

Heart in Hand

6

Confronting Death

Sonia: *What's it [death] like?*

Boris: *You know the chicken in
Tresky's restaurant?*

It's worse.

Woody Allen

Love and Death

I saw a dead human body for the first time when I was twenty-one years old, in medical school. From an early age I had wanted to become a doctor, like my father and grandfather before me. The first successful open heart operation was done nine years earlier, when I was twelve years old. I put together a scrapbook about it, obtaining clippings reporting this success from various magazines and newspapers. From then on that was my goal: to do heart surgery. With the required premed college courses behind me—the biggest stumbling block was organic chemistry—I took the next big step towards realizing that goal, four years of medical school.

Twelve cadavers were laid out on separate metal slabs in the school's anatomy laboratory. My class at Dartmouth Medical School in 1961 had 36 students, with three students assigned to a body.¹ In life my cadaver had been an elderly woman. The school authorities would not tell us any personal things about them—what had been their names or anything about their life history. We spent several hours a week over a three month period dissecting them from head to toe and front to back learning the anatomy of the

vital organs and their respective blood supply and the interrelationships of bones and muscles. Upon acceptance at medical school, one thing I looked forward to, although with some trepidation, was anatomy lab. I would have the special privilege of being able to study anatomy on a human cadaver.

Anatomic dissection of human bodies began in Western medical education in the 14th century in Italy. In the 1750s, under the auspices of the Scottish physician William Hunter, students began to dissect cadavers on their own rather than just watch a teacher do it. I took this rare opportunity very seriously and in preparation for it I dissected several dead cats first—at the place where I was staying the summer before entering medical school.

I stayed with my cousin Sally. She was a widow and lived alone in a townhouse across the street from the Washington Cathedral on Massachusetts Avenue in Washington, D.C. I obtained the cats from a neuroscience research laboratory at the National Institutes of Health where I worked that summer. I did the dissections in her basement, where she never, or so I thought, ventured. But she happened to go down to the basement one day and discovered several dead cats in various states of dismemberment. I came back that afternoon to be confronted by an irate cousin who told me that I had to leave—with the cats. I last saw her when she was 101 years old, twenty-five years later and two years before her death. She was still talking about those cats.

Despite my experience with the cats, I was nevertheless woefully unprepared for the actual experience of seeing, for the first time, a dead human body. It was unsettling in a deep existential way. I was particularly unprepared for the smell of formaldehyde, the embalming fluid that the mortician injects through the arteries of the body to prevent bacterial decomposition of the tissues. The smell of formaldehyde is repellent and it makes your eyes water. If you have ever smelled it, you will agree that one's first exposure to it can be very disconcerting.

My medical student colleagues and I dealt with this businesslike demonstration of death in time-honored human fashion—we tried to make light of it, we focused on its incongruities and engaged in black humor.

One of our classmates was a compulsive loner. When the class would have a ten-minute coffee break, this fellow would grab some coffee, ignore his classmates, and go back immediately to his cadaver and keep working. This annoyed the rest of us, and someone came up with a novel way to put him in his place. The next time he had to go to the bathroom a student took a piece of dandruff-encrusted scalp from one of the cadavers and dropped it into this fellow's coffee, which was sitting on the metal slab next to his cadaver. When he returned, and gulped down a mouthful of his coffee, we all watched in eager anticipation to see what would happen. We were not disappointed. As this tireless student slugged down the coffee, a hairy piece of scalp floated up and hit him in the nose. As you might imagine, we got quite a reaction from him.

On another occasion, a classmate who had a woman partner, the only woman in our class, did this: He came to the lab early one day and inflated their cadaver's penis with a tire pump into a very large, full upright position to welcome his partner to that day's anatomy class.

Woody Allen is a master of such ludicrous absurdities and unexpected incongruities. On the subject of death, he has Boris, in *Love and Death*, say:

After all, you know there are worst things in life than death. I mean if you've ever spent an evening with an insurance salesman, you know exactly what I mean. The key here I think is to not think of death as an end, but think of it more as a very effective way of cutting down on your expenses.

And in *Sleeper*, Miles says, "At least after death you're not nauseous."

Such absurdities and black humor help to leaven the scary finality of death. Maybe that one corpse will not seem quite so dead if it can have an erect penis awaiting its woman dissector, even if helped by a tire pump. And if you still have at least some expenses, then maybe you are not completely dead and consigned to nothingness and oblivion after all.

