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PSYCHOLOGICAL PERSPECTIVES ON DEATH

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INTRODUCTION

Although this is the first critical survey of the psychology of death between the covers of the *Annual Review of Psychology,* it is difficult to identify a more ancient topic. Death awareness already had a long history before Socrates attempted to calm his friends' agitation prior to quaffing the hemlock (127). The Gilgamesh Epic, known to the Sumerians of 3000 B.C. and probably of earlier origin, expressed both the intense desire to triumph over death and the doubt that magic, cunning, virtue, or strength could achieve this objective (64). Life prolongation and renewal were salient themes not only in *The Book of the Dead* (18), but throughout Egyptian culture (168). The prefix that we have made our own—*psyche*—often appeared in the Greek classical period within the context of reflections on death. The soul was that-which-departs, sometimes to return (as in dreams) and sometimes not. Dialogues on mortality and awareness of the complexities of phenomenological life began to flourish at the same time.

The faithful in biblical times knew a God of life. Death plunged one into a miserable subexistence more akin to the dank underworld imagined by ancient Mesopotamian civilizations than to a beatific immortality (16). Christianity's dramatic news of triumph over death came in for its share of astonishment and ridicule from Romans who believed in afterlife but could not credit the proposition that the dead would again put on flesh (25).

For centuries thereafter the death theme has played through both sacred and secular spheres. Gruman (60) documents the motivating force of the death-shall-be-overcome sentiment in the rise of alchemy and, eventually, modern science. Furthermore, Ponce de Leon's search for the fountain of youth was but one episode in a series of adventurings which contributed much to exploration and charting of planet Earth, even though the central purpose of outflanking aging and death was not achieved.

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Pestilence, famine, and warfare during the Middle Ages maintained death as a familiar presence in society. The average lifespan had increased but little since antiquity, and the mortality rate in infancy, childhood, and childbirth was still catastrophic. The *ars moriendi* tradition flourished, producing sober tracts that were the best sellers of their day, crowned by Jeremy Taylor's *Art of Holy Dying* (151). New death-related themes were stimulated by the rise of technology and urbanization. Crowding on narrow city streets, for example, had its parallel in the metropolitan cemeteries of the eighteenth and early nineteenth centuries. The cemetery reform movement was one example of a new "do something" orientation. Another was the effort to resuscitate victims of drowning, lightening, and other traumatic events who customarily had been taken for dead (7). While Dr. Frankenstein's experiments were confined to the pages of a novel, real people were exploring the possibility of giving the apparently dead a second chance by galvanic stimulation (163). Thus the relationship between technology and death, sometimes thought to be a phenomenon unique to our own day, has been gathering momentum for years. *Resistance* to reforms, innovations, and experimental inquiries also has a tradition of its own.

Although psychology emerged from social and philosophical traditions in which the problem of death was prominent, the new science had other priorities for itself. Fechner inspired an experimental psychology that evinced no interest in his own *Little Book of Life After Death* (40), which sets forth a more-than-lifespan developmental psychology. William James admired this work and himself wrote on immortality (71), while G. Stanley Hall conducted an early empirical study of "thanataphobia" (61). Despite such contributions, however, the new and self-conscious discipline of psychology did not make a place for death. If a turn of the century psychologist did think of death, it was probably to sniff at reported communications with the dead, then a fashion both in the United States and Europe.

It appeared that death might become a major topic as modern sociology launched itself. Durkheim's *Suicide* (33) earned masterwork status, but was not followed by systematic exploration of death-related problems in general. The occasional sociologist who focused upon social dimensions of death would find himself a voice in the wilderness, e.g. Thomas D. Eliot's attention to bereavement and family structure (35). Anthropology, by contrast, produced death-related observations right from the start, and continues to do so. Notable among the pioneering contributions was Frazer's compendium of observations made in pretechnological societies around the world (47). It is difficult to imagine the field of anthropology without its detailed accounts of funeral practices, rituals of mourning, and other death-related cultural actions.

Among physicians, the name of Sir William Osler became almost synonymous with humane care of the dying patient. He also kindled an interest in "last words" (118). Yet neither Osler's work nor that of others who followed in his footsteps [e.g. Alfred Worcester (166)] made much impact upon the general medical orientation toward dying and death. Nevertheless, it was a Nobel prize-winning biomedical researcher, Ilya Illyich Mechnikov (108) who introduced the term "thanatology" that some have accepted as designation for the scientific field he envisioned around the turn of the century.

The voluminous output of psychiatric writings from the later years of the past century onward include a number of scattered references to death, but one could not say that it was considered a core problem either in theory or therapy.

With the exception of anthropology then, the new social and behavioral sciences had but fitful and peripheral contact with one of humankind's most ancient concerns. Socrates might have marveled at a psychology that could dispense with death as a relevant problem.

DEATH REDISCOVERED

Precisely why psychology and related fields began to see death as a relevant problem around the mid-1950s is open to conjecture, although disasters of war and a need to reconsider basic human values appear to have been influential (94). Today it is cliche (and increasingly less accurate) to speak of ours as a "death-denying" society. But taboos did in fact obstruct the inquiries of pioneering psychologists such as Herman Feifel. His persistence was rewarded, however, and Feifel made a discovery that many have since made for themselves: although physicians, family, and others may attempt to "protect" the dying person from awareness of his own situation, the patient himself often is grateful for the opportunity for dialogue. In addition to reporting his own research (e.g. 43), Feifel edited a book whose appearance in 1959 is considered by many as the first product of the new death awareness movement. *The Meaning of Death* (42) included contributions not only from C. G. Jung and Gardner Murphy, but also from representatives from philosophy, art history, and other fields. Much subsequent work on death-related problems has retained this multidisciplinary approach.

At about the same time, two other Southern California psychologists launched an innovative and vigorous attack on suicide. Norman Farberow and Edwin S. Shneidman developed new research strategies, concepts, and guidelines for suicide prevention (e.g. 39, 145). Among other activities, they established a prototypic crisis prevention center that has had national and international influence.

The next few years will be remembered by some as a time of self-instruction in death confrontations. The person who had dared to enter into psychotherapy with a dying person on Monday would be sought as an expert on Tuesday. Most researchers also had to begin at the beginning, lacking relevant theory, method, and bibliography. Tattered copies of Richard A. Kalish's annotated bibliography were prized. A mimeographed newsletter pieced together in the depths of a geriatric hospital became a sort of underground newspaper through which isolated "deathniks" could communicate with each other. Today, bibliographic resources include a periodically revised publication from a Center for Death Education and Research with almost 3000 entries in its latest version (51). The ragtag newsletter is now in its eighth year as *Omega, Journal of Death and Dying* (78), and another journal, *Suicide* (143), represents the interests of the American Association of Suicidology, itself a relatively young organization. Courses and workshops on psychological aspects of death can be found on many high school and college campuses and death is no longer a rare topic on programs of the American Psychological Association and other professional and scientific organizations.

Public interest in death was stimulated by Jessica Mitford's rollicking critique of *The American Way of Death* (112), which came down heavily on contemporary funeral practices. Psychiatrist Elizabeth Kubler-Ross aroused much concern for the plight of the dying person in her popular book, *On Death and Dying,* taken by some as the "bible" of the death awareness movement (85).

The first effort to evaluate and integrate scientific knowledge came forth in *The Psychology of Death* (79) in 1972. The individual's personal relationship to mortality was related to the culture's "death system." It was suggested that all cultures have a sociophysical network whose functions include predictions and warnings, attempts to prevent or inflict death, orientations toward the dying person, body disposal, social reconstruction after death, and efforts to explain or rationalize mortality. Death was regarded as, in a sense, both independent and dependent variable. While the first half of the book examined thoughts, feelings, attitudes, and actions *about* death, the second half examined death as a possible *outcome* of individual and social behavior. This general plan of organization will be used in the present review as well.

LIFESPAN DEVELOPMENT OF DEATH COGNITIONS AND ATTITUDES

Assumptions, Questions, and Methodologies

The new psychology of death has among its tasks the conversion of long-held assumptions into questions that can be answered through empirical observation. Several assumptions are of particular concern here. Freud's assertion (48, 49) that we cannot truly understand or accept our own mortality continues to be influential. Unfortunately, it has exercised a stifling effect upon inquiry. Since we "know" that we cannot know death, what would be the point of research? The context and basis for Freud's conclusion are seldom examined; his authority has served chiefly as a quick way to dismiss death as a nonproblem. This parallels the demotion of manifest concern over death to a neurotic quirk that is said to disguise a more primary underlying cause.

A triad of related assumptions focuses upon the child's relationship to death. Perhaps the most explicit of these is the assumption that children do not understand death. This is closely linked with the seldom-examined assumption that adults *do* comprehend death. Often these are associated with the further assumption that concern with death-related phenomena would be harmful to children. They *should not* think of death, even if they could. This triad preserves the image of childhood as a fantasyland into which harsh realities do not or should not intrude. The parent who excludes a child from the funeral and the circle of mourners and who steadfastly avoids death-related discussions often holds these assumptions (76). The child is presumed an innocent in both the realms of death and sexuality, and is to be kept in that blessed state as long as possible (59).

