

1-1-2015

## Not Going Gentle into that Good Night: Science and Religion in the Face of Death

Larry Poston  
lposton@messiah.edu

Pamela Code

Follow this and additional works at: [https://mosaic.messiah.edu/brs\\_ed](https://mosaic.messiah.edu/brs_ed)



Part of the [Life Sciences Commons](#), [Medical Humanities Commons](#), [Religion Commons](#), and the [Sociology of Religion Commons](#)

Permanent URL: [https://mosaic.messiah.edu/brs\\_ed/3](https://mosaic.messiah.edu/brs_ed/3)

---

### Recommended Citation

Poston, Larry and Code, Pamela, "Not Going Gentle into that Good Night: Science and Religion in the Face of Death" (2015). *Bible & Religion Educator Scholarship*. 3.  
[https://mosaic.messiah.edu/brs\\_ed/3](https://mosaic.messiah.edu/brs_ed/3)

### Sharpening Intellect | Deepening Christian Faith | Inspiring Action

Messiah University is a Christian university of the liberal and applied arts and sciences. Our mission is to educate men and women toward maturity of intellect, character and Christian faith in preparation for lives of service, leadership and reconciliation in church and society.

**Not Going Gentle Into That Good Night:  
Science and Religion in the Face of Death**

**Pamela Code  
Larry Poston**

**Nyack College**

## Abstract

*For millennia, religions have provided rituals bringing comfort in the face of death. Modern science, however, is developing new means for dealing with this phenomenon. Controversial issues include: how to ascertain “death”—particularly in light of “premature burials;” religious questions regarding the morality of embalming; religious questions regarding the desirability of burial versus cremation; and extending life in attempts to achieve immortality—versus the contention that mortality is the result of human sinfulness. This article explores these issues and seeks to answer the question of whether science has contributed positively or negatively to the experience of dying.*

### Religion and Death

*“There is one who remembers the way to your door.  
Life you may evade, but Death you shall not.  
You shall not deny the Stranger.”*

T.S. Eliot

Throughout human history, religion has provided the chief means for dealing with the reality and inevitability of death. Religious teachings offer explanations for why death exists, reminders of its unavoidable approach, and preparations for both the process and the aftermath when relatives and friends meet with it. Religious rituals conducted on the occasion of a life’s ending lend comfort and aid in navigating the grief process. “Last rites,” which may include a final “anointing” with oil, washing and clothing of the body in preparation for interment, special words pronounced over the body or during the funeral ceremony, and graveside activities involving the proper placement of the body or the shoveling of dirt onto the coffin by relatives, all serve to provide a proper send-off for a departed individual and bring closure to relatives and friends.

Alison Chapple and her co-writers speak of five positive contributions of religion in the face of death (Chapple, Swift & Ziebland, 2011, pp. 9-14).

1. The Hope of Healing. Religious persons often harbor hope that they may be divinely cured of their afflictions and that death may consequently be averted. Anticipation of the possibility of supernatural healing *can* serve to maintain an overall optimism even on the part of a person *in extremis*—and such optimism may itself have restorative powers that help to extend life, however briefly. It is certainly true that a negative and depressed attitude hastens the process of death, as demonstrated, for instance, by the number of persons who succumb quickly after their spouse has passed (Hodgekiss, 2013).

Optimism, then, may very well have an opposite effect.

2. The Provision of Practical Support. People with religious ties often have greater levels of personal support than those who do not. Being surrounded by caring people who visit regularly and who retain a cheerful demeanor can serve to mitigate the knowledge of one's impending departure. Some argue that prayers offered by such supporters also work to prolong the lives of the dying. Research concerning such phenomena, however, shows that while prayers have some slight benefit for those patients who are aware that they are being prayed for, there is no measurable effect upon persons who are unaware of such intervention, leading social scientists to conclude that one is experiencing nothing more than a psychological "lift" imparted by knowledge that loved ones care enough to offer prayers (Stein, 2005; Carey, 2006).
3. The Provision of Generic Comfort. Carolyn Pevey and her colleagues report the findings of researchers that "feeling in control is important to people faced with crises," while noting that others paradoxically have claimed that "when faced with the inevitability of death, *relinquishing* control can offer comfort" (Pevey, Jones & Yarber, 2008-2009, p. 55). Both of these observations may well be true in the case of one whose religious convictions are well-developed. If one can look back on a life of religious service and is confident based on the assurance offered by a trusted authority (i.e. a member of the clergy or a passage of Scripture) that one will be rewarded for such activities, then death may be approached with a feeling of "control" since one has made choices that assure him/her of a reward in the afterlife. Simultaneously, this same confidence can facilitate the relinquishing of control as one is prepared to accept one's reward from the hands of a Deity. In some studies, religion has also been shown to offer comfort by allegedly providing a personal relationship with a divine Other. Such a relationship is characterized

as one in which subjects can freely express their thoughts and feelings, especially when family and friends do not understand or lack empathy with the individuals' emotional states. Thus, the ability to communicate openly with an understanding partner—in this case, God—seems to offer relief and comfort to those who are faced with a terminal illness.

4. **The Provision of Hope for a Continued Existence After Death.** The religious teachings of all the major religions hold out hope for *some* form of conscious existence after the present physical life has ended. Christianity contains one of the more physical and sensory visions of an afterlife, with graphic descriptions of an eternal city and continued human relationships. Pevey et al. note that the idea of a “larger purpose” in death is a type of meaning construction for which religion is helpful, especially when teachings include the promise of a later reunion with loved ones (Pevey, et al., 2008-2009, p. 43). While in some religions the afterlife is only vaguely portrayed, in none is the individual destined for oblivion.
5. **Enablement for People to Make Sense of What Has Happened.** Chapple's team noted that “the need for bereaved relatives to make sense of what has happened increases when a death is sudden and apparently senseless. Religion may help people to reframe their loss, and find less threatening interpretations of events” (Chapple, et al., 2011, p. 13). Religion can help bereaved persons structure their grief and provide “coping mechanisms” for dealing with the trauma that death can induce. Isaiah 57:1-2, for instance, proffers the following explanation for what may appear to some to be an unjust death: “*The righteous perish, and no one ponders it in his heart; devout men are taken away, and no one understands that the righteous are taken away to be spared from evil.*”

*Those who walk uprightly enter into peace; they find rest as they lie in death (New International Version)."*

### **Science and Death**

*"Do not go gentle into that good night.  
Rage, rage against the dying of the light."*

Dylan Thomas

While some religiously-oriented persons have claimed that many scientists "find God" in the course of their work within "God's created order" and therefore become strongly religious in their orientation toward life, a 1998 survey of members of the National Academy of Sciences showed that 72% of scientists were atheists, 21% were agnostic and only 7% admitted to belief in a personal God (Larson & Witham, 1998, p. 313). Science is rooted in empiricism, with respect to which the claims of religion (i.e. beliefs in a "soul," an afterlife, an invisible but personal Deity, etc.) are seemingly irrelevant.