In my practice as a heart surgeon, I have had the very painful and disheartening experience of having patients who suffer a massive stroke during their hospitalization. It usually happens in very elderly people, usually over the age of 80, who have pre-existing

cerebral vascular disease or calcific plaques in their aorta. When it happens, it occurs despite the surgical team's concerted efforts to protect the brain with adequate pump flow and oxygenation during surgery. Fortunately, this terrible complication occurs rarely.

A stroke occurs when brain cells die. Brain cells can survive only for about 5 minutes without oxygen at normal temperature. (They can survive up to 30-60 minutes at very low temperatures). When an artery to the brain becomes blocked—from a blood clot or from a piece of calcium that breaks loose from the aorta, travels downstream and becomes wedged in the vessel, obstructing flow—brain cells that are dependent on their blood supply from this vessel will die if flow is not restored within 5 minutes. A point of no return is soon reached. The cells become increasingly porous, swell up, break apart and die. If the damage is extensive and involves the entire brain, or today even if only the higher centers of the brain are involved, the patient is considered to be “brain dead.”

In patients who have had a massive stroke, eighty to ninety trillion of the 100 trillion cells that make up this person are still alive, each cell containing a hologram of the complete individual in the DNA housed in its nucleus. But the ten to twenty trillion cells in the brain that sparked the thoughts, feelings, irks, ambitions, and regrets of that particular person and coordinated the neuromuscular reflexes that made him such a good tennis player are dead. There is no nausea, no need to avoid insurance salesmen, no concern for expenses. There is only the “big blank” of death, in this case, brain death. Unless an enterprising scientist could clone one of his still viable cells and make a complete copy of him with an intact brain, *and* replicate the experiences he had throughout his life that molded him into the unique person that he was, we must accept the fact that he—as that person—is dead.

On rare occasions a person initially thought to be brain dead really isn't, and she wakes up. So, if there is even a slight chance of this happening, doctors make sure that a person's higher centers of the brain have indeed had an irreversible loss of cellular function—that they are really dead. To this end, neurologists are consulted, special high-tech brain tests are done, and repeated over a 2-4 week period, to be absolutely sure that there is no hope of brain recovery before life support is withdrawn and living wills are honored.

Once in a great while a heart surgeon is confronted with the problem of not being able, despite prodigious efforts, to get his or her patient's heart working after the repairs have been made. The surgeon must then deal with the terrible fact that this patient is going to die, then and there, on the operating table. Fortunately, with the new heart preservation techniques we have, this sad outcome now rarely happens, now in less than one out of a hundred undergoing heart surgery.

Open heart surgery began in 1953, with the first successful open repair of an atrial septal defect—a hole in the heart between the left and right atrium. In this brave new world of highly trained specialists using space-age equipment, we can now do extraordinary things to prevent death, including taking a live heart from a brain-dead person and using it to replace an irreparable failing heart in an otherwise soon-to-die patient. And, when unable to prevent death, we can now precisely determine the time of death, using such modalities as an electrocardiogram and by measuring intra-arterial pressure waveforms. This has not always been the case.

As recently as the eighteenth and nineteenth centuries, many people harbored a fear of being buried alive. Fears of premature burial were fueled by reports of exhumed bodies that showed unmistakable signs of having tried to get out of their coffin. Their fears were also fed by hundreds of pamphlets and tracts that were written during these two centuries on the fallibility of the diagnosis of death, and also by Edgar Allen Poe's frightening stories about premature burial. Coffins were marketed with breathing and speaking tubes and with signal devices designed to alert the outside world should the corpse happen to wake up after being interred.²

Before the invention of the stethoscope, which enables the physician to detect even a faint heartbeat, *putrefaction* was declared to be the only certain sign of death. This happens when the bacteria that normally reside in our intestines feed on the dead tissues of the body and proliferate. Over a two to three week period the corpse becomes bloated and foul smelling owing to the accumulation of sulfur-containing bacterial waste products. (Bacterial-induced decomposition of a dead person does not occur unless there is an adequate amount of moisture and warmth. When a person dies in the desert, for example, instead of decomposing the body dries out and becomes mummified.)