The general drift of all these assumptions is to minimize the significance of death as a force in the cognitive, personality, and social development of the child. Indeed, none of the brand name theories or text books in these areas have treated death as

though it were a central concern or influence. The counter-assumption—that the child's relationship to death is of critical importance—has been implied by some philosophers (e.g. 11). It is also the challenge offered by many sociobehavioral scientists and clinicians who have become identified with the death awareness movement.

Some of the questions now being posed lend themselves to fairly straightforward descriptive research, e.g. what *does* the child know or understand about death at a particular time in its life? Other questions require more complex, varied, and converging lines of research. Representative questions of this type include (*a*) the relative influence of maturational and social-experiential factors in development of death cognitions; (*b*) relationship between development of death cognitions and such other concepts as reversibility, limits, futurity, object constancy, and deductive reasoning; (*c*) the extent to which orientation toward death is to be interpreted as a cognitive or an attitudinal-affective component of personality; (*d*) the range of individual differences in death cognitions and implications of same for subsequent development and adaptation.

The latter two problem areas deserve further comment here. Denial, fear, and ambivalence are among the most frequently advanced interpretations of individual and sociocultural orientations toward death. Each of these terms imply both perceptual-cognitive and affective components, but are seldom analyzed from that perspective. Furthermore, one observer may characterize a bit of verbal or nonverbal behavior as indicating an immature cognitive grasp of death, while another regards the same behavior as denial. Closer attention is necessary to the problem of distinguishing cognitive from attitudinal-affective components in death orientations, perhaps best accomplished within a lifespan developmental approach.

Most research on death orientations has made the usual developmental assumption that there is a single, universal "goal," "structure," or "achievement" to crown successful maturation. This assumption has been questioned recently (75). It appears as premature to conclude that there is a single "right" way to think of death as it is to assume that we cannot grasp or accept death at all. The advisability of avoiding premature allegiance to the traditional one-pathway model of development is underlined by the already noted failure to differentiate between cognition and attitude. What passes for the definitive, mature *cognitive* grasp of death might alternatively be interpreted as the culture's dominant *attitudinal* configuration.

Diverse methodologies have been applied to the study of death orientations. These include clinical case studies, questionnaires, interviews, naturalistic observations, expressive-projective behavior, and occasionally performance-type measures. Comparison of findings is difficult because of the diversity of techniques and samples employed, but this same diversity increases confidence in those results that appear with virtually any method of inquiry. Major gaps in methodology include the lack of longitudinal investigations, let alone any of the cross-sequential designs that permit evaluation of age change vs age differences. Experimental (variable-manipulating) research is poorly represented. There is little that could be called inventive in the developmental research to date, although the analysis of literature prepared for the eyes of children (140) has added a useful contextual dimension, and

the analysis of children's games both historically and on the contemporary scene has turned up some fascinating material (117).

Infancy and Childhood

"When do children really understand about death?" is one of the questions most frequently raised both by the public and the research community. The answer most frequently given draws upon a 1948 study of Maria Nagy (114), in which she analyzed the words and drawings of 378 Hungarian children ranging in age from 3 to 10. Nagy found evidence for three stages of development. Stage 1, present until age 5, lacks appreciation of death as final and complete cessation. The dead are "less alive," and the condition might be reversed. *Separation* is the theme most clearly comprehended by the youngest children. Stage 2 children think of death as final. However, there continues to be a belief that death might be eluded; it is not inevitable. A strong tendency to *personify* was noted at this stage. One might outwit or outluck The Death Man. Stage 3, beginning at age 9 or 10, is marked by comprehension of death as both final and inevitable. The prospect of personal mortality seems to be accepted.

The attention given to the developmental achievement of comprehending death at about the tenth year of life has tended to obscure those aspects of Nagy's study indicative of earlier thoughts and attitudes. Even the youngest of the children she studied had ideas about death, typically built around realistic, concrete perceptions. This is consistent with the pioneering retrospective study in which Hall (61) found an abundance of perceptual detail on death in memories stretching back to early childhood.

Evidence that children often perceive death-related phenomena and are actively engaged in trying to understand them comes from a variety of sources. This was perhaps the most salient result of Sylvia Anthony's 1937–1939 studies in Great Britain, recently revised and reprinted (8). Both normal and disturbed children often thought of death, with separation and sorrow the dominant themes. Although flawed, Anthony's work remains valuable for its insights into the young child's attempts to integrate the concept of death into his life, and for its revelation of individual differences at all age levels. Rochlin's observations suggest that death-related themes frequently are expressed by children at play (133), while Opie & Opie (117) have documented the near-universal incorporation of such themes into the familiar games and songs of childhood.

Anecdotal reports suggest that the child's discovery of death begins much earlier than most cognitive theorists seem prepared to accept. Maurer (107) proposes that the 6-month-old's fascination for "peek-a-boo" and subsequent appearance-disappearance games involves the attempt to master the mysteries of being and nonbeing, darkness and light, separation and reunion. If attempts to understand and cope with separation are seen as part of the process that leads to fully realized death cognitions, then much of the material on infant and child behavior discussed by Bowlby would be relevant (15). Others have observed very young children who seem to have expressed spontaneous awareness of finitude, irreversibility, and life cessation. The most precocious example known to these writers from a dependable source features

a 16-month-old boy who witnessed a fuzzy caterpillar being trampled upon (unwittingly) by an adult. The child had showed alarm as the big grown-up feet approached the caterpillar. After the event, he examined the residue and said in a resigned tone of voice, "No more!" (76). Obviously there are methodological reasons for hesitating to accept such anecdotal reports, as well as the danger of reading too much into them. But against the temptation to dismiss this kind of observation entirely must be set a basic respect for what is seen and heard in the naturalistic setting. It is possible that the truth may be discerned before solid documentation can be accomplished. Denial of the very young child's ability to tune in accurately to death-related phenomena fits in all too well with our culture's death system and with prevailing conceptions of cognitive development. An open-minded attitude appears wise at this time. Furthermore, glimmers supporting the very early development of "mature" death cognitions in at least some children have been observed in more controlled studies as well (e. g. 135).

Several post-Nagy studies have enriched our knowledge of death cognitions in childhood. Koocher (82) found that chronological age was not a reliable predictor of the child's level of death cognition, but that a Piagetian classification of mental operations did predict well. There was a clear difference between preoperational children on the one hand and those at a concrete or formal-operational level. Koocher's interpretation emphasizes *reciprocity:* only when the individual has acquired the ability to draw substantially from the experiences of others can he gain an understanding of what he personally has not encountered in his own life. Some of Koocher's side observations support those made by other researchers, namely, the matter-of-fact attitude toward death displayed by the younger children, the almost complete absence of personification responses (in contrast to the Nagy findings), and the wide range of sophistication to be discovered at a particular chronological age (as distinugished from developmental level).

Childs & Wimmer (24) discovered differential results for two components of death cognitions. A steady progression was noted with advancing age for mastery of the concept of death's *universality.* However, the concept of death as *final* was more difficult, with children as old as 10 still wavering in their views (although some 4-year-olds were decisive in declaring death to be nonreversible). This study indicates the value of a differentiated approach to death cognitions.

Studies by Safier (135), Gartley & Bernasconi (53), and Tallmer et al (150) all came up with an appreciation for the impact of television on children's orientations to death. There was the impression that children are less shielded from death than in previous generations, having a variety of real and make-believe fatalities regularly on display for them on the picture tube. Although these investigators all found evidence for maturational changes in death cognitions and attitudes, they also uncovered suggestions of cohort differences reflecting social change. The Swiss children studied by Piaget in the 1920s, for example, seem to have been more sheltered from death phenomena than contemporary American boys and girls (125). The Tallmer group found greater death awareness among lower class as compared with middle-class children, using both projective measures and interviews (150).

The Safier study is particularly interesting for its close examination of interrelationships between concepts of animate/inanimate and of death (135). The results in general supported her view that a common rationale binds concepts of life and death during each stage of development. Attempting to integrate the work of Piaget and Nagy, she sees a developmental progression from the idea of constant flux, through an externally engendered giving-or-taking of life, until the child attains the concept of both life and death as internal to the organism.

While there remains room for disagreement on a variety of questions, it does appear that the child's development of death cognitions is intimately related to its total construction or appreciation of the world, rather than standing outside the main developmental stream as a secondary or exotic process. Curiosity about impermanence and destinations seem as much a part of the child's intellectual orbit as the more frequently researched questions of permanence and origins. We believe that developmental psychology has overemphasized the processes through which the child comes to appreciate and acquire stability and equilibrium. Real children seem just as interested in disappearances, inconstancies, and disequilibriums. This perhaps is another way of saying that loss, endings, and death are core concerns from childhood onward.