For scientists—in particular those who have received medical training—death is a clinical condition defined as the cessation of heartbeat, respiration, and brain function. The concept of an immaterial "something" (i.e. a "soul") leaving the body at the point of such cessation and continuing an "existence elsewhere" does not appear in modern science, for the immaterial by definition is undetectable by human instruments. Scientists can offer no evidence for the existence of any state of being after the cessation of bodily functions.

For this reason, scientifically oriented personnel are often seen as "heartless" with respect to the issue of death in its entirety. While they may be respectful of the religious beliefs of individuals, from their perspective death is nothing more than the natural result of cells' inability to continue replacing themselves combined with the explosive multiplication of bacteria breaking down cellular structures. To a scientifically oriented mind, death may even be seen as

an existential necessity, for if it did *not* subtract people at the rate it currently does, humanity would soon experience a catastrophic overpopulation of the earth resulting in mass starvation, disease epidemics, and substandard living conditions.

Thus while religion is generally rated “positive” with respect to matters connected with death and dying, science is rated “negative” or, at best, “neutral.” In either case, the latter is seen as offering nothing in the way of comfort in the face of bereavement. But is this evaluation truly justifiable? Are there not issues concerning which science makes positive contributions? And are there not ways in which one’s religiosity may complicate or make more difficult the death process?

### **Specific Issues Involving the Intersection of Science, Religion and Death**

#### **1. Ascertaining Death – Religious Answers Versus Scientific Answers**

For most religionists “death” refers to a two-faceted state that occurs when the physical body’s vital functions of respiration and heartbeat cease and an immaterial aspect (i.e. the soul) leaves the body and assumes a non-physical and other-dimensional existence. For Christians who adhere to historical orthodoxy, the soul upon its departure is ushered into the presence of God (i.e. “*away from the body and at home with the Lord*”—2 Cor. 5:8).

Scientists, on the other hand, rightly claim that there exists no procedure for empirically ascertaining the existence of an “immaterial” portion of the human being. Science is therefore limited to a single-faceted definition of death, such as “cessation of the heartbeat,” “cessation of breathing,” and/or “cessation of brainwave activity.” If properly functioning instrumentation indicates that the three of these have ceased, the subject is certifiably “dead.” For a religionist, however, it is theoretically possible for such cessations to have occurred, but if the soul is still present, one is not yet truly “dead.” Such a position is not possible for scientists to adopt,

although they are aware that there are difficulties with their more technologically oriented views, as explicated below.

For many decades now, “brain death” has been the accepted criterion for determining when a person has expired. Even in Roman Catholicism—often assumed to be the most “narrow” of Christian rites with respect to such matters—Pope Pius XII (r. 1939-1958) proclaimed in 1957 that there was no obligation to use extraordinary means to prolong life in critically ill patients, in particular those in whom all brain activity has ceased (Pius XII, 1957). Withholding or withdrawing life-sustaining treatment from patients with acute and irreversible brain damage has therefore become morally acceptable even within many of the more conservative enclaves of society.

With respect to the Western world at large, the 1981 Uniform Determination of Death Act (UDDA) states: “An individual that has sustained either (1) irreversible cessation of circulatory and respiratory functions, or (2) irreversible cessation of all functions of the entire brain, including the brain stem, is dead” (National, 1980, p. 3). The diagnostic tests used to determine whether brain death has occurred involve unresponsiveness, apnea, and lack of cranial nerve reflexes (Wijdicks, Varelas, Gronseth, & Greer, 2010). However, permanent cessation of functioning in the organism as a whole is not always seen upon loss of all brain functions. In “brain dead” individuals, cellular respiration, nutrition, wound healing, febrile response to infection, and the elimination, detoxification, and recycling of waste have all been observed. For instance, there have been pregnant patients certified as “brain dead” for whom continued intensive care treatment was requested until the fetus was mature enough to be born. The most exceptional of such cases was the successful maintenance of a pregnant woman with brain death from the 17<sup>th</sup> to the 32<sup>nd</sup> week of gestation (Laureys, 2005, p. 900). Such examples have been

used to show that the neurocentric concept of death is at least partially flawed, since it is difficult to imagine how a “dead” body could continue organ functioning for such an extended period (i.e. almost four months), enough to gestate an infant.

Also problematic is the fact that if human beings are nothing more than their minds, then euthanasia could conceivably be seen as a generous act in cases of “brain death.” “Mercy killing” or “noble suicide” before dementia robs individuals of their faculties could be viewed as a last act of “humanness,” a revolt against the conviction that humanity’s natural origins predispose them to be nothing more than survival-seeking beasts or matter-in-motion (Cohen, 2006, p. 791). But such strictly humanistic sentiments are unacceptable to religionists who believe that matters of life and death are determined by a Deity who “*holds the keys of death...*” (Rev. 1:18).

Further controversy has arisen because of the linkage of brain death to organ transplantation. Brain dead organ donors are kept biologically “alive” before the organ recovery process occurs in order to keep the organs “fresh,” but organ removal then makes the continuation of life impossible. If such procedures were consented to in advance based on an adequate understanding of the relevant facts, they could conceivably be ethically acceptable. However, removing organs—and thereby killing the donor in the process—in the absence of consent would clearly be a moral transgression from a religionist’s—and even from some scientists’—point of view (Nair-Collins, 2010).