My first experience with this gruesome manifestation of death occurred when I was an intern at Roosevelt Hospital. I was summoned to an apartment on the upper West Side of Manhattan to pronounce its occupant dead before the body could be moved and taken to the morgue. This individual, a middle-aged man, had been sitting in a lounge chair eating his breakfast and watching TV when he died, more than two weeks before we arrived on the scene. The now discolored, repulsive body had blown up like a balloon to twice its normal size, and it had an exceedingly foul smell. Mold had formed on the remains of the breakfast and the TV was still on, with a talk show in progress. The stench had become so bad that it had permeated the apartment building and prompted the neighbors to seek its cause. This scene repulsed even the seasoned and hardened NYPD officers that came with me.

Putrefaction is the final manifestation of death. With this process life comes full circle. Having evolved from bacteria, after we die our bodies become fodder for our ancient ancestors. In today's society, this usually is not allowed to happen. Before putrefaction has a chance to set in bodies are either burned (cremated) or embalmed with the arterial injection of an embalming fluid, as was done with our cadavers in medical school.

Mortuaries were first established in the early 1800s, in Germany. Bodies that were presumed to be dead were placed in a mortuary and observed in a hygienic setting until signs of putrefaction became apparent, and then they were burned. The stethoscope was invented in 1823. This was a major step forward in being able to determine, with a fair degree of certainty, the fact of death. With a stethoscope the trained ear can hear the heart beat—and be able to tell when it is not beating.³

In Haiti, where there are not many stethoscopes or physicians who know how to use them, some people thought to be dead rise up and walk among the living as zombies, which are thought to be dead, soulless bodies “revived” to a semblance of life, ostensibly through sorcery. Usually a person who becomes a zombie has committed some social wrong, like stealing or sleeping with another man's wife. It turns out that what actually happens is that the village Voodoo magician/priest, known as a bokor, administers a poison extracted from the pufferfish. The poison is tetrodotxin, a powerful neurotoxin,

which is a one thousand times stronger than cyanide. An expert in the use of this poison, the bokor administers a sublethal dose to the offending villager. The poison then induces a deathlike state in which the victim exhibits no response to stimulation, and it lowers metabolic function to such an extent that a person does not appear to be breathing at all and has no palpable pulse. Short of taking an electrocardiogram, or having a physician who is very good with a stethoscope listen for a heartbeat, an examiner can easily be fooled into pronouncing the person dead and releasing the body for burial. Tetrodotoxin deters oxygen delivery to the tissues and brain cells die. Given just the right dose, the victim can survive with only the loss of brain cells in the higher centers of the brain. The villager is buried and, in a day or two, taken from the grave and force fed a paste containing sweet potato, cane sugar, and jimsonweed, which induces a psychotic delirium and may also serve as an antidote to the tetrodotoxin and counter some of its effects. Now brain damaged and drugged, the zombie wanders around the village like an automaton, in a near-mute, trance-like state. They serve as a warning to the other members of the Voodoo-worshipping village to behave themselves. From a medical standpoint, those Haitian Voodoo bokors certainly know what they are doing.⁴

For those of us who are fortunate enough to have the technology of modern medicine at our disposal to prevent death, why do we have to die? The fact of the matter is that human beings, along with all other plants and animals, are *genetically programmed* to die. All organisms that have sex, including single-cell eukaryotes, are “condemned to die as a condition of birth,” as the biologist William Clark puts it in his book, *Sex and the Origin of Death*. Organisms that have nucleated cells—eukaryotes—exchange and commingle their genetic DNA to reproduce genetically new offspring. And in so doing (as Clark explains so well in his book) the parents of this genetically new offspring necessarily consign themselves to senescence and eventual death. Bacteria are different. They clone themselves and will continue to do so as long as there are adequate nutrients and sufficient space in which to keep on multiplying. In cells that have sex to reproduce new offspring and can’t clone themselves, a limited life span is a genetically determined property of the organism. The really important cells in a multicellular organism, like us, are the germ cells, the sperm and ova that mammalian testicles and

ovaries produce, respectively. The rest of the cells in a multicellular organism are termed the *somatic* cells, in us the 100 trillion or so cells that make up a human being. As Clark puts it, “the only purpose of somatic cells, from nature’s point of view, is to optimize the survival and function of the true guardians of the DNA, the germ cells.