Adolescence and Adulthood

The more purely cognitive aspects of the individual's relationship to death have hardly been touched in the years beyond childhood. This situation seems attributable, at least in part, to the assumption that mature cognitive modalities become established around adolescence and remain substantially unchanged thereafter. It is refreshing to see this view challenged by Riegel (132) and others. Most of the available studies focus on attitudes rather than clearly delineated cognitions of death. However, in adolescence and early adulthood there is a cluster of studies (e.g. 31, 69, 77) which emphasize key relationships between death concern and futurity. Time perspective investigations often do take cognitive factors into account, if not in the most familiar ways. How young people conceptualize futurity appears to provide important clues to their death orientations, e.g. the tendency of young men with relatively high manifest death anxiety to have a more limited future projection (165).

One of the surprises has been the finding that an appreciable number of adolescents and young adults expect to die within a few years, often by violent means (research reports on this topic are just starting to reach print, e.g. 62, 134). "Subjective life expectancy" (SLE) may become an increasingly significant dimension through which to understand the individual's general orientation to life at any chronological age level. Differences in SLE may be related to situational, personality, and demographic factors, e.g. low SLE among "hard core unemployed" whose statistical expectations for continued survival are, in fact, lower than the population in general (152). It might be informative to match individuals on the basis of SLE rather than chronological age (e.g. a 20-and an 80-year-old, both of whom expect to live 5 more years). Changes in one's expected and preferred life expectancies might serve as useful outcome measures for treatment programs.

From a cognitive standpoint, we still have much to learn about how the young person utilizes and integrates formal operational modes to create a personal framework in which death can be accommodated. From a psychodynamic standpoint, the relationship between maturing sexuality, role transition, identity formation and death cognitions remains to be probed more thoroughly. The influence of personal experiences with death upon thoughts and attitudes also is in need of clarification. Reversing the direction, it would be helpful to know more about the possible effect of death cognitions and experiences upon behaviors that influence survival, such as suicide and excessive risk-taking.

How do adults orient themselves to death? If we are to believe the ubiquitous critiques of our society as "death-denying" (e.g. 11, 41, 158), then the same attitude might reasonably be expected of the individual. There are data consistent with this view for physicians and nurses (e.g. 14, 16, 54, 55, 98), although one recent study (129) suggests important differences among these care-givers based upon area of specialization. In general, however, the contention that adults hold essentially a denying orientation has not been documented by direct research. Observers have instead supported this conclusion by references to treatment of death by the media, anecdotal reports, and behavior noted in special situations. The concept of death-denial itself needs more conceptual as well as empirical clarification.

In the absence of definitive research on death attitudes through the adult years it seems wise to recognize individual differences, (99, 160) and the likelihood that orientations are complex, multileveled, and subject to situational influence within the same individual (44, 79). Worth systematic research is the suggestion that in midlife one begins to think of his or her age more in terms of distance from death than from birth (92). The disengagement theory of aging (29) also proposes a shift in life-style with advancing adult age. The person is said to become more aware of the shortness of remaining time and the prospect of death, leading to both intra and interpersonal changes. While disengagement theory has engendered much research, this critical hypothesis rarely has been studied (23).

Most studies of death attitudes in old age indicate the ability of well integrated people to accommodate themselves to finitude (113). Distress at the prospect of death usually has been related to general agitation or to environmental stress or deprivation (160). There are indications that individual life-style is just as significant in old age as at other developmental periods for shaping the orientation toward death. It appears useful to distinguish also between healthy, independently functioning old men and women and those whose lives are in more immediate jeopardy (72, 73, 105, 148).

Death Fear and Anxiety

"Fear" and "anxiety" are among the terms most frequently used to characterize orientations toward death throughout the lifespan. Both the conceptual and methodological problems require careful consideration. Lester (89) opened the criticism of psychometric measures a decade ago. Even more fundamental perhaps is the careless interchange of "fear" and "anxiety," each of which implies different approaches to measurement. The psychoanalytic distinction between free-floating anx-

iety and fear of an object that is available to conscious awareness (79) is important here. Investigators typically assume that death universally elicits anxiety. Where manifest fear is not present, defensive denial often is inferred (58, 72, 131). Conscious fear of death is thought to occur only when there is a serious breakdown of the individual's defenses, as in extreme psychopathology. While perhaps true, this proposition is very difficult to translate into operational measures, and the evidence it its support is correspondingly weak.

In particular, it is highly questionable that direct self-report measures can be used as indicators of death anxiety. High scores on such a measure may indicate high fear of death, but this by definition is distinct from death anxiety, which is held to be unconscious. Occasionally, *low* scores on such a measure are taken as indices of anxiety, since they are presumed to derive from vigorous defense. Unless other types of data are available, this interpretation is gratuitous: low scoring subjects simply may not be much concerned with death.

Two general conclusions emerge from previous reviews of direct self-report measures (79, 89): (*a*) insufficient evidence of reliability and validity; (*b*) relatively rare expressions of high manifest death concern despite widespread acceptance among researchers of the belief that death anxiety is universal. These conclusions remain valid today, although researchers have addressed themselves more systematically to the behavior of their instruments. The relation between different measures of death concern has been examined in two recent studies. Durlak (34) found an average intercorrelation of .52 among four scales, using a sample of 94 undergraduates. Another study with 68 undergraduates yielded an average intercorrelation of .60 among four scales, giving some support to the convergent validity claims of these instruments (30). However, claims of discriminant validity are not warranted on the basis of these data.

Other studies have shown that various fear of death scales are correlated with measures of trait or general anxiety (30, 34, 63, 98). Correlations between various measures of trait anxiety are typically higher than correlations between trait anxiety and death anxiety scales, a phenomen
nant validity (34, 98, 128, 153, 154). But an alternative view of these data would suggest that fear of death scales simply are poor measures of general (trait) anxiety. This view is supported by a single study which reports both general anxiety and fear of death correlations with a criterion measure (115).

It can also be argued that admitting to a fear of death is socially undesirable. The possibility that social desirability influences the observed relations between death fear and criterion measures cannot safely be ignored (28), although two studies produce inconsistent results on this question (30, 34). Future research in this area should routinely administer both trait anxiety and social desirability measures along with death concern scales, and control for their effects in evaluating results.

There are serious problems with the criteria that have been used to validate death concern scales. Religiosity, for example, often is assumed to indicate need for protection against death fear (88). Even if this were the case, it is not clear whether particularly religious persons would have a high fear of death (which would have intensified their religiosity) or a low fear (as a result of their faith). Given such conceptual unclarity, it is hardly surprising that no consistent relation between

religion and manifest death concern emerges, (106). Handal & Rychlak (63), to cite another example, used death images in dream content as a criterion of death fear, although an orthodox Freudian approach would contend that anxiety-provoking material should be excluded from the manifest content of the dream. Throughout this area of research, the relationship between a concept and its measurement often has remained obscure.

Death concerns as measured by self-report have consistently shown no relation to age or demographic characteristics (88, 119). As already noted, only among groups characterized by general psychological disturbance has death anxiety been found to be a prominent concern (26, 156). Nevertheless, the assumption that death anxiety is universal (11) continues to be salvaged from such data through the interpretation that among healthy individuals, death anxiety is successfully defended against, while defenses have broken down among the psychiatrically disturbed. The more parsimonious interpretation that fear of death is an exceptional phenomenon limited to disturbed populations is rarely entertained. While defensive denial of death concerns may or may not characterize most individuals, denial of the evidence seems to characterize many researchers (e.g. 13, 17, 115).

Researchers who take seriously the premise of universal denial, or who are concerned with measuring covert aspects of death concern, often have turned to the use of *indirect* measures—of which an almost bewildering variety have already been explored. Unfortunately, many of the same problems of inappropriate criteria and lack of convergent and discriminant validity evidence are found here as well.

The GSR has been used in several studies since the pioneering work of Alexander, Colley & Adlerstein (3). These studies consistently show that death-related words elicit more autonomic arousal than neutral or basal words (1–3, 21, 44, 58, 101, 155, 164). But it has been more difficult to show differentiation between death-related and other affectively toned words. Autonomic arousal may or may not be accompanied by conscious awareness, and thus cannot be assumed to serve as a reliable index of unverbalized anxiety. Further, the nature of the emotion involved cannot be inferred directly; death may in fact be reacted to not as a source of anxiety, but as a sexually arousing stimulus (120). One study has found a low positive correlation between manifest anxiety and GSR reponse to death words in a psychiatric population (155), not sufficient evidence for confidence in the GSR as a measure of death anxiety, verbal or otherwise.

Other indirect approaches have included the use of latency measures from word association and tachistoscopic recognition tasks (58, 91, 99). The assumption that statistically significant latencies of 3/10 of a second represent defensive processes is a dubious one. While longer latency may indicate some differentiation between death related and neutral words, if it is a defense it is a poor one, affording only a fraction of a second's worth of protection. One study found no relation between a threshold recognition measure and a five-item death anxiety scale, although the predicted relation was found with a second indirect measure based on a semantic differential variance score (58).

At least three published studies have used the TAT (99, 131, 146). The first of these found that a neurotic MMPI profile was characteristic of high death anxiety respondents, who also showed higher somatic concern on the Cornell Medical

Index. A later study reported that only 15 out of 1008 TAT stories involved manifest death concerns (142).