As a result of these objections, the President’s Council on Bioethics produced a white paper in December of 2008, acknowledging that while generally compelling and usually valid, the rationale for neurological determination of death should be reformulated to include more nuanced aspects (President’s Council, 2008, Chapter 7).

Because of such issues and recommendations, the most accepted definition of death is presently “the permanent cessation of the critical functions of the organism *as a whole*” (Laurys, 2005, p. 900). The “organism as a whole” is actually an old concept in theoretical biology that refers to the human body’s unity and functional integrity. Critical functions are those without which the organism *as a whole* cannot survive: control of respiration and circulation, neuroendocrine and homeostatic regulation, and consciousness. Death is defined as the irreversible loss of *all* of these functions (Bernat, 2006, p. 38). And because scientific instrumentation is necessary to ascertain such total loss of functionality, it is therefore medical science that must determine when an individual has truly “died” in accordance with this definition.

Thus with respect to a legally defensible determination of death, religionists must defer to scientists. The instruments of science give a much more certain indication than the “guesses” of religionists as to when the “soul” or immaterial aspect of a human being has departed. Religionists must assume that when the critical functions of the organism as a whole have all ceased, the soul is no longer present.

## **2. Explaining Death – Religious Answers Versus Scientific Answers**

Both Judaism and Christianity consider death to be the consequence of a disrupted relationship between the Creator and the created. The account of the Fall of humankind in the book of Genesis contains God’s warning to the first human beings regarding failure to obey a specific directive: “...*but you must not eat from the tree of the knowledge of good and evil, for when you eat of it you will surely die*” (Gen. 2:17). Genesis further explains that while humans’ first parents were originally permitted to eat of the “Tree of Life”—an activity that presumably prevented physical death—access to this Tree was denied them upon their fall into a sinful state.

Not until the final judgment will access to the Tree of Life be restored for those who are accounted righteous before God (see Rev. 22:2). For the religious, then, death is *unnatural* in that it was not part of the Deity's original plan for His creation. But as a result of the new conditions brought about by the descent into sin, death is now a *natural* part of human existence, and will be so until the "*end of the age*" after which "*death will be no more*" (Rev. 21:4). But natural or unnatural, death concludes physical life as it is presently known; it is an *ending*.

This fact is perhaps one of the chief reasons that modern research has shown that when faced with death, finding *meaning* for one's past as well as for what remains of one's life typically becomes a central focus of attention. Such concerns are usually more prominent than complaints about physical symptoms in terminally ill patients. Donald Edmondson and his colleagues have demonstrated that the expectation of literal immortality is a significant aspect of the comfort that religious worldviews provide individuals near death (Edmondson, Park, Chaudoir & Wortmann, 2008, p. 754). The belief expressed in the cliché "death is but a doorway" allows the dying patient to think not in terms of an ending but rather of a new stage of existence. Such thinking may fill him or her with anticipation rather than sadness or a sense of impending loss.

Perhaps just as significantly, the *breakdown* of a religious worldview can sometimes leave an individual vulnerable to the terror of death (Edmondson et al., 2008, p. 757). Some people experience significant religious struggle as they near life's end due to a lack of assurance of one's destiny, a sense of having left things "unfinished," or a general dread regarding conscious shortcomings—and this struggle *increases* anxiety, depression, and functional disability. Thus religious explanations of death can have both positive (i.e. comfort through anticipation of a paradisiacal afterlife) and negative (i.e. inducing anxiety and terror) effects.

Science explains death as the consequence of an inability of cells to continue to subdivide and reproduce. Over time, the oxidation process that is a normal part of cellular activity breaks down the cellular structure itself, leading to an eventual inability to replenish cells. The “Hayflick Limit” is the term given to the phenomenon noted by Dr. Leonard Hayflick, a UC San Francisco biologist whose experiments have shown that cells cease to divide after approximately fifty doublings (Butler, 2008, p. 164-166). Hope exists that this barrier can eventually be broken and that persons will be able to extend their lives indefinitely. But such goals raise the following question for religionists: seeing that God has imposed a limit of 120 years on the human lifespan (Gen. 6:3), would attempts to extend human life be tantamount to rebellion against God’s decree? This question will be discussed below.

With respect to *explaining* death, then, scientists must defer to the teaching and judgment of competent religionists. Science can speak with empirical authority regarding the ascertainment of death and can offer explanations for the “what” and the “how” of death. But *why* physical bodies are characterized by an entropy that leads to a constantly decreasing ability of cells to replace themselves and an eventual cessation of organic functions is essentially a mystery. But here even religionists must speak with humility, for only on the basis of revelation from the Deity who created the potential for death can human beings know the “why,” and such knowledge is limited to what the Creator has been willing to reveal.

### **3. The Ethics of Embalming – Science Versus Religion**

Funerary rituals vary greatly between cultures, but the last step—the disposal of the body—is the final statement made about a people’s beliefs regarding life, death, and afterlife. For instance, to Hindus, Buddhists, Jains and Sikhs, death merely leads to yet another physical existence through an immediate (or almost immediate) “reincarnation” into a new physical form,

so removing all traces of one's present physicality through immolation is in no way problematic. Most adherents of Judaism, Christianity and Islam, however, have an uncompromising preference for burial, rooted in their beliefs that God will resurrect each person to stand before the Deity in a physical form for the pronouncement of a final judgment. The body should therefore be left in its "natural" state with no human-devised alterations—including embalming.

Embalming in America traces its beginnings to the latter half of the 19th century. The Civil War had generated a need for soldiers' bodies to be transported back to their homes for burial. In many cases, however, decay easily out-paced the journey. Through experimentation, Dr. Thomas Holmes (1817-1899) discovered that by draining the deceased person's blood through incisions in arteries and then injecting preservative solutions into the empty blood vessels, the microorganisms that initiate bodily decay were destroyed and the body remained presentable until burial. Since that time, embalming has been employed for the majority of deaths in the United States (Chiappelli & Chiappelli, 2008, p. 24).