Somatic cells are programmed to die. Scrape some skin off a person and these cells, termed fibroblasts, will divide and multiply (like bacterial cells do) when placed in an appropriate nutrient bath at the correct temperature. Take them from a middle-aged person and they will divide and double their number 20 to 30 times and then stop (bacterial cells will keep on dividing and doubling their number forever, if you let them). No matter what you do, those human fibroblasts stop dividing and slowly die. Take them from a fetus and they will go through about 50 cell divisions before they stop. Take some skin from my ninety-two year old friend George Taylor (he would probably let you do it if you asked, just to see what would happen) and those fibroblasts would probably stop dividing after one or two divisions.⁵

There is a rare disease, called the Hutchinson-Gilford progeria syndrome, where due to a little understood genetic abnormality, the genetically controlled human aging process is greatly speeded up. It is not a pretty sight. William Clark describes it this way:

Children [with progeria syndrome] undergo the entire human aging process, through death, in about fifteen years. The first changes appear in the affected children’s skin, which in the first year or two of life becomes wrinkled, thin, and parchment-like, almost translucent. Their faces begin to look old, with delicate blue veins criss-crossing their foreheads. A few years later, their hair begins to fall out; what is left soon turns gray... They rarely enter puberty, seeming to progress directly into old age. Frail and shriveled, they usually die of cardiovascular disease or stroke before the end of their second decade of life.⁶

We are all programmed to die, no matter what we do. Somatic cell death is an integral ingredient in the complex recipe for life that is encoded in our genes. All we can hope for is that death does not come prematurely. We can hope that we will live as long, and in as good estate as people like George Crosby; like my paternal grandmother, who lived to be 100, and my cousin Sally, who remained quite feisty up until her death at the

age of 103; or like my friend George Taylor, who recently underwent quadruple coronary artery bypass surgery at the age of 93 and continues to remain physically and socially active. He read an earlier version of this manuscript with great interest.

The average life expectancy of a person in the United States is now 76 years, and increasing. In 1900, the average life expectancy was only 47, and more than half of those deaths occurred in children less than 14 years old. Now less than 5 per cent of deaths occur in this age group. The leading causes of death in the US now are heart disease, 33 per cent; cancer, 24 per cent; strokes, 7 per cent; accidents, 4 per cent; AIDS, 1 to 2 per cent; suicide, 1 to 2 per cent; and homicide, 1 per cent. Cure heart disease and cancer and the majority of the populace would live into, and essentially die of, old age.⁷

While only about 1 per cent of deaths in our still relatively peaceful country are due to homicide, human-made death has been a scourge throughout the world in this century that is now ending. A very tiny fraction of the people who were the victims of this 20th century scourge, some 50,000 young Americans are listed by name, in chronological order of their deaths, on the marble walls of the Vietnam War Memorial in Washington, D.C. With the letters, poems, flowers, and mementos laid by the etched names of those loved ones who met an untimely death in that far corner of the world, who amongst us who has visited this site has not been moved to tears?

Consider then, if we are to look starkly at the realities of life, the full scale of human-made death in the 20th century. One particularly chilling example of human-made death occurred in 1937, in Nanking. My friend George Taylor lived in Nanking, then the capital of China, in the mid-1930s. It was then a cosmopolitan and lively city. Recently, a book titled *The Rape of Nanking* was published, a sobering account of the atrocities that the Japanese committed when they invaded this city in 1937. Over a six week period they raped, tortured, and murdered more than 300,000 people—half the population of this ancient city. On the way to Nanking officers in the Japanese Army held contests to see who would be the first to be able to decapitate 100 living Chinese persons with their swords, and the results of such contests were reported back home in the Japanese newspapers. George Taylor read these revelations with great pain. He said that he knew some of the people at the University there whose lives were consumed in this heretofore

essentially unreported mini-Holocaust (the Japanese government still officially denies that it happened, despite overwhelming evidence to the contrary). It was very sad for him, indeed for all of us, to finally learn the full truth of the carnage that was inflicted on that city by reputedly civilized people.⁸

The Twentieth Century Book of the Dead, published in 1972, describes how an estimated 110 million people, 10 million of them children, died in this century from the violence of war or as a result of other actions of human beings. These human-made deaths occurred as follows: More than 62 million people died in conditions of privation, 20 million in enclosed ghettos, concentration camps, prisoner-of-war camps, and Russian labor camps, where 12 of these 20 million people died. More than 15 million people died from starvation and/or exposure in cities under siege, occupation, or in the throes of civil war, and 26 million died in a state of privation from dislocation due to war, as refugees. More than 42 million people died directly as a result of the violence of war, 1 million from aerial bombs, 18 million from artillery fire, and 24 million people from small arms fire, of which 10 million were either massacred (six million) or executed in a formal manner (four million). Another 3 million people died from various forms of domestic violence, such as in the Russian bread wars, Chinese anti-bourgeois campaigns, and Indian Partition riots.