Other indirect measures of unconscious death concern have made use of recalled dream content (63), self-ratings of mood after exposure to neutral, erotic, and death-related reading matter (120), semantic differential scores and sentence completion tasks (146), and word recognition tasks (26, 91, 109).

While the variety of methods introduced for the assessment of death anxiety is commendable and distinguishes this area from some in which a single method is relied upon exclusively, the lack of procedure replication casts some doubt on the validity of the findings. Research on death concerns would benefit from a systematic comparison and cross-validation of direct and indirect measures. Furthermore, it is possible that the focus on "anxiety" or "fear" has led to the neglect of other orientations toward death. The total human interpretation of death is too complex to be subsumed under the concepts most favored by research. Sorrow, curiosity, and even a sense of joyous expectancy are among the orientations that have been observed in nonresearch contexts (74). A broader approach to the meanings of death is indicated, as well as the more cohesive and systematic investigation of "anxiety" or "fear."

The problem of assessing unconscious material is hardly new to psychologists, but rarely has it been handled satisfactorily. Since the hypothesis that death is universally feared is so widely held, there is a temptation to infer "defense" in the absence of manifest fear. High priority should be given to resolving this question since it appears to be at the root of much research in this area.

Denial of death anxiety might be indicated by showing a high indirect demonstration of anxiety attributable to death concern in conjunction with low self reported death anxiety. This approach has not been widely used. Evidence for denial might be sought especially among groups for whom it would have practical significance (e.g. those who fail to make out wills, purchase life insurance, or have regular medical check-ups). Groups with specially relevant characteristics such as these might prove more informative than the college populations which continue to provide the "subject power" for most studies in this area.

An example of sophisticated research which might be taken as a model in the field of death concern is a study by Krieger, Epting & Leitner (83) which elicited 30 personal constructs (80) relevant to death from each respondent. Their measure of death threat was the discrepancy between the respondent's rating of "death" and of "self" on each of these 30 conceptual dimensions. Cognitive orientations proved to be intercorrelated when the Krieger et al "death threat index" was related to other measures of death concern, while affective components remained outside the network of substantial intercorrelations. The cognitive dimensions of death concern appear more amenable to present methodology and might provide a suitable entry point for researchers new to this field.

DEATH AS AN OUTCOME OF BEHAVIOR AND LIFE-STYLE

While all life-styles terminate in death, it is possible that when and how people die can be related to the psychosocial as well as the biomedical context. The spectrum

of observations range from well-documented cases of suicide and homicide to subtle and ambiguous phenomena that resist controlled research. We will consider illustrative reports and interpretations from several points along this spectrum.

Deaths that Invite Psychological Explanation

Psychological factors typically receive attention in sudden, unexpected death or in circumstances in which the physical etiology is obscure. This introduces a bias, and also the possibility of fundamental confusion, namely, that there might be two types of death: the "purely physical," and the death with significant psychosocial causation. A more satisfactory alternative is that *all* deaths involve the interplay of psychological, social, and biological processes, just as all lives do (79, 144). However, this position runs counter to established attitudes and practices (e.g. official certification of "causes" of death) and requires more extensive documentation.

"Voodoo death" first received serious attention in the scientific literature when Walter B. Cannon, a distinguished biomedical researcher, collected and attempted to authenticate instances of sudden, apparently psychogenic deaths in Africa, New Zealand, Australia, and Central and South America (20). He noted some recurrent features in these diverse reports: the victims usually were men who died within 24 hours after being condemned, bewitched, or targeted by a "bone-pointing" rite. There were also instances in which counter-suggestions were said to have saved a hexed life. The critical response to such reports (e.g. 9) has questioned the precise mechanisms operative in the deaths, but not the beginning and end points: a psychosocial action followed shortly by death. Any explanation of so-called "voodoo deaths" probably should take into account the cultural belief system shared by hexer and hexed as well as the intervening or concurrent physiological mechanisms. Furthermore, the bidirectionality should not be ignored. If the power of the word, the ritual, the "will of the group" is thought sufficient in some instances to result in death, these influences are also relied upon to preserve life (as in faith healing and protective spells).

Rapid demise without obvious physical causation has been reported in concentration and prisoner of war camps, where a person characteristically seems to "turn his face to the wall, and die" (37). Hospital personnel also describe such phenomena in which a patient, not critically ill, dies soon after some disappointment or frustration has led him to "lose his will-to-live" (160). Although a loose and perhaps naive concept, will-to-live at least points to a process that warrants sophisticated investigation. Seligman's valuable research on the "learned helplessness" syndrome (141) may offer clues to sudden deaths of this type, and perhaps also to the phenomena subsumed under the exotic "voodoo" rubric. The fact that other people on the scene (fellow prisoners, nurses, patients, physicians) often take will-to-live dynamics seriously is itself worthy of attention, apart from whatever attitude one might take to the apparently psychogenic nature of the deaths themselves.

Sudden and unexpected death during psychological stress has also been reported many times in the midst of daily life, but has yet to be examined thoroughly. Engel's analysis of 170 anecdotal reports is a logical place to begin (36). While specifics of the stress differed appreciably, Engel characterized the stimuli as "impossible for the victims to ignore and to which their response is overwhelming excitation or giving

up, or both." The trends in his admittedly incomplete data include apparent sex differences in the types of psychological stress most conducive to death, and are worth further examination.

Experienced clinicians believe they are able to distinguish between those who will and those who will not survive stressful treatment modalities on the basis of the patient's psychological state (12), a contention that has some support through controlled research (70, 157). This is an area in which incisive research would be welcomed by the allied health fields.

Statistical data based upon large population samples have raised still another possibility. Dips in the death rate have been found immediately before holidays and other days of particular significance, followed by a "catching up" soon after the important day has passed (46, 104, 124). These studies suggest that some people may have the ability to postpone imminent death for a matter of hours, days, or weeks. The investigators have been properly cautious in their interpretations, and the trends describe large group behavior rather than clearly predicting individual trajectories. Nevertheless, such studies represent another part of the total picture which converging lines of research eventually might put together. There is obviously a need for studies to bridge the gap between case histories and statistical analyses in large population samples.

Consider one more example of deaths that invite psychological explanation. The relocation of aged men and women from one environment to another has been associated with an increased mortality risk since the first studies in this area appeared in the early 1960s (e.g. 4, 27, 93). There is now a substantial research literature on this topic (57, 81, 93, 102, 169). Attention is given to specific influences both in the individual's life and in the environment—as well as the relocation process itself—in attempting to account for the differential mortality risk. The problem is one of much practical as well as theoretical significance, for relocations of the ill or frail aged are commonplace in this nation's present "system" for provision of extended care. The research activity in this field may be providing an alerting function, generating more concern for the well-being of the aged when relocation is in prospect. It seems likely, for example, that how well the relocation process is managed can make an appreciable difference in the risk to life (116), as can the individual's perception of the move as voluntary or involuntary (86). The complex interplay of biological, environmental, and psychosocial (including administrative decision-making) factors makes this an area of both theoretical and humanistic challenge.

Suicide

Self-murder is perhaps the clearest example of death as the outcome of behavior and life-style. And yet much remains unclear about the incidence as well as the dynamics of suicide. Specialists maintain that the true incidence is grossly underestimated by official statistics, a contention that now has some empirical support (45). There has been considerable reluctance to certify suicide as cause of death in some quarters (39). If there is uncertainty about the true incidence of completed suicide, questions of intent and attempt remain even more difficult to answer. It is usually assumed

that more people contemplate than attempt suicide, and that more attempt than complete the act. Yet there is no convincing research on the ratios among thinking, attempting, and completing suicide (which may indeed differ among various populations). In this problem area, as in the lifespan development of death thoughts and attitudes, there is a serious lack of integrated longitudinal/cross-sectional research designs. On the basis of a pilot study with an undergraduate population, it is possible that systematic research would reveal a higher incidence of suicidal thoughts and actions than usually assumed (111).

Prediction of suicidal risk has been a major research aim, giving rise to a large and variable literature. Lester, himself a prolific researcher in this field, cast doubt upon the value of most of the available studies in a fairly recent compendium (90). Many studies were dismissed from serious consideration because of such basic flaws in research design as the absence of control groups and of appropriate statistical analyses. The present writers agree that one has to sift through many poorly designed and reported studies to locate those of merit (e.g. 10, 167). The typical "predictive" study often turns out to be a retrospective comparison of attempters and nonattempters within a psychiatric population. Generalizations sometimes are made about completed suicides when the data are limited to attempts. Unfortunately, there is still a tendency to claim that *Identifying Suicidal Potential* (6) is an established science while the research base remains all too modest.