Not often recognized is the fact that embalming also addressed another concern pertinent to the 18<sup>th</sup> and 19<sup>th</sup> centuries in that it eliminated the possibility of premature burial. It is estimated that before the embalming procedure became standard fare, a significant number of persons had been buried alive, had revived while interred, and had apparently suffered greatly until they finally suffocated or starved. Macabre discoveries were made that produced horror stories concerning claw marks on the inside of caskets and corpses entombed in mausoleums that were later found in fetal positions with their hair torn out, fingers chewed off, and garments shredded, all evidence of panic and struggle.

Georgetown University researcher Christine Quigley has collected a significant number of examples of this phenomenon. She found that as far back as 1742 John Bruhier of France had

documented 52 examples of premature burial and 72 mistaken diagnoses of death, leading to a proposal that an “inspector of the dead” be appointed. In 1895, Franz Harmann of Bavaria recorded more than 700 actual cases and “narrow escapes.” T.M. Montgomery surveyed the burials made in Fort Randall Cemetery when it was moved in 1896 and found that nearly two percent of those exhumed had been victims of what he called “suspended animation.” In 1905, William Tebb and Edward Vollum collected accounts of 219 “narrow escapes,” 149 premature burials, 10 cases of persons dissected alive, 3 almost dissected alive, and 2 who revived while being embalmed. Quigley estimates that in the early 1900s, a case of premature burial was discovered an average of once a week (Quigley, 2005, p. 185-186).

Given the number of persons who die every year, the above figures indicate that, relatively speaking, premature burial did not often take place. Still, there was a general fear that it *could* occur, so much so that the term *taphophobia* was coined to describe the fear of being buried while still alive. Devices such as “safety coffins”—complete with bells that could be rung from inside the coffin to alert the above-ground world that a person had revived, and vault-tombs—which included a hand-wheel on the inside of the vault that could be turned so that the interred person could escape—were constructed throughout the eighteenth and nineteenth centuries (Bondeson, 2002).

Embalming provides assurance that such an event cannot occur, for the injection of highly potent chemicals that displace all blood in the body ensures that the interred is actually deceased. But having erased the fear of premature burial, has society not introduced another question with ethical and religious implications? Is it not possible—even probable—that embalming has killed some people who were not truly dead at the time of the procedure? While scientifically-oriented persons insist that embalming has done grieving families a great service

by providing assurance that a presumed-deceased loved one will not suffer the horror of reviving after burial, religionists are troubled by the moral implications of the probability that embalming has actually killed persons who were not truly dead.

In addition to this question, two additional subjects for discussion arise from the procedures connected with embalming. First, what are the implications of the teaching of the Old Testament that “*the life of the flesh is in the blood*” (Lev. 17:11) in view of the fact that the embalming process removes a person’s blood and replaces it with a toxic substance? Could embalming therefore be seen as sacrilegious, even blasphemous? Certain Christian sects (such as Jehovah’s Witnesses, for whom blood is a sacred substance) refuse embalming for precisely this reason. Most Christians today, however, have followed the lead of contemporary secular society and offered no objections to the procedure. It is difficult, after all, to understand how “*the life of the flesh*” could still be contained in the blood of a dead person. Still, might there not be a symbolic significance that would make the teaching of Leviticus still applicable in some sense?

A second question is this: could it not be claimed that the scientific practice of embalming served as the beginning of the transformation of the disposal of human bodies from a relatively simplistic process involving nothing more than a churchyard, a few sturdy men with shovels and (perhaps) a clergyman trained to deliver final words of comfort into a highly complex business arrangement that is commonly called “the funeral industry?” Jessica Mitford functioned as a “whistleblower” regarding this phenomenon in her 1963 book *The American Way of Death*—a work applauded by some and castigated by others, depending upon the convictions of the reviewer. The gist of Mitford’s findings was that due to the high degree of specialization and the consistent demand for funeral services, funerary customs have become a very profitable field of work. The funeral industry is a highly specialized service for obvious

reasons: not many people are willing to dedicate themselves to a trade that involves hands-on work with the dead on a daily basis. Consequently, the costs of a standard funeral have escalated to an average of over \$10,000 according to a 2010 estimate (Beware, 2013).

This second question has serious implications for Christians who seek to live in accordance with biblical standards of stewardship and simplicity regarding financial resources and the earth's environment. Proponents of traditional funerals cite the positive coping mechanisms that full-service funerals provide; understandably, people do not want to "seem cheap" when making the "final purchase" for their deceased loved ones. Nevertheless, one may also question whether a depletion of personal finances and the acquisition of debt actually constitute a "viable coping mechanism."

Also related to the aspect of stewardship is the impact that embalming fluids and burial caskets have on human beings and the earth's environment. While today's formaldehyde-based materials are far less dangerous than was the use of arsenic, they still pose a threat to the health of the embalmer. Formaldehyde naturally occurs as a gas, and despite embalming room ventilation and protective gear requirements, data collected from workers exposed to formaldehyde and laboratory experiments on rats have confirmed that inhaling this substance causes nose and throat cancer (Formaldehyde, n.d.).

With respect to the environment, the embalmed body will eventually decompose and the formaldehyde-based embalming fluids will not remain forever contained in a casket. Old-fashioned coffins (simple wooden boxes constructed of materials that rotted fairly quickly) were more recently replaced by rectangular-shaped, ornate caskets made of special hardwoods and metals. While these elaborate (and much more expensive) designs may be considered a more respectable "final gift to the deceased loved one," their materials also decompose after many

years, allowing the fluids used to embalm the corpse to seep into the surrounding soil. The small portion that remains in ground water or in water conveyance systems poses significant risks to living organisms, including harm to the reproductive systems and the production of cancer in animal life (Fulton, 2009, p. 31-33). Alternatives are becoming available; for instance, there is a new trend toward “green burials,” as they are called, which involve no embalming and use biodegradable wicker caskets and markers made of native materials. An example would be Billy Campbell’s “conservation burial ground,” the first of its kind, founded in 1998 (Schamberg, 2009, p. 35). But few have heard of these alternatives, and fewer still are availing themselves of them.