Many more millions of people have died human-made deaths in this brutal century now ending that are not included in these statistics, such as those who died in China as a result of Mao's Cultural Revolution, which began in 1966. Also not included in these statistics is the genocide that has occurred in Cambodia, engineered by Pol Pot, and in Rwanda and the Balkans.

One hopes that in the next century no new predators of other human beings the likes of a Hitler, Stalin, or Mao will arise and take control of the reins of a nation-state. We must hope that in the next century a more Schopenhaurian view of compassion for other people and other living things will arise, which will help to de-emphasize an overweening interest in self, and power over others, as the ultimate objective of life. Failing that, may we be able to live unmolested by totalitarian dictators, terrorists, or unpoliced street gangs.

Grateful as we may be for being able to maintain our health and live under good circumstances, we are still besieged with this haunting question: “What happens to us after death?”

Schopenhauer approaches this question in a fresh way. He says, instead of worrying about what happens to us after death, we should ask ourselves this question: “Where was I before my birth?” He writes:

If what makes death seem so terrible to us were the thought of *non-existence*, we should necessarily think with equal horror of the time when as yet we did not exist. For it is irrefutably certain that non-existence after death cannot be different from non-existence before birth, and is therefore no more deplorable than that is. An entire infinity ran its course when we did *not yet* exist, but this in no way disturbs us. On the other hand, we find it hard, and even unendurable, that after the momentary intermezzo of an ephemeral existence, a second infinity should follow in which we shall exist *no longer*.⁹

If our soul, or spirit, did not exist before our physical birth, what claim do we have to such a thing after our physical death? The Hindu and Buddhist religions, which Schopenhauer studied closely, answer this most important question this way: Our individual souls *did* previously exist. They were embodied in other humans, or, they say, indeed, in other animals, now dead. And when we die our souls will be reborn in new organisms, animal or human. As much as he respected Hindu and Buddhist thought, Schopenhauer did not accept their doctrine that the soul repeatedly dies and is reborn, embodied in a new organism (samsara), or that one bears the effect of one’s deeds in this or a future life (karma). Schopenhauer would say that at death our individualness, our willful personhood, our soul is extinguished once and for all. We die and our physical person merges back into the universal, timeless, undifferentiated Noumenon. But Hindus and Buddhists believe that it is not as easy as that. Before an individual’s soul can merge itself back into the *One* it must go through an almost endless cycle of deaths and rebirths. And if you are not careful how you conduct yourself in this life, your karma may consign you in the next life to be something you would just as soon not be, like a mole rat. (That’s two-way evolution, Buddhist-style.)

This fate, of merging and erasing one's identity in a Universal Compassionate Oneness, whether you get there the first time, or after many repeated deaths and rebirths, is not too appealing to most people in our materialistic Western culture. Most people in this culture would prefer a more concrete, individualistic form of immortality. But if our souls were not embodied in past lives and we arose from a void, where do we go? What do we have to go back to?

One concrete form of immortality that we can hope for is what some observers term "biologic immortality." I am fascinated that I had a great-great-grandfather, Louis Thomas Hicks, who commanded a North Carolina regiment (the 20th) at the Battle of Gettysburg in the Civil War; another one, Jacob Warden, who was Stonewall Jackson's chaplain; and another one, Daniel Spence, on my father's side, who immigrated from Islay, an island in the Scottish Inner Hebrides, in the 1849. We each have 16 great-great-grandparents, and I don't need to run through all of mine to make my point, which is this: These people's biologic immortality has almost shrunk into insignificance when it gets to me, four generations later, since I am genetically only 1/16th of each of them. With my children, who are only 1/32th of them, their biologic immortality has indeed become insignificant.