One paradoxical fact makes it especially difficult either to predict suicide or to evaluate the effects of therapeutic interventions. Authorities agree there is "too much" suicide, and yet suicide is also a relatively uncommon event. It is difficult to winnow down the ratio of false positives when attempting to predict critical suicidality within a particular population, and it is also difficult to demonstrate from the incidence of completed suicides whether or not a particular program has made any impact. Certain populations are more at risk (e.g. alcoholics, depressives, the recently bereaved) than others. But clinical experience and expertise seems more useful than available research findings in helping to concentrate limited resources upon those most likely to kill themselves. Similarly, the relatively small number of reported suicides each year even in a major metropolitan area makes it difficult to evaluate the possible effect of a suicide prevention service or other modality of care. It is probable that the clinical art of identifying and reducing suicidality is more effective than can be demonstrated on the basis of existing statistical analytic models. However, the field is much in need of a breakthrough in research strategy. At present one is almost forced into relying either upon respect for case history evidence or skepticism based upon the weak and inconclusive research.

Better documentation of prediction and treatment efforts can be expected if satisfactory answers can be found to ethical and pragmatic problems associated with suicide prevention. Client confidentiality (and often total anonymity) is preserved by suicide intervention services, making follow-up evaluations difficult if not impossible. Studies requiring no-treatment groups also come up against the objection that some individuals might die because treatment has been withheld. Issues such as these are now being examined in depth by the American Association of Suicidology, which is also concerned about the adequacy of treatment services throughout the

country. Fortunately, there have already been a few useful studies on the effects of specific treatment modalities with suicidal or self-injurious populations (97). However, studies comparing more than one method appear to be completely lacking.

Professional bias against the care of suicide attempters, in the emergency room and elsewhere, has been documented by several studies (130, 162). Value judgments seem to invade the allied health professions' response to suicidal individuals. This is an area in which well-selected and trained volunteers from the community may have an advantage in relating to those in suicidal conflict.

But how is suicide to be *understood?* Apart from the significant questions of prediction and intervention or treatment, suicidal behavior challenges our basic comprehension of human motivation and action. Freud touched upon suicide throughout almost four decades of writing (96), but never integrated his observations into a consistent theory. In one of his better known formulations, Freud saw suicide as a failure to externalize aggressive impulses (50). Menninger (110) reinterpreted this explanation and characterized suicide as the translation of the aggressive wish to kill into a wish to be killed, and finally a wish to die. This view has been found useful by a number of clinicians and educators, although it has not been easy to translate into researchable terms.

More recently, Maurice Farber has offered a general theory in which suicide is characterized as a "disease of hope" (38). On the basis of his own cross-cultural research, Farber believes that "Suicides in the main are committed by psychologically damaged personalities confronted by a deprivational situation." His basic paradigm is written: $S = f(V, D)$. S, the probability of a completed suicide, is a function of the individual's vulnerability and deprivations. In Farber's detailed analysis particular attention is given to hope and hopelessness, concepts deriving from his previous work with Kurt Lewin. Farber's approach is welcome for its lucidity and scope. Unfortunately, the book has already lapsed from print although it was well received by suicidologists. Farber's theoretical orientation might serve as a useful guide for others who are interested in integrating individual and cultural factors in the study of suicide.

The current generation of suicide researchers is displaying a keen interest in the cultural forces that either encourage or inhibit self-destructive behavior (e.g. 32). Hendin has been a leading advocate of the position that each culture or subculture has its distinctive type of suicidality, therefore making it inadvisable to construct a general, culture-free theory (67). He offers vivid and insightful material to support his views, as in his discussions of "black suicide" (66), and a "growing up dead" syndrome he believes characteristic of college student suicidality today (65). However, the link between data and conclusion is tenuous and obscure in much of his work. Some of his conclusions have received uncritical acceptance in the media, but a more guarded reception in the research community.

A comprehensive understanding of suicide requires acquaintance with historical and philosophical traditions of the past (5) as well as a variety of ongoing trends in the area of occupational transitions (130), economics (68), religious belief (88), etc. Fundamentally, however, it just may not be very useful to concoct a general theory of suicide per se. Whatever else suicide might be, it is not an isolated human

action. It may be naive to expect suicidal behavior to show much internal consistency when the people and their circumstances vary so extensively. Perhaps the more seminal, if less ambitious approach, is to take suicidal behavior more seriously within more limited realms of psychosocial phenomena, e.g. the meaning of suicide in adolescence and in old age, in role transition and in illness, in family dynamics and in economic adversity. Death by suicide, for all its impact and trauma, might more appropriately be the concern of all psychologists within their own specialty areas, rather than set apart entirely as a specialty area with theories and principles distinct from the field as a whole.

DYING

The plight of the terminally ill person has become the central focus of the current death awareness movement. Through the years a few psychologists have ventured into individual (87) and group (22) treatment of the terminally ill, and the work of pioneering researchers such as Feifel has already been noted. It is only recently, however, that a steady approach has been mounted by psychologists and their colleagues in related fields.

It has not taken long to discover that many of those who relate to the dying person are in distress themselves. Physicians and nurses, as the personnel most frequently in contact with the terminally ill, most frequently have been observed to engage in evasive and other self-protective maneuvers. Awkwardness and discomfort with the terminally ill has been demonstrated so consistently and with such a variety of research approaches that this general conclusion can scarcely be doubted (e.g. 54, 79, 98, 147, 159). For a fine-grained approach to the behavior patterns of staff members, the participant-observation work of Glaser & Strauss (54, 55) is particularly recommended. The Glaser-Strauss contributions include useful conceptualizations of "awareness contexts" and "dying trajectories," although the data themselves are reported in impressionistic terms.

When attention is given to the dying person himself, it is usually to discuss the "stages of dying" presented by Kubler-Ross (85). She states that the terminally ill person at first *denies* the seriousness of his condition. This is followed by *anger* ("Why me?"), with rage likely to be directed at anybody and everybody, including God. Next there is said to be a *bargaining* stage. The individual attempts to make some kind of deal or arrangement with fate. *Depression* follows as energy continues to be depleted by the illness process. There is a sense of great loss and the inevitable finality of one's condition. Finally—if the person passes through all the stages—comes *acceptance.* The struggle is over. Kubler-Ross also emphasizes the persistence of hope in various forms throughout all the stages.

The books and lectures of Kubler-Ross have awakened many to the emotional needs of the dying person. She has offered examples of problems that are likely to arise in relationships with the dying person at each stage, along with suggestions for coping with these problems. Her work has probably been more influential than any other person's in the encouragement of concern for the psychological needs of the terminally ill.

Unfortunately, however, much uncritical and simplistic application has been made of her contributions. The need for quick and reassuring answers to death-related distress seems to have resulted in the premature establishment of the "stages of dying" as the key to understanding and treatment. Psychologists have been reluctant to criticize a contribution that seems to be generating renewed concern for the dying person and to meet the care-giver's need for "something to go on." But critical evaluations are now beginning to appear (75, 139), and they indicate that fundamental problems exist at all levels, from data base through interpretation to practical application.

In brief, the "stages of dying" have been criticized as a very narrow and highly subjective interpretation in which observations and intuitions have been expanded into unwarranted generalizations. The "stages" are poorly defined; no evidence is presented that the same individual actually moves through all the stages; the significance of preterminal personality, developmental level, ethnic orientation and other life history factors is not considered, nor are such critical situational factors as the actual disease process, nature of the treatment, and the sociophysical environment in which the terminally ill person finds himself (74). The "stages" therefore are presented with exaggerated salience, isolated from the total context of the individual's previous life and current situation. This encourages an attitude in which, for example, staff or family can say, "He is just going through the anger stage" when there may, in fact, be specific, realistic factors that are arousing the patient's ire. While researchers are concerned about the weaknesses in description, analysis, and interpretation in stage theory, clinicians are more alarmed by the tendency to convert a questionable theory into a model of the perfect or desirable death.

A terminally ill person—like anybody else—may express denial, anger, a bargaining strategy, depression, or acceptance. But there is serious question that the depth and complexity of the dying person's situation can be understood by reliance upon this alleged sequence of responses.

There are many ways in which psychologists might contribute more to the care and understanding of the dying person and his family, e.g. as teachers of future nurses and physicians, providers of direct or consultative services, and evaluators of programmatic treatment efforts. This last point is worth elaboration. The health care community is showing signs of dissatisfaction with existing styles of care for the terminally ill person. Alternative models are being developed, among which the *hospice* has attracted special attention. The hospice (when fully actualized) is an integrated home-care and hospital-based program devoted entirely to people with advanced life-threatening illness (usually cancer). St. Christopher's Hospice in London is the most noted care system of this type currently in operation (136), while a system modeled along the same lines has recently been established in New Haven (84). Efforts such as these require exceptionally sensitive and sophisticated evaluation. Technical challenges to program evaluation and research are formidable. In addition, the evaluation and research dimensions must be integrated into the total functioning of the hospice without compromising the care-giving objectives. By bringing the best available psychological skills into innovative programs of this kind,

it should be possible to influence future decisions that will be made regarding care of the terminally ill person. The lack of first-rate and relevant evaluation could seriously impair the development of an improved care system.