With regard to the issue of embalming, then, scientists and religionists will need to engage in an ongoing dialogue, each side being respectful of the other. Given the presuppositions of science, there are compelling reasons to embalm (i.e. allowing transportation of bodies across great distances; bringing closure to loved ones through viewing of the body made possible by embalming; ensuring that premature burials will not occur, etc.). But for many religionists there are also compelling reasons not to embalm (i.e. causing death to persons not yet truly dead; removing the body’s blood, a sacred life-bearing fluid; causing possible harm to the environment, etc.). In the end, each individual case must be judged on the basis of the convictions both of the dying person and those nearest to him or her.

#### **4. The Ethics of Cremation—Science Versus Religion**

The second most common method of cadaver disposition in the U.S. is cremation—the incineration of the body and collection of the ashen remains in an urn or other receptacle either to be kept by the deceased’s family or dispersed. Although it is generally less expensive and in many ways more practical than embalming and burial, acceptance of cremation by the general

American public has been hampered in part by the stigma arising from the perceptions of Jews and Christians that the practice is pagan and dishonorable to the body. It has been especially unpopular among Jewish persons for whom it serves as a grim reminder of the Nazi death camps, and for this reason both Orthodox and Conservative Jews continue to forbid it.

Many conservative Christians are equally opposed. The Roman Catholic Church formalized its opposition in 1886, stating in Canon 1203 of the *Corpus Juris Canonici* that “the bodies of the faithful must be buried; their cremation is forbidden” (Russell, 1965). Although this prohibition was repealed in 1963, immolation of the body is still discouraged (Cahill, 2009, pp. 23-28). And in the mainly Protestant Bible Belt, where for many traditionalists there is “no salvation after cremation,” burial still predominates today. James W. Fraser may have been speaking for most of his Protestant colleagues when he wrote in *Cremation: Is It Christian?* that the practice was “of heathen origin, an aid to crime, a barbarous act, also anti-Biblical...To a person of refined Christian culture, it must be most repulsive to think of the body of a friend being treated like a beef roast in an oven, with all its running fats and sizzling tissues” (Fraser, 1965, p. 11). As recently as 1998, the cremation rate in Alabama, Mississippi, and West Virginia still stood at less than 5 percent (Prothero, 2001, p. 190).

Two items—both of which completely bypassed any religious considerations—opened the door to a rapidly increasing acceptance of cremation: financial concerns and the AIDS virus. With respect to the first, Jessica Mitford’s *American Way of Death* became a runaway bestseller mainly because of the author’s “ability to distill a widespread yet vague sense of dissatisfaction with funerals into two clear complaints. The first was economic: Funeral directors were sleazy salesmen fattening their wallets by ripping off the unsuspecting relatives of the corpse...”

(Prothero, 2001, p. 168). Prothero reports that “Mitford ... was an outspoken champion of cremation as an inexpensive alternative to burial” (Prothero, 2001, p.174).

Gary Laderman, however, has demonstrated that it was not just economics that produced the increasing interest in cremation. Statistics show that a majority of those who choose immolation are from the upper classes, meaning that they could well afford a traditional burial (Laderman, 2003, p. 143). Laderman contends therefore that the phenomenon that contributed the most to the rise in cremation’s popularity was the rapid spread of the AIDS virus in the early 1980s. “AIDS,” he says, “opened the door for greater industry acceptance of cremation as a viable—indeed, in many AIDS cases, actively encouraged—form of disposal...” (Laderman, 2003, p. 143). In the face of a fatal disease for which no cure existed, religious convictions were quickly submerged in favor of a technology that eliminated the possibility of further contamination. “Most family members wanted to dispose of the disease-ravaged body as quickly as possible, whether out of shame stemming from the terrible social stigma attached to AIDS, or out of love that overcomes socially-constructed stereotypes...” (Laderman, 2003, p. 198).

Thus since the early 1980s there has been a veritable explosion in the percentage of persons who choose to be cremated as opposed to being buried in the traditional fashion. The trend toward immolation is projected to increase to over 50% of the deceased in America by as early as 2017 or 2018 (Cremation, 2011).

Religious objections to cremation have gradually been worn down. This has been particularly true within Protestant Christianity, in which Tradition has never been sufficient for the establishment of specific ritualistic practices. Martin Luther’s doctrine of *sola scriptura* insists on primacy being given to the Bible as the basis for the development of both belief and practice, and nowhere does the Bible *command* that the dead must be buried whole.

There are numerous accounts in both the Old and New Testaments that indicate that burial was in fact the “custom of the Jews” (Gen. 15:15; 23:19; Num. 20:1; Deut. 10:6; Jn. 19:40). In contrast, there are only three allusions to cremation—I Sam. 31:11-12, Amos 2:1-3, and Amos 6:8-11—with the passage in Amos 2 seeming to imply that it is sinful to burn a body. “Burning with fire” is often connected with capital punishment in the Mosaic Law, as seen in such verses as Leviticus 20:14 and 21:9. However, while the passages concerning the burning of a person for punishment are prescriptive, those which speak of “ordinary” burial are descriptive and narrative only. The closest one can come to deducing from scripture that burial is preferable to cremation would be the symbolism in 2 Corinthians 15:38 of the body as a “seed” that is buried and then resurrected. But this passage can easily be seen as merely illustrative, and thus non-conclusive for the formation of formal doctrine for all Christians.

A second argument in favor of burial over cremation has been that burial dignifies the deceased’s body, said to be “*the temple of the Holy Spirit*” (1 Cor. 6:19). Some hold that cremation promotes a belief that the physical body is inferior to or less important than the metaphysical aspects of a human being (i.e. the soul and/or spirit). But since the Old Testament teaches that “*even after my skin has been destroyed, yet in my flesh I will see God*” (Job 19:26) and the New Testament holds that “*the Lord Jesus Christ...will transform our lowly bodies so that they will be like His glorious body*” (Phil. 3:20-21), it can be assumed that “the body is as really and eternally part of man as is his spirit” (Jones, 2010, p. 344). Consequently, to condone the destruction of the body at death by fire could be considered a demotion of the physical aspects of the human being to a lesser status than the soul or spirit and thus a denigration of God’s created order.