The Bible is right. In Exodus 20: 6-7 and 34: 5-6, God tells Moses that the punishment of people who hate him will be also inflicted upon their children out to the fourth generation. If you really want to punish someone, you need only inflict the punishment on that person's children out to the fourth generation, to their great-great-grandchildren, to be sure of eradicating any semblance of that person—any shred of one's biologic immortality—in future generations.

As one evolutionary biologist has pointed out, although Elizabeth II, the Queen of England, is a direct descendant of William the Conqueror, it is quite probable, 900 years and 45 generations later, that she bears not a single one of that King's genes. After 45 generations of sexual reshuffling of one's genes, the unique collection of genes that made up William the Conqueror has been entirely dissipated into the vast gene pool of his species.

Even from a species standpoint, there is no such thing as biologic immortality. Although some 30 million or so species of living things currently exist on this planet, paleobiologists estimate that 99 per cent of all the species of living things that have existed on the planet are now extinct. Most species live for several million years and then disappear, to be replaced by new ones. Paleobiologists reckon that the combined weight of all organisms that have lived on Earth over only the last 500 million years, not to mention the previous three billion years, equals the total mass of the planet. Furthermore, species not only die out on a steady basis but from time to time in the history of our planet a mass extinction of living things has occurred—as frequently, some say, as every 26 million years. The two most severe ones that we know about occurred 245 and 66 million years ago respectively. So much for biologic immortality.¹⁰

There is another kind of immortality that human beings can obtain, one that can last at least as long as our species continues to exist on the planet. This is artistic immortality. Thelonious Monk died in 1982 (at the age of 65), 24 years after I saw him play at the Five Spot. In the last years of his life he refused to perform, remained secluded at home with his wife and refused to receive visitors. The general public, except for hard-core jazz fans, knew nothing about him. But his art lives on, and is, if anything, growing in popularity (check any CD store that carries jazz and see how many Thelonious Monk CDs they carry). Thelonious would be very surprised to learn, if it were possible for him to know now that he is dead, that his music is played daily in operating rooms where patients are undergoing open heart surgery. At Swedish Medical Center in Seattle, refrains from his easily absorbed Riverside Trios of Duke Ellington standards provide a soothing backdrop for the delicate work that we do there.

Duke Ellington has also achieved creative immortality. With considerable aplomb he steered his way through the shoals of American racial polarization and has left us an enduring body of work. Near the end of his life Ellington was hospitalized in the Harkness Pavilion of the Columbia-Presbyterian Medical Center. The hospital personnel placed a small upright piano in his room at the foot of his hospital bed. I was a member of the surgical team that took care of him (he had chest surgery for what proved to be an incurable form of cancer), and I would make rounds with the team and see him. One of

the residents played the piano and knew a lot of Ellington tunes. A routine soon developed where, when the surgical team went into his room on early morning rounds, this resident would sit down at the piano and play one of Ellington's songs to gently wake up the famous pianist, bandleader and composer. Duke Ellington died in 1974, but all over the world people continue to sit down and play, or listen to, his wonderful music.

Another jazz great, Charlie Parker, also left a lasting artistic impression. Ever growing numbers of people continue to be moved by his music. Charlie Parker died in 1955, at the age of 34. Carol Jenkins wrote a poem to Parker in 1972, which ends:

Hey Bird!
They said you was Dead.
Now how 'bout that jive.
Caint they get it through their head –
—you was never more alive?

Bix Beiderbecke died in 1931 at the age of 28. As Gene Lees tells it, “When word went around New York bars that he was dead, Hoagy Carmichael, who also played the trumpet and acquired Bix's mouthpiece and carried it in his pocket until his own death, said, ‘No he's not, I can hear him from here.’”

In Seattle, motorists who drove along Aurora Avenue through a city park in the early 1980s would read on the side of one stone-built pedestrian overpass, in bold spray-painted letters, “Buddy Holly Lives.” Maintenance workers would periodically wash it off. But within a few days the same phrase, “Buddy Holly Lives” would reappear. The mayor, alerted to this continuing defacement of public property, had the city's maintenance crew immediately erase the phrase each time it reappeared. Eventually, the spray-painters gave up (but I still keep looking for it to reappear every time I drive that way). We may no longer see his name sprayed on the side of that bridge, but this young man's music, which had a seminal influence on the development of the popular American musical idiom of rock'n'roll, lives on (Buddy Holly died in a plane crash at the age of 23).