BEREAVEMENT, GRIEF, AND MOURNING

Death, for many people, is neither an abstract, generalized thought, nor concern for personal demise; rather, it is the actual or threatened loss of a significant person. Experiences with bereavement, grief, and mourning are more familiar to most people than are the phenomena of dying. This is reflected as well in the clinical and research literature. Technically, *bereavement* is simply a term indicative of survivorship status. It does not tell us anything about the survivor's actual response to the loss. *Grief* is the expression most often used to characterize the survivor's distressed state. The most vivid descriptions of grief have been made in circumstances of sudden, unexpected death, as in Lindemann's work in the aftermath of the Cocoanut Grove holocaust of 1942 (95). Acute grief often includes somatic as well as cognitive, affective, and behavioral disturbances. There is no gainsaying the pain of grief, although precisely what it "is" has not been firmly established. Switzer, who argues that what we call grief is essentially another term for anxiety, also offers a useful overview of other interpretations of this state (149). *Mourning* refers to the culturally patterned manner of expressing the response to death. Gorer (59) and others suggest that styles of mourning have been changing appreciably during the twentieth century and may still be in transition. Both grief and mourning usually are expected of the bereaved person, but one or both types of response may be either absent or attenuated.

Observations made with increasing frequency over the past few years suggest that bereavement and grief have much more impact than what is evident in the short-term period of acute suffering. Many clinicians have come to believe, for example, that bereavement leaves the individual in a state of heightened vulnerability to physical illness, even to death. There is a growing research literature (not limited to the United States) that gives circumstantial support to this impression (e.g. 19, 100, 122, 123, 149). Bereaved people generally do show more illness and mortality, as well as accidents, unemployment, and other indices of a damaged life. "More than who?", however, is a question asked by the cautious reasearcher. Some of the studies revealing the greatest impairments for the bereaved person employed comparison groups whose relative freedom from illness and mortality could be attributed to factors other than nonbereavement. When a widowed adult is compared with one who is still married, for example, it is not just bereavement that differs but marital status: single adults have a higher mortality rate than the married, even when they have not been bereaved. Nevertheless, the balance of research leads to tentative acceptance of the proposition that bereaved adults are at greater risk than the nonbereaved. Two recent contributions (56, 121) provide sophisticated (although rather brief) overviews as well as new data emphasizing the impact of bereavement on physical and mental health.

We see a particular need at this point for research to clarify the specific ways in which bereaved status and the grief response heighten vulnerability. There are probably a variety of pathways leading from bereavement to illness or death. Is there a breakdown in the body's defense system against cancer at the same time the individual is too depressed to eat, sleep, and take proper care of himself? Do accidents and subintentioned suicides increase because of a desire to be reunited with the deceased as well as reduced competence in operating automobiles and other machinery? Under what conditions does the lack of interpersonal support for the survivor contribute materially to illness and misadventure? These are but a few of the questions that might be raised and which await appropriate investigation.

Two of the most poignant forms of bereavement may also have some of the most powerful effects upon the survivor: the parent who loses a child; the child who loses a parent (52). Rupture of the parent-child relationship can be expected to have important consequences whatever the cause. As a matter of fact, it is only when research takes marital separation and divorce into account as parallel phenomena that the effects of bereavement as such can be fully evaluated. There do seem to be consequences relatively specific to parental bereavement (103), but some otherwise persuasive studies have neglected the relevant comparison groups. Clinicians in general and child development specialists in particular now have some useful contributions available on the dynamics of bereavement for both the individual and the family (e.g. 19, 126).

Two other dimensions of the problem deserve mention even in this very brief review. There has been increasing recognition of a phenomenon known as *anticipatory grief* (137, 138). At times this constellation of thought, feeling, and behavior can be distinguished from the grief of the survivor only by the fact that it is expressed prior to the death. Grief in the anticipation of death perhaps occurs more frequently today because of the shift in mortality from relatively swift causes to the "lingering trajectories" (54) of people with chronic and often multiple disorders. More needs to be learned about the implications of anticipatory grief for the mental and physical health of the survivor-to-be, and for the adjustment to the death when it finally does happen.

There has also been increasing recognition of the parallels between bereavement and other types of significant loss. The dynamics of marital separation, for example, (161) echo some of the phenomena that are salient in the response to death, and perhaps to dying as well. Whatever psychologists have learned about loss and vulnerability in general is likely to be relevant to the understanding of bereavement, grief, and mourning.

A CONCLUDING NOTE

It is unreasonable to expect psychology—either independently or in consort with other fields—to provide quick and sure solutions to the problems associated with death. Nevertheless, there is considerable pressure on mental health specialists and social scientists to explain (or explain away) the death-related phenomena that have become more prominent in our culture's awareness. For years to come we will have

the challenge not only of confronting the intellectual and emotional problems in this area, but of maintaining a balance between what is expected or promised and what can be delivered. Yet it is hard to identify a topic more significant to individual and society—or more mind-stretching for those who take up the challenge.

Literature Cited

1. Alexander, I. E., Adlerstein, A. M. 1959. Death and religion. In *The Meaning of Death,* ed. H. Feifel, pp. 271–83. New York: McGraw-Hill
2. Alexander, I. E., Adlerstein, A. M. 1958. Affective responses to the concept of death in a population of children and early adolescents. *J. Genet. Psychol.* 93:167–77
3. Alexander, I. E., Colley, R. S., Adlerstein, A. M. 1957. Is death a matter of indifference? *J. Psychol.* 43:277–83
4. Aldrich, C., Mendkoff, E. 1963. Relocation of the aged and disabled: a mortality study. *J. Am. Geriatr. Soc.* 11:185–94
5. Alvarez, A. 1972. *The Savage God: A Study of Suicide.* New York: Random House
6. Anderson, D. B., McClean, L. J. 1971. *Identifying Suicide Potential.* New York: Behav. Publ.
7. Anonymous 1820. *Annual Report of the Royal Humane Society.* London
8. Anthony, S. 1972. *The Discovery of Death in Childhood and After.* New York: Basic Books
9. Barber, T. X. 1961. Death by suggestion. *Psychosom. Med.* 23:153–55
10. Beck, A. T., Resnick, H. L. P., Lettieri, D. J. 1974. *The Prediction of Suicide.* Bowie, Md: Charles Press
11. Becker, E. 1974. *The Denial of Death.* New York: Free Press
12. Beigler, J. S. 1957. Anxiety as an aid in the prognostication of impending death. *A.M.A. Arch. Neurol. Psychol.* 77: 171–77
13. Bluestone, H., McGahee, C. L. 1962. Reaction to extreme stress: impending death by execution. *Am. J. Psychiatry* 119:393–96
14. Bowers, M. K., Jackson, E., Knight, J., LeShan, L. 1964. *Counselling the Dying.* New York: Nelson
15. Bowlby, J. 1974. *Separation.* New York: Basic Books
16. Brandon, S. G. F. 1967. *The Judgment of the Dead: The Idea of Life After Death in the Major Religions.* New York: Scribner's
17. Brown, D. J. 1972. The fear of death and the Western-Protestant ethic personality identity. *Diss. Abstr.* 32:7302
18. Budge, E. A. T. W. 1960. *The Book of the Dead.* New Hyde Park, NY: Univ. Books
19. Cain, A. C., ed. 1972. *Survivors of Suicide.* Springfield, Ill: Thomas
20. Cannon, W. B. 1942. "Voodoo" death. *Am. Anthropol.* 44:169–81
21. Carson, W. J. 1974. Modes of coping with death concern. *Diss. Abstr.* 35:815
22. Chandler, K. A. 1965. Three processes of dying and their behavioral effects. *J. Consult. Psychol.* 29:292–301
23. Chellam, G. 1965. The disengagement theory: awareness of death and self-engagement. *Diss. Abstr.* 25:6806
24. Childs, P., Wimmer, M. 1971. The concept of death in early childhood. *Child Dev.* 43:705–15
25. Choron, J. 1963. *Death and Western Thought.* New York: Collier
26. Christ, A. E. 1961. Attitudes toward death among a group of acute geriatric psychiatric patients. *J. Gerontol.* 16: 56–59
27. Costello, J. P., Tanaka, G. M. 1961. Mortality and morbidity in long-term institutional care of the aged. *J. Am. Geriatr. Soc.* 9:959–63
28. Crown, B., O'Donovan, D., Thompson, T. G. 1967. Attitudes toward attitudes toward death. *Psychol. Rep.* 20:1181–82
29. Cumming, E., Henry, W. E. 1961. *Growing Old.* New York: Basic Books
30. Dickstein, L. S. 1976. Attitudes toward death, anxiety, and social desirability. *Omega.* In press
31. Dickstein, L. S., Blatt, S. 1966. Death concern, futurity, and anticipation. *J. Consult. Psychol.* 30:11–17
32. Douglas, J. D. 1967. *The Social Meanings of Suicide.* Princeton, NJ: Princeton Univ. Press
33. Durkheim, E. 1951. *Suicide.* Glencoe, Ill: Free Press
34. Durlak, J. A. 1972. Relationship between various measures of death concern and fear of death. *J. Consult. Clin. Psychol.* 41:162
35. Eliot, T. D. 1930. The adjustive behavior of bereaved families: a new field for research. *Soc. Forces* 8:543–49

