2.29 ± 0.95	3.20 ± 1.03	49.0	.138
32. Interest in self understanding	1.75 ± 0.71	2.60 ± 0.52	51.0	.018
33. Inner sense of God's presence	1.25 ± 0.46	2.70 ± 0.48	39.0	<.001
34. Feelings of personal vulnerability	2.00 ± 0.93	2.50 ± 0.71	63.5	.246
35. Belief that there is life after death	1.50 ± 0.76	2.80 ± 1.03	48.5	.011
36. Interest in what others think of me	2.25 ± 1.04	3.10 ± 0.99	60.0	.098
37. Concern with political matters	2.12 ± 0.83	3.20 ± 0.79	51.0	.016
38. Desire for material success	2.87 ± 1.36	3.30 ± 0.67	74.0	.885
39. Acceptance of others	1.87 ± 0.83	2.60 ± 0.70	56.5	.066
40. Search for personal meaning	2.25 ± 1.16	2.89 ± 0.33	60.5	.214
41. Concern with social justice	2.12 ± 0.83	2.89 ± 0.33	52.5	.031
42. Interest in death and dying issues	2.12 ± 0.83	2.50 ± 0.53	66.0	.353

^a*T* = smaller of observed sum of ranks, Wilcoxon 2-sample rank sum test.

statistically significant differences between the NDErs and nonNDErs could be grouped into four categories, reflecting (1) changes in spiritual, religious, and/or global attitudes, (2) personal understanding of life and self, (3) attitudes toward others, and (4) changes in social customs.

In regard to spiritual, religious, and/or global attitudes, NDErs reported significantly greater increases than did nonNDErs in an inner sense of God's presence, sense of sacredness of life, tendency to pray, interest in organized religion, belief in life after death, religious feelings, appreciation of nature, belief in a higher power, desire to achieve higher consciousness, and concern with spiritual matters. In regard to personal understanding of life and self, NDErs reported significantly greater increases than did nonNDErs in a sense of inner meaning in life, sense of purpose in life, understanding of what life is about, feeling of self worth, interest in self understanding, and desire for solitude.

In regard to attitudes toward others, NDErs reported significantly greater increases than did nonNDErs in understanding of others, ability to express love for others, ability to listen to others, tolerance for others, insight into problems of others, and desire to help others. In regard to social customs, NDErs reported significant greater increases than did nonNDErs in ambition for a higher living standard, interest in living the good life, concern with political matters, and concern with social justice.

Intuitive and Paranormal Experiences. Patients were asked if they noted any changes since their cardiac arrest in their telepathic ability (defined in the question), the experience of seeming to know what somebody will say before he or she says it, awareness of dreams, and sense of intuitiveness, or if they had ever had an out-of-body experience. As shown in Table IV, a significantly higher proportion of NDErs than of nonNDErs reported increased intuitiveness and out-of-body experiences. More NDErs than nonNDErs reported increases in telepathic ability, knowing what someone else will say, and awareness of dreams, but those differences were not statistically significant.

Physical Changes. As shown in Table V, NDErs and nonNDErs did not differ significantly in their responses to the nine questions addressing perceived physical changes since their cardiac arrest, with the single exception that half the NDErs but none of the nonNDErs reported a sense of a surrounding energy force or shield. The majority of both groups reported changes in their circadian cycles following their cardiac arrest. In response to an open-ended question about physical changes not explored, those NDErs who had contact with a brilliant light often

Table IV
Positive Responses of NDErs (N = 8) and nonNDErs (N = 10)
to Questions About Intuitive or Paranormal Experiences

<i>Item</i>	<i>NDErs</i>	<i>nonNDErs</i>	χ^2	<i>p</i>
Increased telepathic ability	3 (38%)	1 (10%)	1.94	.163
Increased knowing what someone will say	4 (50%)	1 (10%)	3.54	.060
Increased awareness of dreams	4 (50%)	1 (10%)	3.54	.060
Increased intuitiveness	4 (50%)	0 (0%)	^a	.023
Out-of-body experience	5 (63%)	1 (10%)	5.83	.016

^aFisher's exact test used rather than χ^2 .

reported that there had been a direct transmission of the light's energy into them, and that it remained with them after the experience. Other physical changes reported by NDErs included an increase in mental awareness, mood swings, increased sensitivity to cold, tingling sensations in the spine when thinking or saying something negative, and development of a "special touch."

Table V
Positive Responses of NDErs (N = 8) and nonNDErs (N = 10)
to Questions About Physical Changes

<i>Item</i>	<i>NDErs</i>	<i>nonNDErs</i>	χ^2	<i>p</i>
Changes in brightness to the eyes	5 (63%)	3 (30%)	1.90	.168
Changes in skin sensitivity	4 (50%)	4 (40%)	0.18	.671
Changes in circadian cycles	5 (63%)	6 (60%)	0.01	.914
Changes in allergic reactions	2 (25%)	3 (30%)	0.05	.814
Changes in sensitivities to drugs/medicine	0 (0%)	1 (10%)	^a	1.00
Changes in sensations of taste/touch/texture	1 (13%)	1 (10%)	0.03	.867
Sense of a surrounding energy force/shield	4 (50%)	0 (0%)	^a	.023
Looking or feeling younger	2 (25%)	0 (0%)	^a	.183
Any changes in the hands	2 (25%)	2 (20%)	0.06	.800

^aFisher's exact test used rather than χ^2 .

Benefit From Study. All 8 NDErs who returned the follow-up form reported that it had been very beneficial to discuss their experiences before they left the hospital.

Discussion

Alternative and complementary medical therapies are attracting greater interest and are gaining increasing acceptance (Astin, 1998; Eisenberg, Davis, Ettner, Appel, Wilkey, Van Rompay, and Kessler, 1998). In addition, medical personnel are becoming more interested in the psychological and spiritual aspects of medical care, including NDEs.

Findings of previous retrospective studies suggest an association between NDEs and subsequent psychospiritual changes (Greyson, 1983a; Morse and Perry, 1992; Noyes, 1980; Ring, 1980, 1984). The results of this prospective study confirm these findings. Statistically significant differences were observed between NDErs and nonNDErs in regard to changes in attitudes toward personal understanding of life and self, attitudes toward others, and changes in social customs and religious beliefs. There were also perceived physical changes and reports of subsequent intuitive and telepathic abilities.

Two instruments were used to analyze the interview data: the NDE scale and the experience analysis form. The NDE Scale showed NDEs to be categorized predominantly by transcendental, affective, and paranormal components. The experience analysis evaluation showed that these experiences had an ineffable quality and were associated most often with enhanced peacefulness, calmness, painlessness, and lack of fear. There was often a feeling of detachment from the physical body and patients frequently reported no sense of time or space.

After resuscitation, most of the NDErs reported the feeling that the experience was "real." They felt their experiences could not be explained in physiological or psychological terms. Several felt resentful or frustrated at having to return or at being revived, although others described a feeling of happiness. Individuals often interpreted the experience according to their cultural and religious beliefs. Immediately after the experience all of the NDErs felt that when the body dies the "soul/spirit/essence" survives, and most felt that life continues at another level. Experiencers often came to view themselves as integral parts of the universe with an awareness of eternal life. They reported an increased appreciation for life and a renewed sense of purpose in life. NDErs reported stronger religious beliefs, a decrease in the fear of

death, and an increase in feelings of loving and caring. Several of the patients experienced the "threshold effect" and offered as reasons for their return to this existence the pull of loved ones and/or a sense of one's life purpose needing to be fulfilled.

In a retrospective study, Michael Sabom and Sarah Kreutziger (1977) found that 11 of 50 hospital patients (22 percent) who had had a near-fatal crisis with unconsciousness reported an NDE of some kind. Thomas Locke and Franklin Shontz (1983) found NDEs reported by 7 of 32 college students (22 percent) who had been near death. In this prospective study, NDEs occurred in 7 of 30 patients (23 percent) who survived an index cardiac arrest. Although each individual's experience was unique, they all contained features recognized to be characteristic of NDEs. Whether some features are more significant than others or whether each individual weighs the features uniquely is not well understood. For example, contact with a brilliant light is frequently associated with significant psychosocial or spiritual change (Morse and Perry, 1992). The patients in this study who saw the light described it as white, golden, brilliant, and a beautiful white mist, which did not hurt their eyes. Almost all of the patients who had contact with the light felt the light's energy remained with them and reported having a sense of a physical force or energy shield surrounding them after the NDE.

Although it is possible that cardiac arrest survivors who do not report NDEs simply may not remember them, it seems unlikely that NDEs accompany every near-death situation. Of note, a patient who has an NDE with one cardiovascular arrest will not necessarily have an NDE with a subsequent arrest, although this has been reported: indeed one of the seven patients in this study who had an NDE with the index arrest had also had one previously. However, at least one investigator has observed that those having one NDE were less likely to report a second associated with another life-threatening event (Ring, 1980). Of interest, the NDEr in this study who had also had a previous experience reported encountering the same spiritual entity on both occasions.

One patient in this study reported meeting in her NDE a deceased brother whom she had not previously known. The existence of this sibling was subsequently verified by her parents. All the NDErs in this study who encountered a spiritual voice reported the voice as masculine. Several patients reported the development of intuitive and telepathic abilities as a result of their experiences.

Although this study did not specifically address the relationship between the occurrence of an NDE and time to recovery, three of the

NDErs expressed the belief that the experience definitely helped them to recover more quickly. This area warrants further investigation. One NDEr in this study was totally convinced that the experience helped save his life. This raises the question of whether NDEs at the point of death have some survival value. Russell Noyes and Roy Kletti (1976) and Greyson (1983c, 2001) have suggested this idea independently.

One of the limits of this research and prospective studies of this type is the small number of patients who survive a cardiac arrest to report a NDE. Another limitation is the impossibility of personality testing before and after the NDE to record changes objectively.

However, the findings indicate that a powerful spiritual experience does change awareness of spirituality and well-being both over the short and long term. It has the ability to change attitudes about life and death and to affect quality of life. Spiritual experiences thus can have significant impact on health care, potentially affecting recovery and long-term health. As suggested by Glenn Roberts and John Owen (1988), these patients can provide an important model of how therapeutic change can be observed after a brief experience. This example provides an impetus to continue the search for methods to improve patients' mental outlook. For example, the beneficial effects of prayer (Harris, Gowda, Kolb, Strychacz, Vacek, Jones, Forker, O'Keefe, and McCallister, 1999) and meditation on physical health and treatment outcome are now being examined.

Allowing patients to discuss and validate their experiences, express their emotions, and ask questions appears to be therapeutic. Brian Bates and Adrian Stanley (1985) have stressed the importance of how interactions with healthcare professionals affect the subsequent psychological life of the patient. Hospital personnel should be educated to facilitate and encourage discussion of NDEs, to provide education and psychosocial support, and to help individuals adapt and grow from their experience (Clark, 1984; Corcoran, 1988; Greyson, 1983c; Serdahely, Drenk, and Serdahely, 1988). Accepting that NDEs present is an important part of the management of patients who survive a cardiac arrest.

In summary, patients with near-death experiences have a heightened spiritual awareness and experience significant changes in their attitudes toward understanding of life and self, attitudes toward others, and changes in social customs and religious beliefs. Patients also felt it was significantly beneficial to be able to express their experience and to receive psychosocial support prior to hospital discharge.

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The Evidential Value of Near-Death Experiences for Belief in Life After Death

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ABSTRACT: In this paper, I explore the issue of what evidential value near-death experiences (NDEs) offer for belief in life after death. I survey the major positions on this issue, ranging from writers who believe that NDEs already offer convincing evidence for life after death, to physicalists who believe that they offer, at best, a very weak case. I argue that the present NDE evidence does suggest the possibility of life after death; however, such evidence is not yet overpowering or convincing. However, I go on to argue that NDEs *do* offer persuasive evidence for life after death *for the individual who has the NDE*. I end by suggesting that further research should be done on the most impressive type of NDE evidence for life after death, veridical perceptions during an NDE.

KEY WORDS: near-death experience; out-of-body experience; evidence for survival.

Since the publication of Raymond Moody's *Life After Life* (1975), there has been a plethora of literature on so-called "near-death experiences" (NDEs). In such experiences, some individuals who have been resuscitated from cardiac arrest report a sense of separation from the body and experiences that occur during that period of separation. The phenomena reported include viewing one's body, observing its resuscitation, moving in a tunnel towards a light, visions of dead relatives, and visions of religious figures such as Jesus Christ. In order to classify the different sorts of experiences associated with this phenomena, Michael Sabom (1982) has proposed a useful distinction between "autosopic" and "transcendental" NDEs. The autosopic NDE involves a sense of

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separation from the body and may include seeing one's physical body, as well as seeing and hearing one's resuscitation. The transcendental NDE involves visions of "another world," including experiences of religious figures, such as angels or God.