While agreeing that the physical body *is* on a par with the non-material aspects of the human being in terms of sacredness and that the body is an eternal aspect of one's personhood, a distinction may nevertheless be made between the physical and non-physical aspects of individuals based on Paul's words in Romans 7:22-24: "*For in my inner being I delight in God's law; but I see another law at work in the members of my body, waging war against the law of my mind and making me a prisoner of the law of sin at work within my members. What a wretched man I am! Who will rescue me from this body of death?*" If the "*members of the body*" are incorrigibly sinful, then perhaps burning the body at death would not at all be inappropriate. To the contrary, immolation might well be seen as a symbolic renunciation of the "old life" from which the righteous have been redeemed.

Further, neither Catholics nor Protestants believe that cremation will in any way hinder God from "reassembling the 'cremains'" at the time of the final resurrection (Jones, 2010, p. 337), because even a buried body will eventually be reduced by natural processes to the same status as the ashes of a cremated body. If God can re-assemble the one, he can presumably just as easily re-assemble the other. Theologically, then, there seem to be few—if any—grounds for an argument that cremation is unacceptable to God.

Thus with respect to cremation (as with embalming), science and religion must again be allowed to engage in dialogue with each other. For many religionists, there are compelling reasons not to cremate (i.e. dishonoring the body, association with pagan practices, etc.), just as for many scientifically and pragmatically-oriented persons there are compelling reasons to champion such a practice (i.e. economics, environmental concerns, etc.). In the end, once again, each individual case must be judged on the basis of the convictions both of the dying person and those nearest to him or her.

## 5. Life Extension: The Ethics of Prolonging Life and/or Eliminating Death

The idea that a human being could continue living long past a century seems unimaginable when one considers all the various ways that death can occur. The multiple systems of the physical body are so complex and interconnected that the failure of a single organ can precipitate the death process. However, medical advances are starting to shift this paradigm in ways that make radical life extension possible. Experimentation on smaller organisms like flies, worms, and mice has successfully extended their lifespans by 40% to 200% through methods of calorie restriction and gene modification (Kass, 2009, p. 75). These methods, along with developing technologies involving organ-printing and cellular renovation, are gradually making it possible to replenish efficiently every cell in the body, rendering the necessity for meticulous repair of each organ obsolete.

With respect to scientists, there are two conflicting perspectives on radical life extension, each of which is grounded in a particular view of how alteration of the aging process may affect quality of life. Bioethicists who *oppose* radical life extension view aging and death as *natural* life processes; to disrupt these rhythms would inhibit one's ability to experience life to its maximum potential. On the other hand, bioethicists who are *in favor of* radical life extension say that the positive effects will far outweigh any negative repercussions. To them, aging is a *disease* that can be treated (Thompson, 2009, p. 7). Aging may be natural, but it is not ideal. If healthy years can be multiplied, it is only to humankind's benefit.

Some Christians are reflexively hesitant to accept the idea of near-immortality. "Playing God" becomes an issue when scientists and doctors are able practically to "number the days" of human lives and increase that number, a prerogative that is supposedly reserved for God alone (see Ps. 39:4). Would radical life extension be a prideful endeavor comparable to the

construction of the Tower of Babel (Gen. 11)? Would it represent defiance of God's limitation of the human lifespan to 120 years as recorded in Genesis 6:3? These are valid theological questions.

But consider: in the past century alone, science has made remarkable medical discoveries that have extended lives by decades. Statistically illustrated, life expectancy has doubled in the Western world from about forty years in 1900 to almost eighty years at the beginning of the 21<sup>st</sup> century (Center, 2006, p. 30). Have present-day Christians violated the will of God by accepting medical treatments as they have been discovered and invented? If so, then the consistent Christian should not endorse the use of vaccines and other forms of medical aid, because any act to preserve life has the potential to prolong the lifespan. And if not, what would be valid objections to the utilization of future discoveries? If and when anticipated scientific advances are developed as options for human beings, would it not be morally wrong to withhold them from a dying person? Could it not also be seen as "playing God" to choose *not* to extend life when technologies are available to do so?

There are few (if any) indubitable biblical grounds for negating life extension. Adding years of health to one's life could be seen as a restoration of God's original intention before the Fall, and even for the brief time *after* the Fall when humans lived upwards of 900 years (see the genealogical lists in Genesis 5). And it is unquestionably true that even if radical life-extension treatments prolong health by decades or even centuries, life and the time of an individual's death would still be under God's ultimate control. Also, keep in mind that the apostle Paul speaks of a "*law at work in the members of my body, waging war against the law of my mind and making me a prisoner of the law of sin at work within my members*" (Rom. 7:23). Thus for Christians,

earthly life will always involve difficult outward circumstances and an unrelenting “war” against internal sin. These facts may reduce the desirability of extreme longevity.

But beyond these individual effects—both negative and positive—radical life extension would also bring about enormous shifts in social norms. Consider: the already depreciated institution of marriage might become even more unappealing if lifespans are extended. Spending a century or more with one spouse in a life-long marriage may seem like less of a worthwhile endeavor when “growing old together” is not an impending reality. Rather, people may become more apt to view their lengthened adulthood as an opportunity for a series of (relatively) brief marriages. Relationships between parents and children and between siblings will also take on a different dynamic, as the age gap of parent-to-child and sibling-to-sibling could conceivably be greatly lengthened as the years of fertility would presumably be extended along with the lifespan.

Also, in a world of extended lifespans, older generations with decades of experience may be seen as more qualified for employment than younger generations, leading to an increase in unemployment among the young. Or older persons may be unwilling to leave the workforce to make room for younger persons, again creating the potential for massive unemployment among youth in the future. Social classes may become even more estranged from each other as the upper classes reap and store the benefits of prolonged lifespans, while those in lower classes would be unable to do so. How will society handle issues of inequality and labor if (or when) radical life extension is realized?

Consequently, neither from a purely scientific nor from a purely religious perspective do prolonged health and longevity have promising prospects for the general well-being of individuals or society. Both religionists and the science-oriented will therefore need to monitor

carefully the ethical discussions about radical life extension as these experiments move from the planning stage to reality.

### **Conclusions: Science and Religion in the Face of Death**

As mentioned earlier, religion is stereotypically seen as providing closure and comfort in the face of death, while science is often deemed heartless and cold with respect to life's end.