The list of great artists who have achieved some degree of creative immortality, in all of the arts, goes on and on. The artistic immortality of a Van Gogh, a Shakespeare, a

Tolstoy, a Beethoven will live on until our species becomes extinct—and who knows, maybe long after that, with their works appreciated by intelligent life forms from other planets. But as Woody Allen says, “I don’t want to gain immortality in my work, I want to gain it by not dying.”

A third form of immortality, the one most desired by people in our Western culture, is to have life after death. Life after death necessarily has to be pursued without our bodies. We know what happens to our bodies after we die, our ancient bacterial ancestors feast on them and they become foul smelling and putrefied, if they not are embalmed or burned first. The only way that a person can have life after death is for one’s individual soul—or spirit—to leave one’s body when its constituent cells swell up and die. Then, freed from the body, one’s soul pursues “life” on a higher spiritual plane with Jesus Christ, as Christians believe will happen, or perhaps it is continuously reborn into new living animals and humans, as Hindus and Buddhists believe.

Phenomena suggestive of an afterlife have been reported throughout human history. These phenomena include seeing ghosts, reports of out-of-body experiences, receiving messages from the dead, reincarnation memories, and near-death experiences. A lot of people believe that these phenomena provide genuine proof that there is life after death. Indeed, wearing black to a funeral is an ancient custom that was first used by mourners and pallbearers as a protective camouflage to evade recognition and possible possession by the recently deceased. And coffins were nailed shut to prevent the dead from coming back and haunting the living.

Investigators have carried out studies of apparitions and ghosts. The results of these studies are not convincing. Reincarnation memories in children also have been extensively studied and the results are mixed.¹¹

Near-death experiences tell us a great deal about the effects of endorphin and other neurotransmitters in people whose brain cells are suffering from a temporary lack of oxygen but have not reached the “point of no return” of cell death. Some people even like to reproduce this experience by tying a plastic bag around their head when they have sex. Such experiences may be near death, or occur just before death, but they do not tell us anything about death itself. The evidence derived from these various phenomena for

their being a soul that exists separately from the body is inconclusive. (See *Notes* for a bibliography on life after death investigations.)

Like Schopenhauer and Allen, I find it hard to summon the requisite faith needed to believe that we have a continued personal existence after death. Although at one point in my life I thought about becoming a Presbyterian minister, I lost the faith necessary to believe that there is life after death when I went to college and studied biology and philosophy of religion. Unable to reconcile how a nonmaterial personal soul—either a new or a reborn one—can be connected to a fetus as it grows through multiple cell divisions into a fully formed organism, I find it hard to maintain the faith necessary to believe that a soul can exist and live on after these cells die. Can a “person” whose thoughts and feelings are mediated by countless numbers of interconnected neurons in the brain continue to exist as that person in some sort of spiritual form once those cells cease to function and die? Maybe so, but science has yet to show us how that can happen.

Is it possible that we go on to some higher spiritual plane after our death, as many people, including my dear wife, Linda, strongly believe? She may be right. I hope it is true. But there is no way we can know for sure. To believe this requires a leap of faith.

The 17th century French philosopher and mathematician Blaise Pascal reasoned that belief in God, with its promise of life after death, is a good bet. “What is there to lose?,” so this argument, known as Pascal’s Wager, goes. We all die anyway. Believe in God and the rewards can be great. Don’t believe, and what have you got? Believe, and if you are wrong what have you lost? Critics of Pascal’s Wager have argued, however, that God may reserve a special place in Hell for people who believe in him on the basis of such a calculated commitment.

Death is like a black hole. We can circle around the black hole of death and make various observations *about* it, but we cannot *know* what lies on the other side until we cross over. And as with an actual cosmic black hole, once you cross its event horizon there is no coming back.

My mother, Charlotte, with her strong abiding faith in Christianity and in Jesus Christ’s promise of eternal life, believes that she will be reunited with her daughter Nancy, who died 22 years ago, after her own death. I fear that the last memory I have of

my indomitable sister going on a hike with me in the Olympic Mountains of Washington State during a visit after her chemotherapy, bald and wearing a wig, refusing to turn back when she got tired, will have to suffice.

Nancy kept a photograph of our maternal grandmother, Mary Ashby Warden Williams, on her dresser. We never knew her because she died in childbirth at the age of 24, when our mother, her first child, was only 18 months old. Nancy said, after her breast cancer was diagnosed following the birth of her second child, pointing to the photograph of Mary Ashby, “I feel very close to her.”