Among the philosophical issues raised by NDEs is what evidential value, if any, they offer for belief in God, divine beings, life after death, or simply some form of survival after death. Individuals who experience NDEs almost invariably are convinced that their experiences were of objective reality; NDEs have, as do mystical experiences, what William James (1902/1958) called a "noetic quality." Could NDEs serve to make a convincing case for the existence of God or angels or life after death? Strangely enough, as Emily Cook, Bruce Greyson, and Ian Stevenson (1998) noted, those who investigate NDEs "have with rare exceptions completely ignored the question of the survival of consciousness after the death of the body" (p. 378), while those who investigate whether the self survives after death "have shied away from NDEs, judging that they offer little promise of yielding convincing data bearing on the survival question" (p. 378), because NDEs are subjective experiences, and the perceptions that occur during NDEs are difficult to verify. Although the issue of NDE evidence for life after death has been discussed more in recent years, further study needs to be done.

This paper focuses on the issue of what evidential value, if any, NDEs offer for belief in life after death. By "life after death," I mean some conscious experience and perception after death; this does *not* necessarily refer to *unending* life after death. I will survey the major positions on this issue, ranging from writers who hold that NDEs already offer strong evidence for life after death to those writers who believe that they offer a very weak case for survival. First, I examine the position of Gary Habermas and J. P. Moreland (1992), who believe that NDEs offer strong evidence for a minimal life after death which includes survival of a personal, nonphysical soul. Their position represents one extreme on this issue and is thus a useful starting point for further discussion. I will argue that their position goes beyond the available evidence. I will then discuss positions that, although denying Habermas and Moreland's position that NDEs offer convincing evidence of survival of death, hold that NDEs are pointers suggesting the possibility of some kind of post-mortem survival.

In the next section, I will discuss the physicalist position on NDEs, which holds that they can be exhaustively explained in terms of physiological processes in the dying body and offer, at best, very weak evidence for an afterlife. I will discuss some characteristic physicalist

interpretations of NDEs, such as the position that NDEs occur due to physiological processes similar to drug-induced experiences. Much of the discussion will center on the work of Susan Blackmore (1993), who holds that NDEs can be explained totally in terms of physiological processes within the body at the point of death. According to Blackmore, NDEs may have psychological value for the individual; however, they do not provide strong evidence for life after death since they can be exhaustively explained neurophysiologically. Although acknowledging the strength of the case developed by Blackmore and other physicalists, I argue that they unnecessarily rule out nonphysicalistic explanations, and that it is possible that future evidence from NDEs could provide a stronger case for life after death.

In the final section, I offer an alternative to both positions. Agreeing with the more nuanced and careful position of writers such as David Lorimer (1984), Paul and Linda Badham (1982), and Carl Becker (1993, 1995), I will argue that, given present evidence, NDEs offer some public evidence for life after death, but more along the lines of suggestions or pointers for further research. Given further research, these pointers have the potential to produce a strong case for life after death based on the NDE evidence. However, I further argue that an NDE can offer reasonable, even strong, evidence for life after death *for the individual who has the NDE*. As an example, I discuss the case of Pam Reynolds (Sabom, 1998), who had perceptions, during a time of no cardiopulmonary or brain function, that are difficult to explain apart from the notion that she had some perception separate from her body. Those perceptions, combined with her perceptions of deceased relatives, do, in my judgment, make it reasonable *for Reynolds* to believe that she had an experience of a "minimal" life after death. But at this stage of the game, without further study, such perceptions do not yet offer convincing evidence for life after death for those who have not had NDEs. Finally, I will discuss a recent study by Sam Parnia, D. G. Waller, R. Yeates, and Peter Fenwick (2001), which represents a promising direction for further study on potential NDE evidence for survival of death.

The Case That NDEs Provide Strong Evidence of Survival

Habermas and Moreland argued for the position that NDEs are "strong evidence for at least a minimalistic view of life after death," which they defined as "life in the initial moments after death, not some

detailed version of heavenly life or even necessarily eternal life" (1992, p. 74). They distinguished "between clinical (or reversible) death and biological (or irreversible) death" (p. 73). Clinical death occurs when there is loss of vital signs such as "consciousness, pulse, and breathing" and is potentially reversible; if it is not reversed, it leads to biological death, which is "physically irreversible." The authors, following Moody, added a third category "between these two," a patient with a flat electroencephalogram (EEG), that is, no electrical brain waves.

Habermas and Moreland argued that four types of evidence converge to make a strong case that NDEs should be interpreted as experiences after death. First, they referred to cases in which people near death, including some clinically dead, describe their surroundings in accurate detail. They summarized a number of cases, including one taken from Melvin Morse's book on the NDEs of children (Morse and Perry, 1990), that of a young girl who almost drowned in a pool. She was later able to describe the physical characteristics of the doctors involved in her resuscitation, details of the hospital rooms into which she was taken, and specific details concerning medical procedures used during her resuscitation. Habermas and Moreland also referred to cases of blind persons (not persons congenitally blind, but persons who became blind later in life) who reported visual details of the people surrounding them in their near-death state. Such specific visual details of the patients' resuscitations suggest some form of separation of the "soul" from the body, which in turn suggest survival of the self in some form after clinical death.

Habermas and Moreland's "second line" of evidence probably should not be listed as a separate category. It is simply the fact that many people who have given such accurate details concerning their resuscitations were experiencing cardiac arrest at the time; Habermas and Moreland referred to Sabom's study (1982) that analyzed the responses to a questionnaire concerning the procedure of resuscitation from cardiac arrest. The questionnaire was given to victims of cardiac arrest who had experienced NDEs and also to 25 cardiac patients who had not. It is important to note although all of Sabom's 25 comparison subjects were chronic cardiac patients, only four had suffered cardiac arrest without an NDE. The responses of those who had NDEs were much more accurate and detailed concerning the procedure of resuscitation than those who did not have a NDE.

The third line of evidence is from patients who had flat EEG readings. Some of these patients reported experiences that apparently occurred during this time of isoelectric EEG activity. Habermas and Moreland claimed that "presently the absence of any EEG brain wave function

is the best and most widely accepted indication that the brain is not functioning" (p. 77). As noted below, this claim is inaccurate. They presented an anecdotal case (taken from Kübler-Ross, 1976) of a woman who was declared dead with no vital signs and a flat EEG who regained consciousness three and one-half hours after being pronounced dead. She revived while being taken to the morgue and accurately described her resuscitation.

The fourth line of evidence Habermas and Moreland presented consists of cases in which NDErs had visions of loved ones who had died, but whom the NDEr did not previously know had died. This provides evidence for the position that consciousness continues even after biological death, in the case of the deceased loved ones seen during the NDE. From these lines of evidence Habermas and Moreland concluded that NDEs provide strong evidence for consciousness continuing when the brain is not functioning, and that this in turn provides strong evidence "of minimalistic life that exists *at that moment after death*" (p. 84, italics original).

Although the case presented by Habermas and Moreland has some force, it does not succeed, at least at this point, in presenting a strong argument for a "minimalist life after death." First, although they did refer to Sabom's statistical research on NDEs, they also quoted from a number of sources, such as the writings of Maurice Rawlings (1980) and Elisabeth Kübler-Ross (1976), that referred to anecdotal cases. Such sources lack the careful research and data gathering found in Sabom's study. Habermas and Moreland replied that there is nothing wrong with using interviews to gain information; after all, historians do the same. This is fair enough, but such interviewing should be done well, under as controlled conditions as possible. Many anecdotal reports of NDEs remain just that—*anecdotal*—because they lack any evidence of a careful attempt to interview all the parties involved in a patient's resuscitation to check the accuracy of the NDEr's report.

There are even more serious difficulties with Habermas and Moreland's case. The claim that a flat EEG is sufficient to diagnose a lack of brain activity is simply false, because the EEG only registers activity on the surface of the cerebral cortex. It is possible that activity continues in other sections of the brain (McCullagh, 1993). There are also, as Habermas and Moreland recognized, alternative explanations for NDE phenomena, including drugs and anoxia, or lack of oxygen to the brain. Although *one* naturalistic explanation may not adequately explain a particular NDE, it is possible that a *combination* of naturalistic explanations may be able to explain every NDE. Plus, physicalist

explanations, which do not refer to a disembodied soul, are more parsimonious than nonphysicalist explanations.

Evidence that supports a physicalist explanation of NDEs includes NDE-like experiences that occur when a person is not near death. A number of drug-induced experiences induced by drugs such as ketamine (Jansen, 1997) and "fear-death" experiences (Owens, Cook, and Stevenson, 1990) that occur when a person is in serious danger, but not near death, mimic NDEs (Noyes, 1972; Noyes and Kletti, 1976; Blackmore, 1993). Some people who do not have health problems and who are not in any immediate danger have reported out-of-body experiences (OBEs) through meditation; sometimes they even occur spontaneously. And as Habermas and Moreland themselves noted, Wilder Penfield invoked NDE-like experiences in his patients by stimulating the temporal lobe of the brain (Penfield and Rasmussen, 1950), which suggests that NDE-like experiences are correlated with changes in brain physiology; and it is a reasonable position to hold that such experiences are caused by the physiological changes.

As impressive as the evidence from Sabom's study is, it is not enough to support the strong evidentialist conclusion of Habermas and Moreland. As already noted, his comparison group did not consist primarily of patients who had experienced cardiac arrest and resuscitation; as Blackmore pointed out, it was not a good control group. (I will discuss her case against Sabom in more detail below.) Further study is needed to corroborate Sabom's results. Even if NDErs do present evidence that they had sensory experience of their resuscitation, this does not necessarily imply a nonphysiological explanation. Other explanations are possible, including forming false memories from hearing things during the resuscitation, or from hearing about the resuscitation later from healthcare professionals or family members.

V. Krishnan (1985) offered a further critique of Sabom's evidence. Krishnan recognized Sabom's claim that some NDErs experience "clear and accurate visual perception" (p. 23). Yet Krishnan did not agree with Sabom's interpretation, partly because the position from which NDErs claim to observe is "nearly always above the level of the body when the experience occurs spontaneously and for the first time" (p. 23). This has even been true in "fear-death" experiences, which may occur, for example, in a person falling from a great height. Krishnan wrote about this point:

If the mediator of out-of-body vision is an element that functions independently of the body, I find no reason why it should position itself only

above the body; it seems reasonable to expect instances of observation of oneself from other positions to be no less frequent. For example, in the case of a person undergoing an OBE when sitting or standing or falling from a height, self-observation is possible from the front at eye-level or below it. (1985, p. 23)

Of course there is no *a priori* reason why NDErs should not view their bodies from the same position; in addition, at times NDErs have the experience of moving away from their bodies into other rooms or even outside a building. I will discuss Krishnan's skeptical case against the survivalist interpretation of NDEs further below. These criticisms are insufficient to show that research such as Sabom's does not offer genuine evidence for survival of death. Sabom's evidence should be taken very seriously, especially regarding veridical perception in NDEs, but it is not yet strong enough, without further large scale studies, to support the claim that NDEs offer "strong evidence" of even a "minimalist" view of life after death.

The Case That NDEs Provide Weak Evidence of Survival

Other writers have seriously considered the positive evidence that NDEs support survival of death, but have been more nuanced and cautious in their evaluation of the evidence than Habermas and Moreland. Among these is Lorimer (1984), who viewed the evidence for life after death from a wide range of phenomena, not limited to near-death experiences, but also including out-of-body experiences (OBEs), reports of individuals who claim to remember their death in previous lives, and apparitions. Lorimer concluded:

the data surveyed are not in themselves coercive or conclusive proof that the conscious self survives bodily death; they are, nevertheless, concrete pointers which demand a coherent and comprehensive explanation. If reports of apparitions, OBEs, NDEs and death experiences are accepted as valid evidence, then materialistic theories of mind have only limited application—to normal processes in the explicate order of appearances. . . . [In the phenomenon of death] conscious experience may well be continuing in an enhanced state, released from the cramping confines of space-time, the physical body, and perhaps even the separate ego. (1984, p. 304)

Such phenomena as deathbed experiences are relevant to the issue of life after death, and OBEs are relevant to the issue of whether the

self can have experiences independent of the body. There is room for researchers such as Lorimer to make use of a wide variety of phenomena to form a convergent case for survival after death. A detailed examination of such phenomena is outside the scope of this paper, which focuses primarily on the evidence relevant to life after death from NDEs, although other phenomena should be considered in a broad based survey of the evidence for life after death.