From all that has been said above, however, it should be apparent that such preference for religion and abnegation of science involves mistaken assumptions and a false dichotomy.

Consider that science may actually confer the following benefits, even to religiously-oriented persons:

1. Knowledge regarding the process an individual will undergo in the course of dying, based on prior observations and records. Knowing what to expect can alleviate nervous tension and fears that can exacerbate any pain involved in the process.
2. Such knowledge could also alleviate any emotional pain on the part of family members and friends during the process. Family members who have observed resuscitation efforts are “significantly less likely to experience post-traumatic stress, anxiety, and depression than family members who did not” (Belluck, 2013).
3. Awareness of the probabilities of success or failure with various forms of treatment, based on prior observations, enabling one to make properly informed decisions regarding treatment or lack thereof.
4. Honesty regarding the long-term prognosis for recovery—or lack thereof—which may help one prepare in a sober and sensible manner for what is to come. Such honesty would be particularly appropriate in cases where “divine healing” is expected and even “claimed.”

5. Ease of any physical pain which may be connected with one's departure, through controlled administration of narcotic substances.
6. An empirical test for determining when life has actually ceased, through the use of instrumentation that can ascertain the cessation of heart and respiratory functions as well as brain activity.
7. Assurance that burial will not be premature, through the procedures of embalming and cremation, eliminating the possibility of revival while entombed.
8. More ecologically acceptable means for the disposal of human bodies. Reducing a corpse to ashes that may be contained in a small urn, cast into the air, or spread over a body of water or specific territory is for an increasing number of persons preferable to occupying the space of a standard burial plot.

On the other hand, religion—almost always seen as a positive force when facing one's final days—can in certain instances exercise a highly negative influence. The Hebrew scriptures speak of death as divine retribution for humans' disobedience of commands from the Deity, and Christianity's New Testament builds on this theme by quoting Jesus' teaching regarding the continuation of this retribution after death: *“Do not be afraid of those who kill the body but cannot kill the soul. Rather, be afraid of the One who can destroy both soul and body in hell”* (Matt. 10:28). Consequently, religious beliefs disseminated in an insensitive manner can produce the following:

1. Doubt regarding one's status in the afterlife that can lead to varying degrees of fear, such fear having the potential to heighten any pain involved in the death process of either a physical or psychological nature.

2. An enervating frenzy of activity to fulfill or complete all “requirements” one may believe still remain in order to ensure a positive eternal destiny. Such frenzy could be detrimental to any “peace of mind” that might otherwise accompany one’s departure.
3. An expectation of supernatural “healing” that could serve to impair one’s decision making process or judgment regarding medical interventions.
4. An attitude of resignation or fatalism regarding the inevitability of death that could serve to impair one’s decision making process or judgment regarding medical interventions.

Thus the “religion versus science” stereotype fails in the face of matters that relate to death and dying. Consequently, those involved in end-of-life matters (i.e. hospice workers and other caregivers, family members, relatives and friends) should seek to blend the most positive aspects of *both* religion *and* science to ease an individual’s departure to the greatest extent possible. With respect to the aspect of “science,” both religionists and scientists should be willing with compassion to

1. ease any pain connected with one’s departure through controlled administration of narcotic substances.
2. honestly communicate information regarding the probabilities of success or failure with respect to various forms of treatment, based on prior observations and recordings, enabling the patient and/or family members to make properly informed decisions regarding treatment or lack thereof.
3. honestly communicate information regarding the long-term prognosis for recovery—or lack thereof—which may help the patient and/or family members prepare in a sober and sensible way for what is to come. It is necessary to be honest regarding the prospects for “miraculous healing,” observing that while such events do occur on occasion, they are

extremely rare in instances of terminal illness. Further, even if a miraculous healing *does* occur in a specific instance, such an event only postpones the death process. There will eventually come a time when one will *not* be healed and death will ensue.

4. comfort as much as possible each patient by imparting knowledge regarding the process the individual will undergo in the course of dying, based on prior observations and records. The aim should be to communicate as carefully as possible what to expect, with the goal of alleviating nervous tension and fears that could conceivably exacerbate any pain involved in the process.
5. aim at communicating as much of this knowledge as necessary to family members and friends, with the goal of alleviating as much emotional pain as possible on the part of these persons during the process.

From the side of “religion,” both religionists and scientists should, with compassion,

1. seek, after taking stock of the patient’s religious beliefs and convictions, to alleviate as much fear as possible by discussing theological tenets that have to do with the afterlife and one’s eternal destiny.
2. provide—within the theological boundaries supplied by the Bible—hope for a continued existence after death.
3. provide personal support through focused listening, directed prayer, and the like.
4. arrange hospital or hospice meetings with religious clergy when such meetings are desired by the patient and/or family members.
5. provide—within available and acceptable boundaries—explanations regarding what has happened (i.e. death) to close relatives and friends.

Each of these suggestions – whether scientific or religious – must be applied on an individual basis. There is certainly no aspect of “one size fits all” when it comes to the death experience. Careful attention must be paid to each patient, to his or her immediate family members, to his or her relatives, and to his or her friends, for all of these will be intimately involved in the process of dying and death. To ignore such realities would be a failure of the religious responsibility to “*love our neighbors as ourselves.*”