36. Engel, G. L. 1971. Sudden and rapid death during psychological stress: folklore or folk wisdom? *Ann. Intern. Med.* 74:771–82
37. Engel, G. L., Schmale, A. H. 1967. Psychoanalytic theory of somatic disorders. *J. Am. Psychoanal. Assoc.* 15:344–65
38. Farber, M. L. 1968. *Theory of Suicide.* New York: Funk & Wagnalls
39. Farberow, N. L., Shneidman, E. S., eds. 1965. *The Cry for Help.* New York: McGraw-Hill
40. Fechner, G. T. 1904. *The Little Book of Life after Death (1836).* Boston: Little, Brown
41. Feifel, H. 1963. The taboo on death. *Am. Behav. Sci.* 6:66–67
42. Feifel, H., ed. 1959. *The Meaning of Death.* New York: McGraw-Hill
43. Feifel, H. 1956. Older persons look at death. *Geriatrics* 11:127–30
44. Feifel, H., Branscomb, A. B. 1973. Who's afraid of death? *J. Abnorm. Psychol.* 81:282–88
45. Ferrence, R. A., Johnson, F. G. 1974. Factors affecting reported rates of self-injury. *Life Threatening Behav.* 4:54–66
46. Fischer, H. K., Dlin, B. M. 1972. Psychogenetic determination of time of illness or death by anniversary reactions and emotional deadlines. *Psychosomatics* 13:170–73
47. Frazer, J. G. 1933. *The Fear of the Dead in Primitive Religions.* London: Macmillan
48. Freud, S. 1959. "Mourning and Melancholia" (1917). *Collected Papers,* Vol. 4. New York: Basic Books
49. Freud, S. 1956. "Our Attitude Toward Death" (1915). *Collected Papers,* Vol. 4. London: Hogarth
50. Freud, S. 1918. *Reflections on War and Death.* New York: Moffat, Yard
51. Fulton, R. J. 1973. *A Bibliography on Death, Grief and Bereavement, 1845–1973.* Center for Death Educ. Res., Univ. Minnesota. 3rd rev. ed.
52. Furman, E. 1974. *A Child's Parent Dies.* New Haven: Yale Univ. Press
53. Gartley, W., Bernasconi, M. 1967. The concept of death in children. *J. Genet. Psychol.* 110:71–85
54. Glaser, B. G., Strauss, A. L. 1968. *Time for Dying.* Chicago: Aldine
55. Glaser, B. G., Strauss, A. L. 1965. *Awareness of Dying.* Chicago: Aldine
56. Glick, I., Weiss, R. S., Parkes, C. M. 1974. *The First Year of Bereavement.* New York: Wiley-Interscience
57. Goldfarb, A. I., Shahinian, S. P., Burr, H. T. 1972. Death rates of relocated nursing home residents. In *Research Planning, and Action for the Elderly,* ed. D. Kent, R. Kastenbaum, S. Sherwood, pp. 525–35. New York: Behav. Publ.
58. Golding, S. L., Atwood, G. E., Goodman, R. A. 1966. Anxiety and two cognitive forms of resistance to the idea of death. *Psychol. Rep.* 18:359–64
59. Gorer, G. 1965. *Death, Grief, and Mourning.* New York: Doubleday
60. Gruman, G. J. 1966. *A History of the Ideas About the Prolongation of Life.* Philadelphia: Am. Philos. Soc.
61. Hall, G. S. 1915. Thanatophobia and immortality. *Am. J. Psychol.* 26:550–613
62. Handal, P. J. 1969. The relationship between subjective life expectancy, death anxiety, and general anxiety. *J. Clin. Psychol.* 25:39–42
63. Handal, P. J., Rychlak, J. F. 1971. Curvilinearity between dream content and death anxiety and the relationship of death anxiety to repression-sensitization. *J. Abnorm. Psychol.* 77:11–16
64. Heibel, A. 1970. *The Gilgamesh Epic and Old Testament Parallels.* Univ. Chicago Press
65. Hendin, H. 1975. Growing up dead: student suicide. *Am. J. Psychother.* 29:327–38
66. Hendin, H. 1969. *Black Suicide.* New York: Basic Books
67. Hendin, H. 1964. *Suicide and Scandinavia.* New York: Grune & Stratton
68. Henry, A. F., Short, J. F. 1954. *Suicide and Homicide.* New York: Free Press
69. Hooper, T., Spilka, B. 1970. Some meanings and correlates of future time and death among college students. *Omega:* 1:49–56
70. Janis, I. L. 1958. *Psychological Stress: Psychoanalytic and Behavioral Studies of Surgical Patients.* New York: Wiley
71. James, W. 1910. *The Varieties of Religious Experience.* Boston: Longmans; Green
72. Jeffers, F. C., Nichols, C. R., Eisdorfer, C. 1961. Attitudes of older persons toward death: a preliminary study. *J. Gerontol.* 16:53–56
73. Jeffers, F. C., Verwoerdt, A. 1969. How the old face death. In *Behavior and Adaptation in Late Life.* ed. E. W. Busse, E. R. Pfeiffer, pp. 163–82. Boston: Little, Brown
74. Kastenbaum, R. 1977. *Death, Society, and Human Behavior.* St. Louis: Mosby
75. Kastenbaum, R. 1975. Is death a life crisis? In *Life-Span Developmental Psy-*

chology: Normative Life Crises, ed. N. Datan, L. Ginsberg, pp. 19–50. New York: Academic
76. Kastenbaum, R. 1974. Childhood: the kingdom where creatures die. *J. Clin. Child Psychol.* 3:11–14
77. Kastenbaum, R. 1959. Time and death in adolescence. In *The Meaning of Death,* ed. H. Feifel, pp. 99–113. New York: McGraw-Hill
78. Kastenbaum, R., ed. 1970. *Omega: Journal of Death and Dying.* Farmingdale. NY: Baywood Publ.
79. Kastenbaum, R., Aisenberg, R. 1972. *The Psychology of Death.* New York: Springer
80. Kelly, G. A. 1955. *The Psychology of Personal Constructs,* Vol. 1. New York: Norton
81. Killian, E. C. 1970. Effects of geriatric transfer on mortality rates. *Soc. Work* 15:19–26
82. Koocher, G. 1973. Childhood, death and cognitive development. *Dev. Psychol.* 9:369–75
83. Krieger, S. R., Epting, F. R., Leitner, L. M. 1974. Personal constructs, threat, and attitudes toward death. *Omega* 5:299–310
84. Kron, J. 1976. Designing a better place to die. *New York Mag.* 1:43–49
85. Kubler-Ross, E. 1969. *On Death and Dying.* New York: Macmillan
86. Lawton, M. P., Yaffee, S. 1970. Mortality, morbidity, and voluntary change of residence by older people. *J. Am. Geriatr. Soc.* 18:823–31
87. LeShan, L., LeShan, E. 1961. Psychotherapy and the patient with a limited life span. *Psychiatry* 24:318–23
88. Lester, D. 1972. Religious behaviors and attitudes toward death. In *Death and Presence: Studies in the Psychology of Religion,* ed. A. Godin, pp. 107–24. Brussels, Belgium: Lumen Vitae
89. Lester, D. 1967. Experimental and correlational studies of the fear of death. *Psychol. Bull.* 67:27–36
90. Lester, D. 1972. *Why Do People Kill Themselves?* Springfield, Ill: Thomas
91. Lester, G., Lester, D. 1970. The fear of death, the fear of dying, and threshold differences for death words and neutral words. *Omega* 1:175–79
92. Lieberman, M. A., Caplan, A. S. 1970. Distance from death as a variable in the study of aging. *Dev. Psychol.* 2:71–84
93. Lieberman, M. A. 1961. Relationship of mortality rates to entrance to a home for the aged. *Geriatrics* 16:515–19
94. Lifton, R. J. 1975. On death and the continuity of life: a psychohistorical perspective. *Omega* 6:143–60
95. Lindemann, E. 1944. Symptomatology and management of acute grief. *Am. J. Psychiatry* 101:141–48
96. Litman, R. E. 1966. Sigmund Freud on suicide. *Psychoanal. Forum* 1:206–20
97. Litman, R. E. 1971. Suicide prevention: evaluating effectiveness. *Life Threatening Behav.* 1:155–62
98. Livingston, P. B., Zimet, C. N. 1965. Death anxiety, authoritarianism and choice of specialty in medical students. *J. Nerv. Ment. Dis.* 140:222–30
99. Lowry, R. J. 1966. Male-female differences in attitudes toward death. *Diss. Abstr.* 27:1607–8
100. Maddison, D., Viola, A. 1968. The health of widows in the year following bereavement. *J. Psychosom. Res.* 12: 297–306
101. Magni, K. G. 1972. The fear of death. In *Death and Presence: Studies in the Psychology of Religion,* ed. A. Godin, pp. 25–38. Brussels, Belgium: Lumen Vitae
102. Marcus, E., Blenkner, M., Blum, M., Downs, T. 1972. Some factors and their association with post relocation mortality among institutionalized aged persons. *J. Gerontol.* 27:376–82
103. Markusen, E., Fulton, R. 1971. Childhood bereavement and behavioral disorders: a critical review. *Omega* 2:107–17
104. Marriot, C., Harshbarger, D. 1973. The hollow holiday: Christmas, a time of death in Appalachia. *Omega* 4:259–66
105. Marshall, V. W. 1973. Game-analyzable dilemmas in a retirement village: a case study. *Aging Hum. Dev.* 4:285–92
106. Martin, D., Wrightsman, L. S. 1965. The relationship between religious behavior and concern about death. *J. Soc. Psychol.* 65:317–23
107. Maurer, A. 1961. The child's knowledge of non-existence. *J. Existent. Psychiatry* 2:193–212
108. Mechnikov, I. I. 1901. *The Prolongation of Life.* London: Heinemann
109. Meisner, W. W. 1958. Affective responses to psychoanalytic death symbols. *J. Abnorm. Soc. Psychol.* 56: 295–99
110. Menninger, K. A. 1938. *Man Against Himself.* New York: Harcourt Brace
111. Mishara, B. L., Baker, A. H., Mishara, T. 1976. The frequency of suicide attempts: a retrospective approach ap-