Badham and Badham (1982) did consider, along with the NDE evidence, OBE research and evidence from deathbed visions of patients. Despite recognizing potential rivals to transcendental interpretations of NDEs, such as hallucinations or physiological factors, they remained impressed by Sabom's evidence of veridical perception during NDEs collected. However, they noted that even these might be explained in terms of prior knowledge of hospitals and resuscitation units, combined with auditory stimuli just before loss of consciousness. Taking a cue from recent OBE research, they suggested that a study be done in which recognizable figures were painted on the light fixtures in intensive care units, so that patients having NDEs would have to see these from above to identify them correctly. If that occurred, it would constitute strong evidence that some part of the human person can exist separate from the body and have veridical perceptions. Such perceptions are relevant to the issue of whether there is life after death:

Near-death experiences are therefore of the utmost importance to research in life after death, for the evidential features in the reports made by resuscitated persons about their supposed observations provide some of the strongest grounds for supposing that the separation of the self from the body is possible. (Badham and Badham, 1982, p. 78)

Badham and Badham then examined the NDE evidence in more detail and wrote that the strong conviction of NDErs that they have experienced life after death has at least some evidential force. They were not impressed with claims of visions of dead relatives, for there are more plausible explanations than an actual vision of the relatives, or as the case of a child who claims to recognize a dead relative seen in his or her vision when shown a photograph of the person, they "strain credulity." Why should the child have seen her relative at the exact same age and appearance as the person in the photo? Cases in which a NDEr sees, with surprise, relatives whom he or she did not know were dead have more evidential force. Badham and Badham were also impressed by the amount of crosscultural agreement between NDE

accounts. There is, then, at least a "*prima facie* case...for treating near-death experiences as evidence for the possibility of personal survival of bodily death" (p. 81), though this evidence is tempered by the possibility of alternative medical explanations, such as cerebral anoxia or the effects of drugs. In the end, despite concerns about the reliability of some NDE research, Paul Badham (his wife, Linda, was more skeptical about life after death in general) concluded that once alternative explanations are ruled out, the NDE evidence does give us grounds to believe that they are

reports of what actually happens at the moment of death. And what appears to happen is that the soul leaves the body and begins to move on to another mode of existence. . . .

There is therefore at least some evidence to support the belief in the immortality of the soul through bodily death. (Badham and Badham, 1982, p. 89)

While agreeing that NDEs offer some grounds for belief in survival of death, I am not convinced that the evidence from NDEs offers "some evidence to support the belief in the immortality of the soul." Even if the experiences are by a disembodied soul around the moment of death, this does not imply that the soul lives forever after death. At most, such evidence would support the view that there is some kind of body-independent experience after death. Whether the NDE is an experience of eternal life does not appear to be a question that can be answered by near-death research. Even so, if the evidence offers some grounds for belief in either bodily-independent experience or some kind of after-death experience, such evidence alone would be of considerable importance, for it would offer a significant challenge to contemporary physicalist interpretations of the human being.

Another writer who believes that NDEs offer some evidence for survival of death is Becker (1993, 1995), who surveyed a number of different types of paranormal experience, including hauntings, apparitions, OBEs, deathbed visions, and NDEs. In his discussion of NDEs, Becker attacked the position that, because NDEs were revived, they could not have been dead, calling that position "specious question-begging because it assumes as a fact the premise that no one ever revives the truly dead, which is precisely the issue in question" (Becker, 1993, p. 93). He asserted that if death is defined "in terms of brain activity, and someone has no brain activity but later reports experiences during that period, we have proof that conscious experience is possible after death, at least temporarily" (1993, p. 97). (This is a problematic claim, because part of

the conception of *death* includes the notion of *irreversibility*, but I shall not argue for that position here.)

Becker then attacked reductionist claims that, since NDEs are like brain malfunctions, they must be "exhaustively described by them" (p. 99), an assertion that, Becker wrote, does not follow. First, experiences with drugs, OBEs, or experiences due to brain malfunction may still open the subject to another world. Second, there are differences between drug-induced experiences and NDEs; for example, far more NDErs (more than 80 percent) "had visions of dead friends and relatives" (p. 104) but only about 20 percent of those having drug induced experiences did. Becker attacked a number of other reductionist explanations of NDEs and held that NDEs as well as "claimed memories of past lives, apparitions and OBEs, and NDEs with paranormal visions" (p. 119) are best explained by the *survivalist theory* that the subject survives the death of the body.

Another generally positive, though cautious, analysis of the evidential value of NDEs is found in an article by Cook, Greyson, Stevenson (1998). They believe that three features of NDEs may offer "convergent evidence supporting the survival hypothesis": "enhanced mentation, the experience of seeing the physical body from a different position in space, and paranormal perceptions" (p. 377). "Enhanced mentation" refers to the heightened perception NDErs have during times in which they should not be having perceptions at all, much less heightened ones. Evidence of heightened perception combined with "diminished physiological functioning at least suggests that consciousness might not be so dependent on physiological processes as most scientists now assume" (p. 379). According to these authors, although crosscultural similarities between NDEs may be due to common physiological or psychological processes, still, enhanced mentation during an NDE offers at least some evidence for the mind's ability to function independently of the body.

Second, there is the sense NDErs have of being out of the body and viewing the body from a different position in space. Of course there are multiple alternative explanations to the hypothesis that the subject really is out of the body, for it is a subjective phenomenon. Present research on OBEs, including that on subjects not near death, has not conclusively shown evidence that an individual experiencing an OBE can perceive specific distant objects. Again, Cook, Greyson, and Stevenson (1998) suggest that the OBE phenomenon in the NDE offers some evidence for the survival hypothesis, but the evidence remains inconclusive.

The most impressive evidence for the survival hypothesis, according to these authors, comes from paranormal perceptions, in which "experiencers report perceiving events that occurred beyond the normal range of the physical senses, events that they could not have perceived normally if they had been conscious" (p. 381). Cook, Greyson, and Stevenson explored several illustrative cases, some from the published literature on NDEs and others from their own files. Although the cases involved apparently veridical perceptions of NDErs, some of them were based on accounts of experiences that occurred many years before they were reported and written down. It was difficult to locate witnesses and medical records for some of the cases.

The most impressive case in their collection, and the one with the fewest problems with alternative explanations, is the last one they discussed, that of Al Sullivan (pp. 399–401). During bypass surgery, he saw his heart "on what appeared to be a small glass table" (p. 399). The most remarkable thing he saw was his surgeon "flapping his arms as if trying to fly" (p. 399). He told his cardiologist as soon as he was able to speak after the surgery. It turned out that the cardiac surgeon would habitually "flatten his palms against his chest and give instructions to his assistants by pointing with his elbows" (p. 400). This was done before he scrubbed in to maintain a sterile operating field. The surgeon, though reluctant to discuss Sullivan's experience, confirmed that he had that peculiar habit. It seems that Sullivan saw him do this when his chest was open, rather than before the surgery, for he remembered his open chest and the doctors working on his legs, a detail that surprised him. However, this does not preclude him having seen the surgeon flatten his palms against his chest just before surgery, remembering that detail, and combining that with his NDE experiences in his memory. Nevertheless, this case offers some evidence of veridical perception during an NDE.

The authors concluded that cases such as those they described offer evidence that is not conclusive, but "suggestive" of survival. The convergence of the three features presented above is particularly important, especially the paranormal perception. They concluded: "Veridical cases are important because they are the single most important kind of case that will enable us to decide whether normal physiological or psychological theories of NDEs (and OBEs) are sufficient" (p. 401). They criticized Blackmore's position that investigating such cases is a waste of time, and argued that reports of veridical experiences should be investigated. The more investigation, the better the reports. They also discussed experiments that can test veridical perception in NDEs, such as those

involving objects out of a patient's sight, and thought that such experiments ought to be pursued, even though opposition by hospital staff have thus far hindered such experiments.

In a more recent paper by these same authors, Kelly (now using her married name), Greyson, and Stevenson (2000) appeared more impressed with the NDE evidence. In the later paper, they wrote that NDEs offer substantial, but not conclusive, evidence for the belief that consciousness survives death. They argued that while any single feature of an NDE may be explained in terms other than survival of death, the conjunction of three features make alternative explanations difficult. These features are:

enhanced mental processes at a time when physiological functioning is seriously impaired; the experience of being out of the body and viewing events going on around as from a position above; and the awareness of remote events not accessible to the person's ordinary senses. (p. 513)

Kelly, Greyson, and Stevenson used two cases as examples of the convergence of these three features: their case of Al Sullivan, alluded to above, and Sabom's case of Pam Reynolds, which I shall discuss below. Impressed with the evidence from both cases, the authors concluded that such evidence is "suggestive of the survival of consciousness after death" (p. 518). Nevertheless, they did not go as far as Habermas and Moreland, for they held that "near-death experiences can provide only *indirect* evidence of the continuation of consciousness after death" (p. 518, italics original), for the familiar reason that the persons experiencing them are only *near* death, and are not *actually* dead. That being the case, the authors concluded that "near-death experiences of the type we have described, together with other kinds of experiences suggesting survival after death... provide convergent evidence that warrant our taking seriously the idea that consciousness may survive death" (p. 518).

I will argue below that the more moderate assessment of the evidence by writers such as Becker and Kelly, Greyson, and Stevenson, is correct: that NDEs are, at this stage, suggestive that there may be conscious experience after death, but do not yet offer convincing evidence, except for the person who actually has the experience. Before returning to this theme, I will now turn to physicalist critics who strongly deny that NDEs offer even "pointers" toward belief in life after death.

The Case That NDEs Provide No Evidence of Survival

Physicalist accounts of NDEs deny that such experiences offer convincing evidence at all for life after death, holding that physiochemical processes in the brain are sufficient explanations for the phenomenon. Beginning with the work of Russell Noyes (1972; Noyes and Kletti, 1976), who argued that the mechanism behind NDEs is depersonalization, a psychological stress reaction to impending danger, a number of writers have proposed various physicalist explanations of NDEs. Some of these writers are not physicalists in an absolute sense, since they argue from a Christian tradition, but they are physicalists when it comes to their interpretation of NDE evidence. Stephen Vicchio (1979, 1980, 1981) agreed with Noyes that NDEs are stress reactions, but added arguments based on his Christian convictions, writing that if there were proof of life after death, that belief would no longer be a matter of faith (Vicchio, 1979). He also held to a strict view that life after death will involve the resurrection of the body, not the existence of a disembodied soul after death, so that disembodied experience is impossible by definition.

Another proponent of this position, Edward Wierenga (1978), presented a similar position on the resurrection of the body and noted, as did Vicchio and Noyes, that NDEers are *near* death, but not *actually* dead. Of course, unlike Noyes, who critiqued NDEs from a physicalist position, Wierenga and Vicchio were not metaphysical materialists. But not every Christian interpreter of NDEs agrees with the conclusions of Vicchio and Noyes; even Habermas and Moreland, who as traditional Christians accept the idea of bodily resurrection, supported the idea that NDEs offer evidence, indeed strong evidence, for perceptual experience in a disembodied soul after death. I would suggest that Noyes, Vicchio, and Wierenga should also be open to evidence that suggests out-of-body perceptual experience during NDEs, and that there is nothing wrong with altering one's metaphysical position if experience suggests it should be altered.

In a recent article that has been influential in the debate over whether NDEs are different in kind from drug-induced experiences, Karl Jansen (1997) modeled NDEs on brain receptors that respond to the drug ketamine. Jansen was clearly hostile towards the survivalist interpretation of NDEs: "NDEs are not evidence for life after death on simple logical grounds: death is defined as the final irreversible end" (p. 5). He also clearly accepted a philosophical naturalism, identifying the

scientific point of view with a denial that a soul can rise from the body with any kind of sensory experience. Jansen noted that the administration of ketamine to subjects produces NDE-like experiences, including the tunnel experience, seeing a light, and experiencing a god-like being (p. 8). He argued that NMDA receptors, the binding sites blocked by ketamine in the cerebral cortex, may play a role in the NDE, in that ketamine-like substances manufactured by the body could block these same receptors during the stressful period near death, resulting in the perceptions associated with an NDE.

As impressive as analogies to drug-induced experiences may sound, they are not free of problems. First, just because drug-induced experiences are *similar* to some of the experiences associated with NDEs, it does not follow that they are the *same* type of experience as the NDE. No one would deny that experiences of a tunnel or seeing a bright light could occur in contexts other than the NDE, including hallucinations or drug-induced experiences. It may still be the case that there are features of NDEs that differ in important ways from hallucinations or drug-induced experiences. Fenwick (1997), for example, argued that ketamine-induced experiences lack the noetic quality found in NDEs: most people under the influence of ketamine do not believe that their experience was of real events, in sharp contrast to the strong noetic quality of the NDE. Fenwick also noted that one of the phenomena to which Jansen referred, temporal lobe seizures, tend to produce haphazard and disorganized experiences, in contrast to the clear vision of most NDEs. He correctly noted that Jansen had assumed that a scientific viewpoint on NDEs would imply a brain-based cause; but there are alternative explanations that might work better, but that Jansen did not consider.

Second, even if NDEs occur at least in part due to changes in brain physiology, this does not imply that *only* changes in brain physiology cause NDEs: there might be other explanatory paradigms that complement or even go beyond the brain physiology paradigm, without denying its importance. This would still be true even if changes in brain physiology related to NDEs are similar to changes that occur under the influence of psychotropic drugs. A good example of openness to multiple explanatory paradigms is found in the work of Morse, David Venecia, and Jerrold Milstein (1989), who argued for a neurophysiologic explanatory model for NDEs, in which "the core NDE is genetically imprinted and triggered by serotonergic mechanisms" (p. 45). But these authors did not limit the explanation of the NDE to serotonin levels; on the contrary, they suggested that while the area in the brain associated with

NDEs may produce OBEs as a response to stress, "it is just as likely that such an area represents the seat of the soul, the area of our brain that serves as a trigger point for the release of the soul at death" (p. 51).