## References

- Belluck, P. (2013, March 13). Family members may gain from observing CPR. *New York Times*. Retrieved from <http://www.nytimes.com/2013/03/14/health/viewing-cpr-benefits-patients-families-study-finds.html?partner=rss&emc=rss&r=2&>.
- Bernat, J. (2006). The whole-brain concept of death remains optimum public policy. *Journal of Law, Medicine & Ethics*, 34 (1), 35–43.
- Beware of the high cost of funerals: Is your family protected? (2014). Funeralwise.com. Retrieved from <http://www.funeralwise.com/funeral-burial-insurance-infographic>.
- Bondeson, J. (2002). *Buried alive: The terrifying history of our most primal fear*. New York, NY: W.W. Norton and Company.
- Butler, R. (2008). *The longevity revolution*. New York, NY: Public Affairs.
- Cahill, M. (2009). The dead should be buried. In D. A. Henningfield (Ed.), *Disposal of the dead* (pp. 23-28). Farmington Hills, MI: Greenhaven Press.
- Carey, B. (2006, March 31). Long-awaited medical study questions the power of prayer. *New York Times*. Retrieved from <http://www.nytimes.com/2006/03/31/health/31pray.html?pagewanted=all&r=0>
- Center for Disease Control. (2006, April 19). *National Vital Statistics Reports*, 54, no. 14, Table 11, 30. Retrieved from [http://www.cdc.gov/nchs/data/nvsr/nvsr54/nvsr54\\_14.pdf](http://www.cdc.gov/nchs/data/nvsr/nvsr54/nvsr54_14.pdf)
- Chapple, A., Swift, C., & Ziebland, S. (2011). The role of spirituality and religion for those bereaved due to a traumatic death. *Mortality*, 16, 9-14.
- Chiappelli, J. & Chiappelli, T. (2008). Drinking grandma: The problem of embalming. *Journal of Environmental Health*, 71, 24.
- Cohen, E. (2006). The permanent limits of modern science—From birth to death. *Social Research*, 73, 791.
- Cremation by the numbers, CANA projections are in. (2011, November 3). *Connecting Directors, Cremation Association of North America*. Retrieved from <http://connectingdirectors.com/articles/3220-cremation-by-the-numbers-cana-projections-are-in>
- Edmondson, D., Park, C., Chaudoir, S. & Wortmann, J. (2008). Death without God: Religious struggle, death concerns, and depression in the terminally ill. *Psychological Science*, 19, 754.
- Formaldehyde and cancer risk. (2013). National Cancer Institute. Retrieved from <http://www.cancer.gov/cancertopics/factsheet/Risk/formaldehyde>.

- Fraser, J. W. (1965). *Cremation: Is it Christian?* Neptune, N.J.: Loizeaux Brothers.
- Fulton, R. D. L. (2009). Burying the dead pollutes groundwater. In D. A. Henningfield (Ed.), *Disposal of the dead*, (pp. 31-33). Farmington Hills, MI: Greenhaven Press.
- Hodgekiss, Anna. (2013, November 15). You really CAN die of a broken heart: Surviving spouses have a 66% higher risk of dying in the three months after their partner's death. *MailOnline*. Retrieved from <http://www.dailymail.co.uk/health/article-2507829/You-really-CAN-die-broken-heart-Surviving-spouses-66-higher-risk-dying-months-partners-death.html>
- Jones, D. W. (2010). To bury or burn? Toward an ethic on cremation. *Journal of the Evangelical Theological Society*, 53, 344.
- Kass, L. R. (2009). Life-extension technologies can be misused. In T. Thompson (Ed.), *How far should science extend the human lifespan?* (p. 75). Farmington Hills, MI: Greenhaven Press.
- Laderman, G. (2003). *Rest in peace: A cultural history of death and the funeral home in twentieth century America*. New York, NY: Oxford University Press.
- Larson, E. J. & Witham, L. (1998). Leading scientists still reject God. *Nature*, 394, 313.
- Laureys, S. (2005). Science and society: Death, unconsciousness and the brain. *Nature Reviews Neuroscience*, 6, 900.
- Mitford, J. (1963). *The American way of death*. New York, NY: Simon and Schuster.
- Nair-Collins, M. (2010). Death, brain death, and the limits of science: Why the whole-brain concept of death is a flawed public policy. *Journal of Law, Medicine & Ethics*, 38, 667-683.
- National Conference of Commissioners of Uniform State Laws. (1980). *Uniform determination of death act*. Retrieved from [http://pntb.org/wordpress/wp-content/uploads/Uniform-Determination-of-Death-1980\\_5c.pdf](http://pntb.org/wordpress/wp-content/uploads/Uniform-Determination-of-Death-1980_5c.pdf)
- Pevey, C. F., Jones, T. J., & Yarber, A. (2008-2009). How religion comforts the dying: A qualitative inquiry. *Journal of Death and Dying*, 58, 55.
- Pius XII, Pope (1957, November 25-26). Address to an International Congress of Anesthesiologists. *L'Osservatore Romano*. Retrieved from [http://www.lifeissues.net/writers/doc/doc\\_31resuscitation.html](http://www.lifeissues.net/writers/doc/doc_31resuscitation.html)
- President's Council on Bioethics. (2008, December). *Controversies in the Determination*

- of Death: A White Paper by the President's Council on Bioethics*. Retrieved from <https://bioethicsarchive.georgetown.edu/pcbe/reports/death/>
- Prothero, S. (2001). *Purified by fire: A history of cremation in America*. Berkeley, CA: University of California Press.
- Quigley, C. (2005). *The corpse: A history*. Jefferson, NC: McFarland and Company.
- Russell, J. (1965, July). Cremation. *The American Ecclesiastical Review*. Retrieved from <http://www.catholicculture.org/culture/library/view.cfm?id=2743&CFID=3944516&CFTOKEN=60090666>
- Scharnberg, K. (2009). Burials can be environmentally friendly. In D. A. Henningfield (Ed.), *Disposal of the dead*, (p. 35). Farmington Hills, MI: Greenhaven Press.
- Stein, R. (2005, July 15). Prayer's power to heal strangers is examined. *Washington Post*. Retrieved from <http://www.washingtonpost.com/wp-dyn/content/article/2005/07/14/AR2005071401695.html>
- The STEP program (Study of the therapeutic effects of intercessory prayer). (2006, March 31). *The American Heart Journal*. Retrieved from [http://web.med.harvard.edu/sites/RELEASES/html/3\\_31STEP.html](http://web.med.harvard.edu/sites/RELEASES/html/3_31STEP.html).
- Thompson, T. (Ed.). (2009). *How far should science extend the human lifespan?* Farmington Hills, MI: Greenhaven Press.
- Wijdicks, E., Varelas, P., Gronseth, G., & Greer, D. (2010). Evidence-based guideline update: Determining brain death in adults: Report of the quality standards subcommittee of the American Academy of Neurology. *Neurology*, 74, 1911–1918. Retrieved from <https://www.aan.com/PressRoom/Home/GetDigitalAsset/8470>.