plied to college students. *Am. J. Psychiatry.* In press
112. Mitford, J. 1963. *The American Way of Death.* New York: Simon & Schuster
113. Munnichs, J. M. A. 1966. *Old Age and Finitude.* New York: Karger
114. Nagy, M. H. 1948. The child's theories concerning death. *J. Genet. Psychol.* 73:3–27
115. Nogas, C., Schweitzer, K., Grumet, J. 1974. An investigation of death anxiety, sense of competence, and need for achievement. *Omega* 5:245–55
116. Novick, L. J. 1967. Easing the stress of moving day. *Hospitals* 41:64–74
117. Opie, I., Opie, P. 1969. *Childrens' Games in Street and Playground.* London: Oxford Univ. Press
118. Osler, W. 1904. *Science and Immortality: the Ingersoll Lecture, 1904.* Boston, New York: Houghton Mifflin
119. Pandey, R. E., Templer, D. I. 1972. Use of the death anxiety scale in an interracial setting. *Omega* 3:127–30
120. Paris, J., Goodstein, L. D. 1966. Responses to death and sex stimulus materials as a function of repression-sensitization. *Psychol. Rep.* 19:1283–91
121. Parkes, C. M. 1972. *Bereavement.* New York: Int. Univ. Press
122. Parkes, C. M. 1964. Recent bereavement as a cause of mental illness. *Br. J. Psychiatry* 110:198–204
123. Parkes, C. M. 1964. Effects of bereavement on physical and mental health—a study of the medical records of widows. *Br. Med. J.* 2:274–79
124. Phillips, D. P. 1972. Deathday and birthday: an unexpected connection. In *Statistics: A Guide to the Unknown,* ed. J. N. Tannur. San Francisco: Holden-Doug
125. Piaget, J. 1929. *The Child's Conception of the World.* London: Kegan Paul
126. Pincus, L. 1974. *Death and the Family.* New York: Pantheon
127. Plato 1875. Phaedrus. In *The Dialogues of Plato,* transl. B. Jowett, 2:75–160. London: Macmillan
128. Ray, J. J., Najman, J. 1974. Death anxiety and death acceptance: a preliminary approach. *Omega* 5:311–15
129. Rea, M. P., Greenspoon, S., Spilka, B. 1976. Physicians and the terminally ill patient: some selected attitudes and beliefs. *Omega.* In press
130. Resnick, H. L. P., ed. 1968. *Suicidal Behavior: Diagnosis and Management.* Boston: Little, Brown
131. Rhudick, P. J., Dibner, A. S. 1961. Age, personality and health correlates of death concerns in normal aged individuals. *J. Gerontol.* 16:44–49
132. Riegel, K. 1973. Dialectic operations: The final period of cognitive development. *Hum. Dev.* 16:346–70
133. Rochlin, G. 1965. *Griefs and Discontents: The Focus of Change.* Boston: Little, Brown
134. Sabatini, P., Kastenbaum, R. 1973. The do-it-yourself death certificate as a research technique. *Life Threatening Behav.* 3:20–32
135. Safier, G. 1964. A study in relationships between life-death concepts in children. *J. Genet. Psychol.* 105:238–95
136. Saunders, C. 1976. *Annual Report.* London: St. Christopher's Hospice
137. Schoenberg, R., Carr, A. C., Kutscher, A. H., Peretz, D., Goldberg, I., eds. 1974. *Anticipatory Grief.* NY: Columbia Univ. Press
138. Schoenberg, B. B., Carr, A. C., Peretz, D., Kutscher, A. H., eds. 1970. *Loss and Grief.* New York: Columbia Univ. Press
139. Schulz, R., Aderman, D. 1974. Clinical research and the stages of dying. *Omega* 5:137–43
140. Schur, T. J. 1971. What man has told children about death. *Omega* 2:84–90
141. Seligman, M. 1975. *Helplessness.* San Francisco: Freeman
142. Selvey, C. L. 1973. Concerns about death in relation to sex, dependency, guilt about hostility and feelings of powerlessness. *Omega* 4:209–19
143. Shneidman, E., ed. *Suicide* (journal). Morningside Heights, NY: Behav. Publ.
144. Shneidman, E. 1973. *The Deaths of Man.* New York: Quadrangle
145. Shneidman, E., Farberow, N. L. 1965. The Los Angeles Suicide Prevention Center: a demonstration of public health feasibilities. *Am. J. Public Health* 55:21
146. Shrut, S. D. 1958. Attitudes toward old age and death. *Ment. Hyg.* 42:259–66
147. Sudnow, D. 1967. *Passing on: The Social Organization of Dying.* Englewood Cliffs, NJ: Prentice-Hall
148. Swenson, W. M. 1961. Attitudes toward death in an aged population. *J. Gerontol.* 16:49–52
149. Switzer, D. K. 1970. *Dynamics of Grief: Its Sources, Pain and Healing.* Nashville: Abingdon
150. Tallmer, M., Formanek, R., Tallmer, J. 1974. Factors influencing children's concepts of death. *J. Clin. Child Psychol.* 3:17–19

151. Taylor, J. (1651), 1819. *Art of Holy Dying.* London: Longman, Hurst, Reese, Orme & Brown. (op) Reprinted by Arno Press, NY. In press
152. Teahan, J., Kastenbaum, R. 1970. Subjective life expectancy and future time perspective as predictors of job success in the "Hard Core Unemployed". *Omega* 1:189–200
153. Templer, D. I. 1970. The construction and validation of a Death Anxiety Scale. *J. Genet. Psychol.* 82:165–77
154. Templer, D. I. 1970. Religious correlates of death anxiety. *Psychol. Rep.* 26:895–97
155. Templer, D. I. 1971. The relationship between verbalized and nonverbalized death anxiety. *J. Genet. Psychol.* 119:211–14
156. Templer, D. I., Ruff, C. F. 1971. Death anxiety scale means, standard deviation, and embedding. *Psychol. Rep.* 29:174
157. Titchener, J., Zwirling, I., Gottschalk, L. A., Levine, M. 1958. Psychological reactions of the aged in surgery: the reactions of renewal and depletion. *A.M.A. Arch. Neurol. Psychol.* 79:63–73
158. Toynbee, A. 1968. *Man's Concern with Death.* New York: McGraw-Hill
159. Weisman, A. D. 1972. *On Dying and Denying.* New York: Behav. Publ.
160. Weisman, A. D., Kastenbaum, R. 1968. *The Psychological Autopsy: A Study of the Terminal Phase of Life.* New York: Behav. Publ.
161. Weiss, R. 1975. *Marital Separation.* New York: Basic Books
162. Welu, T. C. 1972. Psychological reactions of emergency room staff to suicide attempters. *Omega* 3:103–10
163. Whiter, W. 1819. *The Disorder of Death.* London: Deighton
164. Williams, R. L., Cole, S. 1968. Religiosity, generalized anxiety, and apprehension concerning death. *J. Soc. Psychol.* 75:111–17
165. Wohlford, P. 1966. Extension of personal time, affective states, and expectation of personal death. *J. Pers. Soc. Psychol.* 3:559–66
166. Worcester, A. 1961. *The Care of the Aged, the Dying and the Dead.* Springfield, Ill: Thomas
167. Worden, J. W., Sterling-Smith, R. S. 1973. Lethality patterns in multiple suicide attempters. *Life Threatening Behav.* 3:95–104
168. Zandee, J. 1960. *Death as an Enemy According to Ancient Egyptian Conceptions.* Leiden, Netherlands: Brill
169. Zweig, J. P., Csank, J. Z. 1975. Effects of relocation on chronically ill geriatric patients in a medical unit: mortality rates. *J. Am. Geriatr. Soc.* 23:123–32