Of course the physicalist might appeal to Occam's razor and argue that an appeal to the soul would multiply explanations without adequate reason. But it could also be argued that the physicalist is dogmatically clinging to a single explanatory paradigm without being open to others; it seems that the debate is at an impasse. This is one reason why the reports of veridical perception during NDEs are so important. If it could be shown that certain perceptions during NDEs cannot be explained without perception outside the body, then this impasse would be broken and NDEs would be evidence that the soul can have perceptions outside the body near death, an important step in the case for some kind of existence of the soul *after* death.

Among the most sophisticated and powerful physicalist interpretations of NDE evidence are found among those who argue that NDEs are due to physiological changes near death, such as cerebral anoxia. A good example is Juan Saavedra-Aguilar and Juan Gómez-Jeria's model of the NDE "based on temporal lobe dysfunction, hypoxia/ischemia, stress, and neuropeptide/neurotransmitter imbalance" (1989, p. 205). Although these authors did not rule out other models to explain NDEs, they were clearly sympathetic to the physicalist camp. Another critic of the survivalist hypothesis, though not a complete skeptic on NDEs offering evidence of survival, is Krishnan (1985). Like Noyes, Krishnan believes that at least some NDEs are probably "biological mechanisms that help the experiencer survive" (1985, p. 21). As mentioned above, Krishnan is interested in whether the OBE is evidence of survival of death. He was impressed by the standard reductionist interpretations of OBEs, that "whatever veridical information the subject relates after the episode may be based on memories, educated guesses, perceptions made in a semiconscious state, and so on; that is, the NDEr visualizes this information in a vivid manner, but does not actually see" (p. 22).

Krishnan referred to the research of Georg von Békésy (1963, 1967), who found that vibrators worn on one forearm caused a point perception, but when worn on both forearms "the point perception suddenly leaps into the space between them; that is, the subject feels that the perception of stimulation is occurring away from the receptor surface" (Krishnan, 1985, p. 24). Krishnan made the analogy to OBEs, arguing that they may be similar misperceptions of location caused by a similar brain mechanism. OBE-like sensations can occur in temporal lobe epilepsy as well.

Krishnan also argued against OBEs being body-independent experiences by noting their similarity to our usual modes of consciousness. If the OBE is truly independent of the body's sense organs, then why can OBEers not perceive "various energy forms such as X-rays, ultrasonics, gamma rays, and so on" (p. 24)? The limitation of OBE perception to those forms of energy we normally experience would suggest that OBEers are not really out of the body. Krishnan noted that at the time he was writing (1985), there was not a case of a congenitally blind person having an OBE; but he also claimed that even if there were, our lack of knowledge of vision would prevent us from using such an experience as support for the survivalist interpretation of NDEs. Krishnan also referred to the cultural relativity of NDEs, and explored various psychological and physiological interpretations of NDEs, such as sensory deprivation, extrasensory perception, and protective emotions, which he thought were more convincing explanations than the survivalist hypothesis.

Not all critics of NDE evidence for survival are willing to reduce the NDE to *just* physiological processes in the dying body. Robert Kastenbaum (1996), for example, like other critics of NDEs as support for survival, noted that NDEs occur *near* death, not *after* death. He also discussed a number of other problems with the NDE evidence: why more people near death do not report NDEs, why some NDEs are frightening and others peaceful, why some people not near death have NDE-like experiences, and why individuals very close to death may actually be "less likely to report an NDE than those who were less endangered" (p. 261). But Kastenbaum is not a reductionist in the sense that he believes that a physicalist explanation of NDEs exhausts its value or meaning. Rather, he supports a phenomenological approach to NDEs, focusing on the experience as a whole and its *functional value*. Still, he remains skeptical when it comes to NDEs offering evidence of life after death.

The critics mentioned thus far have made some significant inroads against the strength of the NDE case for survival. However, physicalist hypotheses must be backed up by studies that correlate NDEs with the physiological causes proposed by critics such as Saavedra-Aguilar and Gómez-Jeria and Krishnan. The lucidity of NDEs as opposed to the experiences to which critics compare NDEs, such as drug-induced, anoxic, or hallucinatory experiences, must be considered (Sabom, 1998). In addition, such physicalist explanations must also contend with evidence for veridical perception during NDEs (Sabom, 1982, 1998), evidence which, at the very least, should throw doubt upon the physicalist explanation of the NDE evidence. A physicalist explanation should not

be held dogmatically on the basis of a prior metaphysical view of the world that is not amenable to change from empirical evidence. To assert in advance that empirical evidence can only imply a physicalist interpretation simply begs the question. And though Kastenbaum was not opposed to scientific study of the NDE, he preferred a phenomenological approach to NDEs and seemed more interested in that approach than the exploration of NDE evidence for life after death.

But the issue of life after death is the most profound issue raised by NDEs, for if they do offer considerable evidence for survival of death, such evidence could profoundly shake our view of reality as a whole. As interesting and helpful as a phenomenological approach to NDEs is, especially in its nonreductionism, it ignores important metaphysical issues, such as life after death, that should be explored. As for the claim of Kastenbaum and others that NDEers were not really dead because death is by definition irreversible, I grant this, but I deny that this makes NDE evidence irrelevant to the issue of life after death. Habermas and Moreland's fourth line of evidence, from NDEers who had encounters with people they had known in life but did not know had died, is clearly relevant to the afterlife hypothesis.

One of the most profound and carefully argued critiques of the survivalist interpretation of NDEs was Blackmore's (1993). Despite her clear physicalist presuppositions, Blackmore was quite respectful of the NDE phenomenon, holding that such experiences can have great psychological value and can even play a healthy, life-transforming role in an individual's life. However, she did not believe that they provide strong evidence for life after death, since all of the reported phenomena associated with NDEs can be explained in terms of the physiological processes related to lack of oxygen to the brain.

In her detailed and technical case, Blackmore addressed specifics of how changes in brain physiology could cause the typical experiences associated with NDEs, such as peace, bodily separation, moving through a tunnel, and seeing dead relatives or religious figures. Her detailed criticism of Sabom's study is important, since Sabom's belief that his patients presented accurate information about their resuscitations that they could not have known otherwise is a key link in the chain of arguments presented by those who believe that NDEs offer real evidence for life after death. Blackmore argued that the details Sabom's patients presented concerning their resuscitations could have been gained in a number of ways that did not imply separation of the self from the body or any form of life after death. She wrote that prior knowledge and expectations of cardiopulmonary resuscitation (CPR) played a role in

creating "memories" of the experience. Without the details of the resuscitation in the medical records, which often leave out the specific details of procedures used, there is no accurate way to check a patient's account to determine whether it is accurate. Also, some NDErs were interviewed years after their resuscitation, and that is more than enough time for these patients to learn about the specifics of CPR, especially since they were resuscitated and might be interested in learning about the procedures used.

Blackmore also critiqued Sabom's control group of patients who had not experienced NDEs: as she correctly pointed out, most of those patients had not suffered a cardiac arrest and resuscitation, and therefore would be less likely to reconstruct the event from details overheard during the resuscitation. Individuals tend to form visual images of things they hear; when most people hear a story, they form concrete mental images of the details. Blackmore gave the example of a story of a cat crossing in front of people walking in the woods; individuals who hear the story form concrete mental images of a *particular* cat of a *particular* color and size, and of the specific appearance of the woods and the sky. The same thing could be happening in NDEs: those who are resuscitated may hear things during the resuscitation or after the resuscitation, and then construct mental images of the details, which are then "remembered." Blackmore went on to note that in cases of "distant vision" that seem to preclude such reconstruction, the reports of the NDEr are usually not specific enough to warrant belief in visual experience, such as a boy who noticed that his two dead grandfathers had brown and black hair. But as Blackmore pointed out, *brown* and *black* are very broad descriptions of a wide range of hair colors.

She also claimed that the seemingly impressive reports of blind patients reporting NDEs are not as impressive as they appear; at the time she wrote (in 1993), there were no confirmed cases of visual out-of-body experiences in patients congenitally blind. Those not blind from birth can construct mental images from what they have heard, similar to people with normal vision. (There have since been reports of congenitally blind individuals who report visual perception in NDEs [Ring and Cooper, 1997].) Blackmore concluded that, since all evidence purported to support an out-of-body interpretation of NDEs is inadequate, and since there is an adequate physiological explanation for NDE phenomena in cerebral anoxia, she saw "no reason to adopt the afterlife hypothesis" (p. 263).

Blackmore mounted powerful arguments against the position that NDEs can be used to make a strong case for life after death. This does

not mean, however, that *no* such case could be made. If Sabom's control group had consisted only of patients who had experienced cardiac arrest without an NDE, and if the NDErs had specific, detailed knowledge of CPR that the control group did not, this would provide considerable evidence for the position that NDErs gained their information from the NDE itself. If there were cases of NDEs in which patients recalled visual information that could only be learned by actually being outside the body, such as recalling *specific* details of the clothing worn by the code team, specific details of the resuscitation including the order of events, or details of the room in which the resuscitation occurred that could have only been learned by actually being there, then this would support the out-of-body interpretation of NDEs, which could then be used as evidence of a "minimalist life after death." If reports of NDErs seeing those whom they did not know were dead turn out to fit the facts of the case, then this would seem to mark some evidence of continuation of life beyond biological death. It is thus possible that NDEs could be used to make a strong case for a "minimalist" life after death; but such evidence is lacking at present. At the end of this paper, I shall discuss a recent experiment that offers a promising direction towards research in this area.

The Case That NDEs Provide Strong of Survival for the Experiencer

How much support does the present NDE evidence, then, actually lend in favor of life after death? For most of us, the answer is "some evidence that should be taken seriously and further researched, but not conclusive evidence." It is too ambiguous to support Habermas and Moreland's position that NDEs offer strong evidence for a minimalist life after death. On the other hand, Blackmore and other physicalists tend to dismiss out-of-hand the notion that NDEs could offer evidence in favor of life after death. I suggest that the truth is a middle way between the extremes: contrary to the physicalist position, NDEs do offer some evidence for survival of death that should be taken seriously; and contrary to Habermas and Moreland's position, it is not yet substantial or convincing evidence, at least for most of us.

However, there is a group of people who have rational justification in taking NDEs to be strong, and even convincing, evidence of life after death. I argue that NDEs can offer reasonable evidence for life after death *for the individual NDEr*. Now one might claim that this is

absurd: how can one group of people rationally take NDEs to be strong evidence of life after death, while the rest of us are not so rationally justified? Actually, such epistemic situations are very common, in which some persons are justified in taking certain evidence as compelling a certain conclusion, while other persons are not so justified. The following example makes this clear. If I see a bear in the woods in an area in which bears are not known to exist, given normal vision, a clear day, and good health, I am rational in taking that experience as convincing evidence that a bear is in the woods. But though it would offer some evidence for others that a bear is in the woods, it does not constitute strong or convincing evidence for them, especially since, in this scenario, no bears were known previously to live in the woods. Other people would need further evidence to conclude rationally that there is a bear in the woods, such as verified reports of more bear sightings or verified bear tracks.

I believe that the NDE evidence for life after death is a similar situation; but one must be careful here. NDEs have a "noetic quality"; often, the experiencers believe without any doubt that they have separated from the body and experienced life after death. But a person's absolute conviction that he or she has experienced an event does not mean that the claimed event was actually the cause of the experience. Experience, even sensory experience, requires interpretation; experience is *experiencing as*. For example, I have a photograph that apparently shows trees in the woods under a clear sky. Almost every individual who sees the photograph is absolutely certain that that is what he or she is experiencing. In order to foster that certainty when I show the photograph to my philosophy students, I turn it upside down; for it is a photograph of the reflection of trees and sky in clear water. The noetic quality of the students' perceptual experience, their absolute certainty, that they were observing a photograph of trees and sky, and not a photograph of a reflection in water, did not make their perception correct (Proudfoot, 1996). The same is true for the persons who have NDEs. Their absolute certainty that the experience was one of their disembodied soul separated from the body, along with the sense of being dead, does not mean that they literally experienced these things.

But there is more to be said. Suppose that a patient suffers a cardiac arrest, has an NDE, and talks to the physician about it soon afterwards (and not years later as in some cases). The individual recalls in detail the process of resuscitation, including who was present, the clothes they were wearing, and the specific layout of the room. Suppose that every detail is correct and is confirmed by the physician and the other

members of the medical staff involved in the resuscitation. Let us further suppose that during the NDE, the patient sees his or her father and brother and is surprised to see them; they tell the NDEr that they are now dead and in another world. Later, after the resuscitation, the patient discovers that his or her father and brother were killed in a traffic accident hours before the cardiac arrest, and he or she had not been informed of that. Would this patient be justified in believing that the NDE offers strong evidence for life after death? I think we have to reply that such a patient would be rational in believing that the NDE offered strong evidence for life after death—for *that individual*. By itself, it would not offer strong evidence for everyone else; a report of the incident would become another anecdotal case, though if carefully studied it could be combined with other cases in a large-scale study of NDEs.

There is, in fact, a case that, though not quite as impressive as the hypothetical example just mentioned, remains quite remarkable: that of Pam Reynolds, a 35-year-old woman with a giant basilar artery aneurysm (Sabom, 1998). In order to remove the aneurysm safely, surgeons performed a remarkable surgical procedure: "This operation . . . would require that her body temperature be lowered to 60 degrees, her heartbeat and breathing stopped, her brain waves flattened, and the blood drained from her head" (Sabom, 1998, p. 37). During the course of the surgery, Reynolds had a very detailed NDE, at first autoscopic and then transcendental. What is remarkable is how well her description of the experience correlated with the stages of her surgery. As her surgery began and her skull was being opened, she felt herself pulled out of her body through her head and, like many NDErs, felt that her awareness and vision were the most acute she had ever experienced. She accurately described her head being shaved and the instrument used to cut open her skull. During her surgery, due to the small size of her right femoral artery and vein, her left femoral artery and vein were connected to the heart-lung machine. A female cardiac surgeon made that decision, and Reynolds recalled hearing a female voice saying that her veins and arteries were small. It is important to note that during this part of the surgery, Reynolds' heart was still beating, and she was not clinically dead.

The next part of her surgery involved inducing clinical death. Her body was cooled and, as a result, her heart went into ventricular fibrillation; eventually it was stopped completely by a potassium chloride injection. Her EEG became flat, and even brainstem activity, tested by a response to clicks emitted from speakers in her ears, could no longer

be detected. Her body temperature reached the 60 degrees required for the surgery to take place, her blood was drained from her body, and the aneurysm was removed. Her blood was returned to her body and her body temperature raised. Brainstem activity returned, shown by a response when the speakers in her ears clicked, followed by the higher brain activity detected by the EEG. Her heart began fibrillating and returned to a normal sinus rhythm after two shocks from a defibrillator. Her surgery was a success.

It was during that time that Reynolds had the transcendental portion of her NDE. Since this did not involve an experience of the operating theater, it is not easy to correlate her experiences with specific points in her surgery. In many ways, her experience was typical of transcendental experiences: she felt herself "pulled," though she said that her sensation "wasn't a bodily, physical sensation"; traveling through something that "was like a tunnel but wasn't a tunnel" (p. 44), and she reported a heightened sense of hearing. At the end of the tunnel was a bright light, and she saw beings of light, which included her grandmother and other deceased relatives. They did not permit her to go further, and although she wanted to go "into the light," she realized she had a family to raise and wanted to go back as well. An interesting part of her experience was when the dead relatives were "feeding" her with something she described as "sparkly." When it was time for her to return to her body, her uncle led her, even though she did not want to go. She mentioned that she saw "the thing, my body." Her uncle "communicated" to her that coming back into her body was "like jumping into a swimming pool." She still did not want to go, but eventually her uncle pushed her, and she said that coming back into her body "hurt." She described accurately the music playing near the end of her surgery as she was being closed up (pp. 44-47).

Sabom had earlier found that NDEs are more likely the *closer* a person comes to death, and he recognized that many of these NDEs were *clinically* dead, but not *actually* dead. Reynolds' case caused him to reconsider his belief that NDEs do not occur after actual death. Reynolds met all the criteria for death based on clinical tests, including a flat EEG, lack of auditory evoked potentials, and lack of blood flow to the brain. (For those who do not accept brain death criteria and prefer circulatory-respiratory criteria, one could note that there was no circulation of blood, and indeed no blood, in her body during the deep hypothermic portion of her surgery.) It was during this part of her surgery that Reynolds had a deep NDE that scored 27 on Greyson's (1983) NDE scale, on which the average score for NDEs is 15, the deepest

of all the subjects in Sabom's study of NDEs. Yet Sabom did not go to the point of saying she was dead, insisting (I think correctly) that physicians cannot raise people literally from the dead. He also noted that many people who are certified as brain dead retain hypothalamic and other brain functions, so it is possible that some activity was still going on in Reynolds' brain. In the end, Sabom held that, consistent with the belief that death is a process, the NDE is a state in which "the person's spirit or soul is in the process of separation from the body" (p. 203). His studies of NDEs have convinced him that they are genuine spiritual experiences, not hallucinations caused by drugs or anoxia.

The Reynolds case is remarkable not only for its depth and the accuracy of Reynolds' recall of her surgery, but also for the degree of correlation between her descriptions of her experience and the physiological state she was in at the time. Physicalist explanations do not explain this case. For example, Kelly, Greyson, and Stevenson (2000) noted that the experiences of Reynolds (and Al Sullivan; see above) cannot be explained in terms of auditory input, because they were clearly visual in nature; in addition, Reynolds' ears were blocked during the surgery. Although one cannot be totally certain of the timing, she reported some experiences that occurred during total cardiopulmonary arrest and during a total lack of brain function. Certainly she is rational in taking her experience to be one of extrabodily perception and, given her vision of dead relatives, of some minimal life after death. For her, then, the NDE offers convincing evidence for survival of death, and she is rational in taking it as such. It strengthens the public case for life after death as well, but it remains only one remarkable case. It does not offer, by itself, convincing public evidence for life after death.

This does not imply that every person who experiences an NDE and interprets it as evidence of life after death is rational in doing so. There may be obvious physiological factors involved in some NDEs: some may be caused solely by cerebral anoxia or by reactions to drugs. The experiences themselves may not cohere: rambling, dreamlike accounts of NDEs would be suspect. The experiences may not fit reality: if someone recalls a resuscitation that did not take place, or while being resuscitated saw a vision of a "dead" relative who turned out to be very much alive, it is unlikely that the experience was one of the afterlife. If the experience is internally coherent, and the recall of sensory experience cannot be easily explained without bringing into play some kind of out-of-body perception, then the NDEr would be rational in holding

at least to a dualistic interpretation of the experience, though not necessarily a belief in life after biological death. If the NDE includes experiences of those who are biologically dead, and such experiences are not easily explained without positing some communication with those individuals who have actually died, the NDEr is rational in accepting some kind of experience after biological death. To say that such positions are always irrational is to rule out by definition the possibility of disembodied experience after death; Blackmore seemed close to doing this herself in her critique of the survivalist interpretation of NDEs. But if one does not rule out by definition such experiences after death, then the individual NDEr, in some cases, is reasonable in taking his or her experience to be strong evidence for life after death.

Whether a strong case can be developed for life after death from NDEs *for the rest of us* remains to be seen. What is needed is research along the lines suggested by Badham and Badham, studies that test for evidence of veridical perception during NDEs, and in which the subjects' experiences are carefully coordinated with their physiological state at the time of cardiac arrest. Sabom's two studies (1982, 1998) correlated the physiological status of the subjects with the times of their NDE experience, and he explored the possibility of veridical perception by correlating the patients' reported experiences during an autoscopic NDE with their medical records.

Another recent study, though relatively small, could be used as a model for further research in this area. Parnia, Waller, Yeates, and Fenwick (2001) studied a group of 63 cardiac arrest survivors who showed no sign of confusion, to determine whether they had any memories of the time they were in arrest, evaluating their reports based on Greyson's NDE Scale. They documented levels of blood oxygen and carbon dioxide, as well as sodium and potassium, during the arrest period, and asked patients about their religious backgrounds and level of religious practice. To test for veridical perception during the NDE, "boards were suspended from the ceiling of the wards prior to the commencement of the study. These had various figures on the surface facing the ceiling which were not visible from the floor" (p. 151).

Seven of the 63 patients (11 percent) reported some memories of the time of their cardiac arrest, and four of these (6 percent) had NDEs. All four NDErs had a sense of arriving at some kind of "border" or point of no return; three of the four reported seeing a bright light and feelings of peace and joy; two of the NDErs reported seeing deceased relatives; and two reported a feeling of heightened sensation. Oxygen levels were

actually higher in the NDErs than in nonexperiencers. The authors believed that such memories during times of cardiac arrest in patients with normal oxygen saturation should at least encourage researchers to consider the implications of NDEs for the mind-brain relationship. Because no OBEs occurred among the NDErs in the study, there was no opportunity to test veridical out-of-body perception. Still, this study offers a framework for others that can be repeated elsewhere. As the authors of this study concluded: "For an adequate prospective sample to be collected so that both the psychological (including out of body experiences) and physiological aspects of the experiences can be looked at in detail, a multi-centre trial is needed" (p. 155). I can only agree with his conclusion and hope that further studies are forthcoming on the value of NDE evidence for belief in life after death.

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BOOK REVIEW

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The Final Entrance: Journeys Beyond Life, by Susan L. Schoenbeck. Madison, WI: Prairie Oak Press, 1997, 164 pp., \$17.95.

Susan Schoenbeck has worked as a nurse, researcher, and educator. Her professional background gives her the authority to write about death, dying, and survival; however, it is her care and compassion that envelop readers. She achieves her heart's desire, to foster the spiritual growth of others, in this exceptional book.

The Final Entrance is intended for professionals and the general audience. Most of it focuses on topics that are of special interest to readers of this Journal: near-death experiences, out-of-body incidents, discarnate entities, deathbed visions, and survival of death in general. Touching anecdotes, meaningful research, and reliable citations support the author's thesis and major points. The lists of outstanding features are highlighted by bullets, making them convenient to examine. Sensitively written and well organized, the book is an easy, interesting, and enjoyable read.

The title, by the way, is, as Bruce Greyson points out in his eloquent introduction, "at once both revealing and misleading" (p. xi). Isn't death just another portal, and not *the final* entrance? Schoenbeck's thesis is that death is a doorway to another existence, and in that respect it is an effective title.

In the first eight pages of Chapter One ("Death is a Life Event"), Schoenbeck says basically that to overlook the spiritual aspect of dying is to disenfranchise one of the most remarkable features of death. She concludes this section: "It is my hope that someday the wonders

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of science and medicine will be balanced with the needs of the human spirit" (p. 8). Actually, the author does not have to wait until *someday* to find the balance. Numerous hospitals now require that every staff member (from receptionists to nurses and physicians) complete a chaplaincy program in order to recognize and support the spiritual needs of their patients.

Next, Schoenbeck offers a brief historical overview of near-death experiences, and then dedicates the rest of the chapter to their characteristics (sense of peace, tunnel, light, life review, and so on). She concludes by presenting the phenomenal life changes that typically result from NDEs and her answer to the logical question:

Why aren't there millions of spiritually-charged people out there doing good works?

One, the process of change is difficult and may take years. . . .

We hold onto the old shoes even if they have holes in the soles, because we do not want to go through the trouble and discomfort involved in changing to a new pair. . . .

[Near-death experiencers] stay in the past busy with all their old responsibilities and frenetic activities that provide excuses for their not taking the time and effort to advance their spiritual development and service to mankind. . . .

Secondly, the opportunity to be heard is not always there for near-death experiencers. (p. 21)

Most authors commonly omit theories, concepts, or aspects thereof, for brevity or simplification. During the editing process, material is further condensed. Every author I know struggles with this issue to some degree. While reading this section of the book, I wondered if that was the case with Schoenbeck, because there are two more reasons why NDErs are not *out there*. One is personality type. Being *out there* is not the introvert's style. An individual can be an effective spiritual catalyst by very private means. A carpenter does not need a jackhammer or coliseum to do good work. Secondly, being *out there* is not part of every experiencer's journey. Ram Dass once confronted Elisabeth Kübler-Ross, "You have thousands of cases, proof of reincarnation. You should be out there convincing people." "That's your journey," Elisabeth explained, "not mine."

Readers can examine the list of commonalities found in stories about spirits (Chapter Two, "Spirits Among Us"). Such stories "sensitize the sacred space within" (p. 25), and of the 15 stories presented in this chapter, none is more touching than the author's own childhood anecdote—her first remembrance of being in spirit form.

"Deathbed Talks" (Chapter Three) focuses on apparitions that are seen and heard by the dying. The purpose of these discarnate spirits is to escort the departing "into another existence" (p. 48). A major point emphasized by the author is that no one leaves this world unattended. Several years ago a physician appeared on numerous television shows to promote his new book, in which he warned families, "Your loved ones are terrified of dying by themselves. You must be there for them." His statements still cause hospice staff to cringe because patients often die (intentionally, in some cases) while family and friends are absent. A common complaint among survivors, who are left to wrestle with their sorrow and grief for many years thereafter, is that they were unable to be there. The physician was pleading, in effect: Don't be so fearful of death that you abandon your terminally ill loved ones. Unfortunately, however, his remarks brought more death anxiety to our already anxious society. People simply do not die alone, and to implant that thought is cruel to patients and their caregivers. As death approaches, everyone is in the accompaniment of deceased relatives or an unconditionally loving presence; therefore, I applaud Schoenbeck and her thoroughness in this chapter.

The terminally ill commonly talk about being with deceased loved ones, seeing glimpses of the world beyond, preparing to go to that world, controlling their time of death, and so on (p. 50). Schoenbeck's anecdote about her grandfather introduces readers to her sense of humor, and it demonstrates that although death is a difficult subject, it doesn't have to be difficult to talk about:

My grandfather celebrated every life event with a drink—all holidays, all weddings, all birthdays. And when he retired from the railroad at age 74, every day became a holiday. . . . His hard and honest way of living made his hour of death even more poignant to me. . . .

The paramedics didn't know my grandfather. At 84, after a full life and sure sense of what he was entering, he would not have wanted their CPR. Grandpa was going to a new life. This was a day to celebrate. I know Grandfather would have just wanted one more chaser. Since they didn't offer him that, he quickly left. (pp. 56–57)

Another anecdote, Jan's story, brings forth a valid point about dying: people often choose the time of death. After a long illness, Jan's mother, Minnie, lay in a nursing home, unresponsive and totally silent. Then, on January 7, Minnie suddenly stirred and asked a nurse for the date. Jan was immediately summoned to the nursing home, but by the time she arrived her mother had died. Jan understood. Minnie's husband

and son had died years prior, on January 7 (pp. 65–67). Schoenbeck concludes this chapter, “It’s funny how when you’re in this business a long time you recognize death coming and, like the patient, you are not afraid” (p. 70).

“When My Eyelids Open in Death” (Chapter Four) focuses on near-death experiences, wherein readers can review the classic characteristics: experiencers move out of the body, feel no pain, travel through a tunnel and light, meet deceased relatives and beings of light, feel peace, and so on (pp. 74–75). Readers are then offered 19 accounts to explore, including frightening or unsettling experiences.

In Chapter Five, “If I Should Die . . . Let Me Go,” Schoenbeck is saying that most terminally people reach a point of wanting to leave this world. She lists their reasons: longing to be free from pain, life purpose has been fulfilled, loved ones are ready to accept the death, and so on. She then states that their not wanting to leave is the result of either yearning to accomplish something or a feeling of obligation to someone here on earth (pp. 108–109). As I read this section, I thought of three other reasons patients do not want to die: they are waiting for a certain date (such as an anniversary or holiday), anticipating a special circumstance (a son’s arrival from the military, the birth of a grandchild, and so on), or they simply fear death or some aspect of it. Schoenbeck concludes this chapter with a significant point:

Research has shown that cardiopulmonary resuscitation (CPR) has limited use for the elderly with multisystem problems. Few survive. Those who survive most often do not regain their prior level of functioning . . . On the average, only two percent of nursing home residents, with a mean age of 82, survive CPR. (p. 121)

Although it may be difficult, there is, indeed, a time to let them go.

In Chapter Six, Schoenbeck covers the art of giving “Comfort Care,” wherein she explains that understanding NDEs enables her to help others. She promises, for example, that no one dies alone, and that the other realm is a good place. In cases where the deaths were caused by devastating injuries, she assures the bereaved that their loved ones were out of their bodies and felt no pain. “Perhaps this is one of the reasons near-death events occur—that others whose lives are touched by death may be comforted” (p. 126). She ends this chapter with the conclusion: “*For the dying it’s comforting. For the living, it’s comforting*” (p. 126).

In “Facts and Beliefs” (Chapter Seven), Schoenbeck lists 16 questions that allow readers to test their knowledge about death. She concludes

by presenting four common theories that scientists believe cause NDEs: drug-induced hallucinations, oxygen deprivation, hyperactivity in the brain, and ego defense theory (pp. 140–141).

In Chapter Eight, which is less than two pages in length, Schoenbeck restates common themes surrounding death, as reported by near-death experiencers. Readers are reminded that NDEs offer potent lessons. In the ninth and final chapter the author suggests “what you can do” to grow spiritually and help others know about death: open yourself up to feeling the spirits all around, decide what you believe about survival, and be with the dying and their families (pp. 145–146). I hope that readers will seriously probe her 24 questions presented in “Plan Your Final Entrance” (pp. 147–148) because no one knows what tomorrow will bring, and when plans for the future are more secure, most people live life more fully.

Schoenbeck’s final conclusions are: no one dies alone, the spirit can exist outside the body, unconditional love is there to welcome the dying, and “peace and dignity can accompany death” (p. 153).

I have only two issues with the book. I was enjoying the meaningful quotes of Plato, Sigmund Freud, Victor Frankl, and Scott Peck when I happened upon one by my former colleague, Elisabeth Kübler-Ross. Catapulted into such fond reflections, I wanted more; thus, I turned to scan the index. Unfortunately, it was missing. A book and author of this caliber deserve an index.

Secondly, in her postscript, Schoenbeck claims that she did not provide readers with anything new (p. 155). I disagree. For individuals just beginning to investigate death, dying, and survival, this book is a deep well of discovery. In the case of seasoned researchers, clinicians, and other readers who have long been engaged in the field, *The Final Entrance* is, at the very least, inspirational.

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BOOK REVIEW

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Cosmic Cradle: Souls Waiting in the Wings for Birth, by Elizabeth M. Carman and Neil J. Carman. Fairfield, IA: Sunstar Publishing, 1999, 734 pp + xii, \$23.95 pb.

This remarkable book by Elizabeth and Neil Carman lends itself to hyperbole, with 633 pages of text, 69 pages of glossary, footnotes, references, and index, a scope that takes in 165 cultures and religions, and a time period that includes most of recorded history and literature. Remarkable also is its fulsome yet tightly focused treatment of a rare topic: preconceptional communication between children-to-be and their future parents. Readers will find it a big book presenting a large picture of the human psyche, a view of ourselves certainly not unprecedented, as the book clearly documents, and one not unfamiliar to persons who have encountered the near-death experience.

On the shelf, *Cosmic Cradle* is an intimidating size, but once inside one finds a logical format of five parts incorporating 34 chapters, many of them brimming with personal experiences on an intimate scale. It will not give you indigestion unless you try to gulp it all down at once. The book begins and ends with striking firsthand reports, my favorite parts of the book: Parts I, II, and V. Parts III and IV carry heavy crosscultural documentation of metaphysical beliefs about the preconceptional world and the "cosmic contracts" that seem to precede conception and entry into the physical world. A short Afterword offers practical tips on how to develop greater receptivity to preconception communications.

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A cogent first chapter provides a wide angle view of a neglected world literature that speaks loudly for the normalcy of preconceptual negotiations between the souls of children preparing to come into the world and their surprised parents-to-be. In their ten-year search, the Carmans found accounts of these communications before biological conception irrespective of gender, age, race, religion, generation, or country. Table I on page 7 displays the sources of these unusual reports: 18 religious traditions, 25 cultures from ancient to modern times, 53 native North American peoples, 28 Australian Aboriginal peoples, 20 African peoples, and many others across the globe adding up to 165 cultures and religions. If you think child-parent communication before conception is a strange new phenomenon, prepare yourself to learn that it is virtually universal in human history. And it is still an untold story. The Carmans do us a service in lifting this widely scattered literature from obscurity to full view.

The organization of the book is logical, with brief thematic introductions followed by short personal stories and the listing of sources where similar reports are found in a range of cultures and countries. The latter are neatly bulleted, making spare use of words in a kind of get-to-the-point journalism. What becomes clear is that children, months or years before they are actually conceived, are active souls communicating on their own behalf with receptive future parents. They are reaching them in visions, dreams, flashes of intuition, meditation, or other altered states. Sometimes the parties meet during a near-death experience. Seven-year-old Katie, for example, awoke from a coma following her near-drowning accident asking, "Where are Mark and Andy?"—future siblings she had already met.

The parents involved in this high level dialogue are, of course, as extraordinary as the children in their readiness for this exchange, doing their part by being interested, open, curious, and highly aware human beings. Some souls remember the whole scenario from pre-conception through gestation, birth, and throughout their lives. The authors refer to this as *gifted memory*. Typically, conversations are as spontaneous and satisfying as the meeting of dear friends after a long absence, with much affection expressed and a completely frank exchange of needs and feelings. The force of the personalities involved is quite obvious and "babies" do not necessarily get what they want. Negotiations can be delicate and ongoing over long waiting periods before all the obstacles are removed and the mother is fully ready for the pregnancy. At that time, conscious conception is reported as a joyous experience for all concerned and feels like a reunion. Communications are purposeful,

but can just as well be sprightly and light-hearted. Such events are vivid and unforgettable for the mother, father, or the siblings involved.

Historically, *Cosmic Cradle* arrives in a friendly context of other frontier works celebrating unexpected feats of consciousness related to pregnancy and birth, including immediate predecessors *Coming from the Light: Spiritual Accounts of Life Before Birth* (Hinze, 1994) and *Soul Trek: Meeting Our Children on the Way to Birth* (Hallett, 1995). These books were the first to contain many first-person accounts of infant-parent communications prior to conception and/or prior to birth. Books about one mother's experience of communication during pregnancy include *Diary of an Unborn Child: An Unborn Baby Speaks to its Mother* (Coudris, 1985/1992) and *Cheyenne: Journey to Birth* (McManus, 1999). Roy Mills has written about his extensive memories of life before conception in *The Soul's Remembrance: Earth is not our Home* (1999).

Also in the same context of pregnancy and birth are works in the expanding field of prenatal and perinatal psychology, including *The Secret Life of the Unborn Child* (Verny and Kelly, 1981/1986), *The Mind of Your Newborn Baby* (Chamberlain, 1998), *Your Amazing Newborn* (Klaus and Klaus, 1989/1998), *Remembering Your Life Before Birth* (Gabriel and Gabriel, 1995), and the more recent *Parenting Begins Before Conception: A Guide to Preparing Body, Mind and Spirit For Your Future Child* (Luminare-Rosen, 2000). An even larger context of supportive literature on human consciousness is, of course, the abundant research on near-death experiences so familiar to the readers of this Journal. I would add also the less familiar body of research on psychic phenomena, particularly telepathy, which helps to explain the remarkable effectiveness of prenatal and perinatal communications between infants and parents (for example, Szejer, 1997).

The authors of *Cosmic Cradle* correctly sense the prime importance of neglected epochs of human development, including the exiled territories of perinatal psychology, prenatal psychology, and now preconception psychology, to which their volume promises to make such a distinctive contribution. Since 1980, in my own published papers, I have chronicled the rapid accumulation of scientific findings about the realities of life at birth, life before birth, and in recent years, life before conception—areas that after all this time are still mostly invisible in academic medicine and psychology. As a practicing clinician, however, I had a secret advantage: clients who were teaching me every day that these areas were *not* outside the bounds of personal memory. Another advantage I had was the book *Life After Life* (Moody, 1975), given to me by a colleague as a Christmas present in 1976. From this book I quickly realized that

the unpredicted cognitive power of persons having near-death experiences, far removed from their physical brains, matched exactly the unpredicted cognitive power of newborns and babies in the womb who, in hypnosis, could tell me all about their experiences despite the pitiful status of their brains. This was when I began to think about the need for a larger paradigm to explain babies and ourselves.

Cosmic Cradle arrives at a time in the history of psychology when there may be a more favorable response to the type of research data that give the book its special clout: self-report. Psychologists have not always agreed on the relative merits of different methods of research. At one extreme, at the beginning of the 20th century, academic psychology wanted above all to establish itself as a science; therefore the study of consciousness was sacrificed and the methods considered valid were experimental methods, preferably measuring with "brass instruments." Over time, the value of evidence obtained in clinical situations asserted itself and eventually found grudging acceptance beside the experimental method.

A later arrival was the cautious appreciation of data offered by individuals in the form of self-report, also known as "anecdotal" evidence—a term often meant as a put-down. These data are perhaps the most undervalued in psychology today, although they are often the leading edge of the field, anticipating realities that may take a decade longer to formalize in experimental research. In my opinion, we should celebrate self-report as indispensable and priceless in psychology. As a method, self-report gains persuasive power when repeated observations can be made—an enduring principle in science—and when many examples can be found, especially if they come from widely scattered regions and cultures over centuries of time—the unique advantage of cross-cultural research.

Cosmic Cradle's principal data on the stratospheric heights of human memory, functioning (as claimed) *before* conception and therefore prior to the physical brain, could be a wake-up tonic for psychology. However, these data challenge psychological theories of memory on a critical point: their complete dependence upon brain matter. The common ground shared by pioneers in near-death research, newborn cognition, prenatal intelligence, and preconception wisdom is that the farther reaches of memory are indifferent to the location and status of the physical brain. Moving backward from birth, memory is increasingly deprived of the brain matter that is used to explain it. This materialistic foundation of memory, though it has seemed plausible in our contemporary scientific culture, is proving inadequate to explain the

most interesting and important discoveries in consciousness research in the last century. We are being forced to articulate a larger paradigm.

With a title like *Cosmic Cradle: Souls Waiting in the Wings for Birth*, this book will not easily be recognized by search engines racing to add to a database in medicine or psychology. In this respect its appearance reminds me of the innocent way Raymond Moody's *Life After Life* entered the world. Neither book fits in what we would now call the old paradigm of understanding human life as *matter*, particularly brain matter, and nothing more. With 20/20 hindsight, we should now be able to appreciate that both books contribute greatly to a new paradigm of the human mind and soul as consciousness vaulting well beyond the body/brain.

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The first part of the document discusses the importance of maintaining accurate records.

It is essential to ensure that all data is entered correctly and consistently.

This will help to avoid any discrepancies or errors in the final report.

The second part of the document outlines the various methods used to collect data.

These include interviews, surveys, and observations, each with its own strengths and weaknesses.

It is important to choose the most appropriate method for the research objectives.

The third part of the document describes the process of analyzing the collected data.

This involves identifying patterns, trends, and relationships within the data set.

Statistical analysis is often used to quantify these findings and test hypotheses.

The final part of the document discusses the importance of presenting the results clearly and concisely.

This includes the use of tables, graphs, and charts to visualize the data.

The conclusion should summarize the key findings and provide recommendations for future research.

Overall, the document provides a comprehensive overview of the research process.

It is a valuable resource for anyone interested in conducting research in this field.

The information presented here is intended to be a guide, not a strict rulebook.

Researchers should adapt these principles to their specific needs and circumstances.

It is hoped that this document will be helpful and informative to all who read it.

Thank you for your attention and interest in this subject.

Yours faithfully,

[Signature]

Letters to the Editor

Harold Widdison's Book Review of *Children of the New Millennium*

To the Editor:

The Summer 2001 issue of this Journal carried two reviews of my book, *Children of the New Millennium* (Atwater, 1999). The first was by Thomas Angerpointner, a specialist in children's surgery in Germany (Angerpointner, 2001); and the other was by Harold Widdison, a professor of sociology at Northern Arizona University (Widdison, 2001). The former was supportive, perhaps excessively so, while the second was highly critical, raising questions that need answers.

I welcome what is now happening in the field of near-death studies. None of the researchers in our field, including myself, has been as unbiased with his or her work as claimed or believed. And I have been outspoken about this for years, in talks I have given, in articles, and in books (Atwater and Morgan, 2000, Chapters 1 and 23), describing the problems and challenges most of us have had to face to one degree or another, and where I believe we have succeeded in our stated goals and where we have fallen short.

There is no question in my mind that the majority in our research community have done their best and have contributed mightily to an ever-growing body of research findings that speak not only to the phenomenon of near-death but to the field of consciousness studies itself—and far too often at great personal cost. As the call to revise and reconsider previous work heightens, it is only fair and proper that I take my turn as the subject of rigorous criticism. I have wanted to set the record straight about the book *Children of the New Millennium* and about my research of child experiencers for some time. Thanks to Widdison, I now have that opportunity.

Entertainment Versus Education in the Publishing Industry

With the incredible success of Betty Eadie's first book (Eadie and Curtis, 1992) and that of Dannion Brinkley (Brinkley and Perry, 1994),

the publishing industry discovered that a lot of money could be made from books by near-death experiencers who were not shy about dramatizing their stories. But the large publishing houses were not interested in books about near-death research unless the manuscript was short, snappy, and provocative. Several turned to "package" agents who could provide professional co-authors for the polish necessary to gain entrée to better contracts and wider appeal, a move that enabled them to triumph in a less-than-friendly marketplace.

This situation has accelerated over the years. Imagine then my great joy when a major publishing house expressed interest in my study of child experiencers of near-death states. The manuscript, titled *Second Birth*, was delivered on time and as promised in 1997. Marketing departments, not editors, by then determined a publisher's interest; and it was the marketing department, in a sudden change of strategy, that demanded that my book be rewritten as a sales pitch for the new millennium—and either I cooperate or my contract would be canceled. I found out that because of a technicality in my contract that both my agent and I had missed, the house could do what they said, even sue me for the return of my advance if I refused. Their orders were specific: chapters and length of chapters to be cut almost in half, only declarative statements could be used (no qualifying terms like "implies" or "suggests"), and quotes from parents were out. I also had to weave into the text material about evolution and the "new children." Actually, the latter was not that difficult, as I already had explored the topic in the theoretical model I am building (*Phase II Brain shift/spirit shift: A theoretical model using research on near-death states to explore the transformation of consciousness*; available through my website at www.cinemind.com/atwater).

Widdison's complaints about the declarative language I used in the book, my over-emphasis on evolutionary aspects, missing material that should have been included, and the overall tone to *Children of the New Millennium* are astute observations and absolutely correct. In consideration of what happened with the book, I comfort myself in the amount of material I was able to save, a range of cases and observations that deserve a closer look from the medical and psychoanalytical community.

A Question of Protocol

I have never at any time called myself a scientist or presented myself as a scientist. Widdison is well-trained as a statistical analyst, even teaching the science at the university level. I bow to his expertise, for

I have no such training. Granted, someone like Widdison could set up measurement studies and use the proper instrumentation that would produce a more scientific comparison of what can be found with near-death experiencers versus what shows up in the general population. Conclusions drawn from this effort appear to be solid; further testing by other researchers using the same method and finding the same results seems to establish validity. Thus, the use of control groups and statistical analysis is the preferred style of study—except with consciousness. Research in this area has, for the most part, failed to encompass the full import of what was to be examined, and I suspect that that is because the scientific method is not designed to address an unknown range of variables. Only a multidisciplinary approach can reveal truly what the near-death phenomenon might tell us. How can we hold to protocols that overlook or miss observations that later prove to be important? Does not our search cover whatever we find, no matter how insignificant that may seem at the time? Is not our goal in near-death research to view the phenomenon from 360 degrees? Must there be only certain ways this has to happen?

The Determinants of Value

Never have I based any of my studies on a questionnaire, for the simple reason that I do not trust questionnaires. No matter how clever the researcher is or how tested the questions are, the language still leads. Yes, questionnaires can be helpful in testing memory and in determining range and content of involvement in the subject matter being investigated. And, yes, there are provisions in the methodology to account for those who lie or exaggerate. Yet none of this puts me at ease. Hence, I remain a fieldworker who holds one-on-one sessions, specializing in open-ended questions and observation of nonverbal cues and body language. I am very subtle in the way I work, seldom announcing myself or my intent so that I can be received as a curious and friendly person who simply listens. There was a time when I labeled myself as a researcher, made appointments, and held sessions. It did not take me long to realize that by doing this I automatically set up barriers that created an atmosphere whereby the experiencer would try either to impress or to test me. The more nondescript I became, the more at ease the individual felt. The more sincerity I projected nonverbally, the greater the flood was of information that poured forth. I did my best to keep to a style and technique anyone else could utilize, so my work could be replicated. I put my own experiences, what I learned from them and

how my life was affected by them, on a "shelf" in the back of my mind so I could be fully present, objective, and clear.

The research in *Children of the New Millennium* is based on my study of 277 child experiencers, *not* the questionnaire. I created the questionnaire for use with people I had already researched as a way to cross-check and challenge what they had previously told me. (I also sent it to experiencers I had not met just to see how they would handle the task of filling it out.) Many of the questions are indeed leading, and if taken out of context from the instrument itself, will appear to be rather foolish. The numerous sections in the questionnaire were designed to enfold on each other, constantly bringing the individual back to that moment of his or her near-death episode, pushing, probing, digging deeper. It is not the questions themselves that set the questionnaire apart, but, rather, the design itself and how it affects the one filling it out. Some said their initial response to the instrument was anger, but once they completed it they found themselves rethinking what had happened to them and the extent to which their lives had changed. For most individuals, my questionnaire took days if not weeks to fill out. I declared the percentages gleaned from the questionnaire *only* because they matched so nearly what I had found in the larger group—and I said so in the book. I also admitted the one deviation I had found and that concerned those child experiencers once grown who were employed in the fields of mathematics, science, or history. In the larger group it was 40 percent, but from the questionnaire it was only 25 percent. All other aspects were compatible between the two groups, and because of this I felt it would be proper to list the questionnaire percentages as I did. The book, then, is a true study of 277 individuals, not just of the 44 child experiencers of near-death states who filled out the questionnaire. Although I stated this in the book, it was explained more clearly explained in the original version, before that explanation was removed in final editing.

With adults and teenagers it is easier to check on the aftereffects, as before-and-after comparisons can be made. This cannot be done with very young children, especially infants and newborns. What I did to compensate for this was hold sessions with parents and relatives whenever possible, usually mothers and aunts. It was the families who verified how different their children were, how they seemed somehow not to fit into the family unit as did the other siblings. Nor did the children match genetic patterning going back several generations. This both puzzled and concerned the families I spoke with. In only a few cases could I link the unusual jumps I found regarding intelligence and abstractions with traits already present in the family.

Nothing would have come from my observations of child experiencers had it not been for a guest appearance I shared with Melvin Morse on a television program in 1994. Several children from Morse's study gave their own unique version of what they had experienced. He left immediately afterwards, leaving me with the children and their mothers. What I heard from both groups was complaint after complaint about what life was like now, in contrast to much of what Morse had claimed in front of the cameras. I asked them if they knew anything about the pattern of aftereffects typical to these experiences. They did not.

I had noticed since my beginnings as a researcher in 1978 that children differed markedly from adults in processing and integrating their near-death episodes. My hesitation in pursuing this centered around my lack of medical training and my inability to conduct the clinical tests I thought would be necessary. I finally tackled the project, an in-depth study of child experiencers of near-death states, thinking that whatever I found would inspire researchers with credentials to cross-check my findings. The real determinant of value, in this case, was the faith it took me to do the job.

Judgment Call

Throughout the years I have spent researching near-death experiences, my strongest supporters have been the experiencers themselves. Widdison was quite right in writing that I do not follow the protocol others do and that therefore it is difficult to measure or judge my work. But I question his reasoning that my books, and especially *Children of the New Millennium*, must be regarded as hardly more than collections of mere anecdotes. What do we gain if our perfected research instruments describe the ins and outs of a phenomenon when a fuller and more detailed picture can be obtained by widening the lens of the microscope we use? Do I toss my findings because I cannot prove them the way others do? What about the experiencers themselves who testify as to worth?

Take a look at some of the things I discovered: half of my research base could remember their birth; a third had prebirth memory and for most of them that memory began at about seven months *in utero*, around the same time medical science tells us that the fetus can feel pain; males and females had equal jumps in spatial ability and intelligence; the majority of those with the greatest enhancement in mathematical ability also experienced an equal enhancement in musical prowess, as

if the regions for music and math in the brain, which are located next to each other, were accelerated together as a single unit; the younger the child when the experience occurred, the more apt he or she was to abstract early and score in the range of genius when old enough to take an intelligence test. What are we to make of these observations? Shall we ignore them?

Linda Silverman, a psychologist who has specialized in giftedness and genius in children, told me in a telephone conversation that about 80 percent of the children she had studied who had IQ scores greater than 160 had experienced serious birth trauma and had gone on to exhibit all of the aftereffects I had described as typical for child experiencers of near-death states—as if they, too, had had such an episode. Because of my discovery that children are six times as likely as adults to repress their episode, I find it reasonable that the pattern of aftereffects that can occur after a close brush with death or the cessation of vital signs can be used as an indicator to suggest that the child may possibly have had a near-death experience.

And in connection with the statements I made about evolution and the Millennial Generation, I quote from a personal communication from Silverman: “Even more remarkable, in the last month, I’ve come across children who are so far evolved beyond anything I’ve seen in my 4-decade career in this field that neither heredity nor environment can explain their advancement, their wisdom, their sense of mission, their adult minds, or their moral development. The only explanation is evolution. They must be what I am calling ‘Evolutionary Outliers’” (L. Silverman, e-mail communication, March 12, 2000).

Where did the experiencers come from in the various studies I have conducted? The vast majority I met through pure happenstance. It mattered not where I was or what I was doing, nine chances out of ten the people nearby would turn out to be experiencers just waiting for someone to whom to tell their story. The experiencers I connected with in this manner were average Americans for the most part; a number were foreign born. They did not know me and I did not know them. Whenever possible I also spoke with their families, friends, and healthcare providers. To augment this, I sent notices to various “New Age,” healthcare, and educational magazines and newsletters to announce my project and my desire to find more experiencers. Other experiencers were present in audiences when I spoke of my own experiences. Once, just as an experiment, I went door-to-door in a residential area asking if anyone in the household had had a near-death experience.

More than 70 percent of the medical practices used today came from observers who questioned, examined, probed, and listened, without benefit of scientific or statistical models. The end results have served the profession well and proved helpful.

Truth at Risk

Widdison objected to a particular notation that appeared on the back of my book. I never wrote those words and was frankly quite embarrassed by the manner my publisher chose to advertise the book. The same thing happened to Widdison himself when Craig Lundahl and he published *The Eternal Journey* (Lundahl and Widdison, 1997). I thought that book contained blatant errors and offered little of consequence to the field; but as it turned out, most of the errors I had objected so strongly to were actually hype created by his publisher to ensure sales.

During the first decade of my work, I was unable to understand or appreciate the criticism I received. I learned, however, that such negatives could be positives if I used them to improve what I was doing. That is why I am not upset with Widdison's critique, and that is why I encourage other researchers to speak up as well. None of us should feel pressured to support what we disagree with; but neither should any of us be on the attack, put down, or threaten lawsuits just to assuage hurt egos.

The stack grows of "authoritative" tomes that are little more than trash, and some mediocre studies are praised beyond their worth. Differing viewpoints must always be encouraged, of course, but so must the honest assessments of knowledgeable parties. At times, even the best in our field have made statements that later proved to be an exaggeration or misleading; while sometimes it is the media who twist things around and in the name of sensationalism fashion tall tales. An example was Raymond Moody's bestselling *Life After Life* (1975). The list he gave in that book of elements commonly present in near-death experiences he never meant to become a model that identified the phenomenon itself, nor did he have any idea that his conclusions would be considered scientific evidence of life after death. He set the record straight in his latest book, *The Last Laugh* (Moody, 1999).

A few years ago, Bruce Greyson, frustrated with the lack of clarity and precision in defining near-death experiences, surveyed a number of researchers regarding a brief, concrete set of criteria that could be used to identify such experiences. Not too long ago I asked him how things

turned out. He replied that there was astonishingly little agreement between any two researchers' lists of features that might define a near-death experience. So here we are, in the year 2002, and we have yet to produce a reliable set of criteria to define the phenomenon. Moody's conjectures in 1975 are still conjecture. Yet the public believes that what was originally described in *Life After Life* is gospel, and that belief has been "verified" by so many researchers that a cultural myth of international proportions has emerged.

A few researchers have now turned to the internet to obtain cases. I have become quite leery of this, since one of the cases I described in *Beyond the Light* (Atwater, 1994) appeared almost word for word under a different name in a recent book by Kenneth Ring and Sharon Cooper (1999). Jeffrey Long and Tricia McGill had interviewed a woman who had contacted them through the internet website of their Near-Death Experience Research Foundation (www.nderf.org), and they had recommended the case to Ring as a remarkable one. When the woman was confronted with the similarity of her case to the one published previously in my book, she confessed to the fraud, leaving Ring and Cooper to offer embarrassed apologies.

Internet aside, I have encountered such a large number of people like this woman in the last five years, along with numerous experiencers interested more in protecting the copyright to their stories than participating in research, that I could not duplicate today what I have previously accomplished. Widdison disagreed with me about that, but I stand by that statement.

Conclusion

One of several determinants I used for assessing the possibility that an individual could have been in a state conducive to a near-death experience was the cessation of vital signs for a minute or more. I did not often check that with attending physicians because most had neither the time nor the interest to respond. The bulk of information I obtained came from relatives, nurses, and counselors, although on occasion I was able to view x-rays and read medical reports. I made no special notation of those who were without vital signs for an hour or more, because I found so many of them that I did not consider the event extraordinary.

But when Greyson was fact-checking a recent article I had written for a regional magazine (Atwater, 2001), he questioned my observation that

many experiencers had been without vital signs for more than an hour, and he challenged me to produce details. Because only a few names came to mind, I withdrew the statement. But the incident bothered me. I felt as if by backing away from the confrontation I had allowed a falsehood to be created. I had encountered exactly what I had claimed, yet my inability to prove this was frustrating. What I learned in reviewing my research shocked me: I have a bias that I never before realized that I had—and it is a big one.

Like the vast majority of other near-death experiencers, I no longer fear death. In my case, death no longer impresses me as anything other than a shift in perception. I am incapable of appreciating death's so-called finality. Because of this I treated individuals who were without vital signs for five minutes as equal in every way to those who revived in the morgue after being pronounced clinically dead one to two hours before. My focus centered instead on what was experienced and any aftereffects that might have resulted versus how this could compare with the individual's previous behavior. I made no attempt to record the identity of anyone "dead" for lengthy periods of time. This is why I have consistently made little fuss about miraculous survivals. How critical this bias of mine will prove to be in future evaluations of my research will be for others to decide. No matter how careful we are as researchers, we all make mistakes, and this one is mine.

The current climate in the publishing industry with the rise of media conglomerates is inimical to educating the public about valuable research findings. Furthermore, what is published in peer-reviewed journals seldom trickles over to media channels. Perhaps it is the flood of information with the advent of our technological age that causes this, or maybe the greed of new media barons lies at the heart of the problem. But I have noticed that with researchers the main guarantor of attention (and book sales) is what I call the "gee whiz" factor of having been personally transformed by the sheer magnitude of what was encountered during studies of near-death experiencers. To what degree does this factor bias conclusions? Is the bias I recognized of late in myself any different? And to what extent can we really cleanse our own field and judge each other?

Last year, while standing in prayer in the Basilica of St. Joseph's Oratory in Montreal, my third near-death experience unexpectedly re-occurred. And I have no descriptive words to offer for what I encountered except to say that I was overwhelmed. Technically, the episode would be classified as a near-death-like experience, because I was in perfect health and not threatened. Of my three near-death experiences, the

third one haunted me the most and was the most traumatic in the sense that it stretched me beyond anything I could accommodate to as reality. And it is where "The Voice Like None Other" spoke, outlining the research I would later do. During this return episode the hard-driving, compulsively disciplined energy I was originally given was withdrawn. The energy that replaced it was softer, peaceful. It is almost as if one phase of the life I gained in dying has been completed and another begun.

I know that, by admitting this, my objectivity and my involvement in the field of near-death studies will forever remain suspect. Perhaps that is just as well. The peace that now fills me leaves no room for the approval I once thought I needed.

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Harold Widdison Responds

To the Editor:

When I wrote my review of *Children of the New Millennium* (Atwater, 1999), which appeared in the summer issue of this journal (Widdison, 2001), my intent was to examine the methodology used to collect the materials cited in the book. P. M. H. Atwater had claimed (1999, p. 8) that this methodology raised her book from a collection of anecdotal cases to one of empirical substance. In my review, I pointed out not only that she misused statistical analysis but that her methodology was inadequate and faulty. But somehow Atwater projected my critique of the methodology used in this book to all her other books and research. This I did not do—and I clearly stated so in the first paragraph of my review. My review was not intended to invalidate the conclusions she drew, but to assess the methodology she used. If the methodology were sound, then the next step would be to evaluate her conclusions. If it were inadequate or faulty, then the data she used would not support any conclusions made.

Her response seems less directed toward my review than to a review of her ideology and beliefs concerning children and the impact on them of a near-death experience. Atwater claims to be one of the first researchers of the near-death experience (NDE). But it is not exactly clear what she means by *researcher*. She seems to think the model of "scientific research" is tied to a specific research strategy, specifically that of utilizing a control group to compare with an experimental group. I agree that this type of research does not lend itself well to certain research areas, including NDEs. However, there are two major categories of research: quantitative and qualitative. Quantitative research is usually associated with the collection of cases in which information about the respondents is collected, counted, classified, and analyzed. Tools used to collect this type of data include, but are not limited to, controlled experiments, questionnaires, and interview schedules. Qualitative research is designed to identify and understand various activities as viewed by those that are or have engaged in them. Most research done on NDEs, including that of Atwater, has utilized qualitative research. Which technique is the most efficient and effective depends on what the researcher is trying to accomplish.

In order to advance understanding of a specific phenomena, researchers need to specify what they did and why. In this way, subsequent researchers can build on what has already been done. This makes it

possible for other researchers to identify inadequacies or mistakes, make corrections, and add to the growing body of information. It also helps readers to understand the basis for statements made and the populations to which they apply. Just because someone claiming to be a researcher states that something is the case, that does not make it so. The basis for the statement must be identified and justified. Citing other people who hold the same views does not legitimize one's statements, unless their ideas are grounded in research—which should then be noted.

Now let me address specific observations Atwater made:

1. She claims that the definitive tone of her book was mandated by her publisher. This might have been believable if it were not for the fact that Atwater has always written with definitive statements and spoken the same way when she presents at conferences. Listening to the tapes of her conference presentations, many of which are recorded and made available by the International Association for Near-Death Studies (IANDS), will quickly verify this fact.
2. Atwater writes that "the scientific method is not designed to address an unknown range of variables." This is not true. Correctly designed research projects do precisely this, through techniques such as random sampling and statistical confounding techniques.
3. She further states that "Never have I based any of my studies on a questionnaire." This also is not true. Wherever statistics were mentioned in the book, she reported that they were taken from the questionnaire. Her questionnaire data were used as primary evidence to support her conclusions, not as ancillary support. In this regard, she writes that "The research in *Children of the New Millennium* is based on my study of 277 child experiencers, *not* the questionnaire." But that is not the way they were presented in the book, despite her disclaimers: see, for example, pages 68–69 and especially pages 105–107.
4. Atwater writes that "It was the families who verified how different their children were," yet this information was not presented in the book. If it were true that her publisher eliminated this type of information, it was not a total elimination, as there were a number of cases where Atwater cited parents. It would seem that if this type of information existed, any responsible editor or publisher would insist that it be included, not deleted. But given the fact that the majority of the children in the sample of 44 were less

than 5 years old when they had their NDEs, it seems doubtful that even parents would be able to address many items in the questionnaire completely and accurately.

5. Atwater makes the observation that she was hesitant in pursuing an understanding of differences in children's processing and integrating their NDEs because of her lack of medical training. However, one need not be a physician to assess this. Was she assuming that these differences could only be studied as if there were some biological change in their brains after an NDE?
6. Statements such as "the younger the child when the experience occurred, the more apt he or she was to abstract early and score in the range of genius when old enough to take an intelligence test." What was the basis for this observation? I could find no data in her book that even suggested this. Statements such as this need documentation. Also, is there any evidence that the phenomena she is studying are not going on in the general population and are only becoming evident in the NDE population?
7. Throughout the book and in her reply, Atwater used numbers such as "six times," "more than 70 percent," "50 percent," "33 percent," and so on. Nowhere in her book did she show the numbers on which she based these figures. She did state that they came from the sample of 277, but I am sure that not every case was represented in all the percentages she reported. She needs to show the actual numbers making up the percentages and how she collected the data from which they were derived. For example, were the numbers drawn from her sample of 44 (which was the sample identified wherever numbers were listed), or from the 63 individuals I counted, or from the larger sample of 277? It could also be that the individuals that comprised the 277 child experiencers were systematically different from all children who have had such an experience. If that is the case, then one cannot generalize from them to all NDErs. Nowhere in Atwater's book could I find any demographic breakdown of any of her three samples, such as religious background of the child's parents, residence, social class, race, or ethnicity.

Also, does she have any evidence that the children who have had NDEs are any different from those who have not? Just saying that differences exist is not evidence. On page 207 of her book, she quoted William Strauss and Neil Howe (1991) concerning the emergence of a new generation that is different in significant ways from all prior generations. Without questioning how they came up

with this conclusion, if true, there is still no evidence that NDEs are doing more than just identifying a few individuals who are part of this grand evolution. If changes are occurring, we need to know what the children were like both before and after the experience to determine if any change occurred. Then, if differences are discovered, researchers must be able to show that they were *because of* having an NDE and not something else.

8. Atwater makes the statement that "the public believes that what was originally described in *Life after Life* is gospel," referring to Raymond Moody's book (1975). This reflects a myopic view of what the public knows about NDEs. It is my experience, from teaching courses on death, grief, and bereavement for more than 20 years, that most individuals have never heard of Moody and are certainly not aware that NDEs are supposed to have stages. Many people do not even know what an NDE is. With all the media exposure over the years, I too, felt that everyone had to be aware of the phenomenon. But in surveying my classes, I discovered I was wrong. An increasing number may be aware of NDEs, but definitely not the majority.

In conclusion, Atwater's account of her confrontation with Bruce Greyson, when he insisted that she document a point she had made, was important. We should not make definitive statements without being able to support them. We should take the time to record specific cases, observations, and situations to see what they are telling us. Documentation helps us to recognize when our theories need to be modified, expanded, or segments deleted. If we do not constantly keep reading, interviewing, and documenting, we run the risk of projecting blatant errors as fact. It is the researchers' responsibility to keep an open mind, to avoid premature closure, to assure themselves that what they report is actually what is going on. It is very easy to get excited about what preliminary research reveals and to report it as fact, when, once all the data are in, we discover that a very different picture emerges. We need to keep very detailed case notes recording what we learned about specific ideas, how we came up with specific conclusions, and which tools we used to analyze the data. In this manner, we can backtrack and check out how we got to where we are, locate omissions and errors, and make it possible for others to check the validity of our observations and conclusions. If we are to approach near-death phenomena from the 360 degree perspective—a term Atwater is fond of using—it is imperative that we document what we have done or are doing.

Atwater concludes her response by posing a lament relating to the propensity of researchers to criticize one another: "to what extent can we really cleanse our own field and judge each other?" Judging each other is not a weakness of any field but a sign of growing maturity. We *should* question each other's research. Then, if we find weaknesses, we can correct them and do more research. So brick by brick correctly placed, we create a theoretical model that fits and helps to understand near-death phenomena. But this is only possible if we let others know where we got our data, how we analyzed them, and how we came up with our conclusions. Constructive criticism is not the mark of weakness and discord, but an opportunity to have others check our work and help us fill in chinks that may exist in our theoretical model.

Because Atwater did not document the fact that millennial children were a product of having NDEs, the contributions of this book to an understanding of near-death phenomena are suggested relationships, hypotheses yet to be tested, and a set of new and interesting cases.

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