Each sentient human being is derived from a single fertilized germ cell that grows in the uterus through some 45 cell divisions into a 100 trillion-cell organism, one that in our case is uniquely capable of reflective thought. During our formative years while we climb the “hill of life,” as Schopenhauer puts it, we don’t think very much about death, especially our own death. We are certainly well acquainted with the reality of death through television and newspapers, which delight in describing mayhem and murders, and in movies, which increasingly seem to engage in a kind of pornography of violence. Some of us in our formative years have had the to confront the death of a parent, a sibling, a loved one, a close friend or relative, or worst of all, the death of a child. But in our youth and young adulthood we really don’t think that death applies specifically to us.

When we reach the crest of the hill of life, at somewhere between the ages of 38 and 50—earlier for some, later for others—and look down the other side, we undeniably must confront the fact that we are going to die. When each one of us, at our own pace, reaches that crest, what we now clearly see at the bottom on the other side of the hill is the “nothingness of death,” as Tolstoy so well puts it. Schopenhauer puts this stark realization as follows:

The cheerfulness and buoyancy of our youth are due partly to the fact that we are climbing the hill of life and do not see death that lies at the foot of the other side. But when we have crossed the summit, we actually catch sight of death that was hitherto known only from hearsay; and, as at the same time our vital strength begins to ebb, this causes our spirits to droop. A doleful seriousness now supersedes the youthful exuberance of joy and is stamped even on the countenance. As long as we are young, people can say what they like to us; we regard life as endless and accordingly use our time lavishly. The older we grow, the more we economize in our time; for in later years every

day lived through produces a sensation akin to that felt by the condemned criminal at every step on his way to the gallows.

Feeling like a condemned criminal, Boris in Allen's *Love and Death* is preparing himself to fight a duel with an opponent who is an acknowledged expert with a pistol. He has this exchange with Sonia:

Boris: Nothingness. Nonexistence. Black Emptiness.

Sonia: What did you say?

Boris: I was just planning my future.

Sonia: Why are you so preoccupied with death?

A cardiologist who I worked with for 23 years, now retired, has this to say about death:

The inevitability of death, particularly one's own death, is perhaps the most vigorously repressed fact of life. A great many physicians may indeed have been motivated to the profession we have chosen in some magical effort to control death....

William James called death "the worm at the core" of man's pretensions to happiness. The inevitability of our own mortality disturbs us all to a greater or lesser extent, in spite of our best efforts to contain and control it with black humor, denial or active combat, but we cannot evade it and will not be excused from dealing with it.¹²

When I read his insightful article I mused about the black humor we use to circumscribe and contain the reality of death. I remembered that piece of cadaver scalp floating in the medical student's coffee. And the thought occurred to me that maybe the pornography of violence and death that we are constantly exposed to in our media, in movies and in video games is (subconsciously?) designed to numb and desensitize us to the painful reality of death.

Saul Bellow focuses attention on another approach to dealing with death in his novel, *Humbolt's Gift*. He writes:

Suppose, then, that after the greatest, most passionate vividness and tender glory, oblivion is all we have to expect, the big blank of death. What options present themselves? One option is to train yourself gradually into oblivion so that no great change has taken place when you have died.

This is what the Beat writer Jack Kerouac did and many other people have done as well. He drank himself to death by the age of 47. In his essay, “After the Deluge,” shortly before his death, he wrote:

A lifelong struggle to avoid disaster. Idiot PTA’s and gurus call it Cre-a-tive? Politics, gambling, hard work, drinking, patriotism, protest, pooh-pooings, all therapeutic shifts against the black void. To make you forget it really isn’t, nor you anywhere.¹³

Bruno Walter, in his biography of Gustav Mahler, recalls this conversation with him:

“How dark is the foundation upon which our life rests?” he said to me once, deeply affected and his distracted countenance still marked by the spiritual paroxysms from which he had emerged. He went on to speak in broken accents of the tragic dilemma of human existence. “Whence have we come? Whither are we bound?.. Why am I made to feel that I am free, while yet I am constrained within my character as in a prison? What is the object of toil and suffering? How am I to understand the cruelty and malice in the creations of a kind God? Will the meaning of life finally be revealed by death?”...

He never really found deliverance in his agonized effort to find sense in human life. He was distracted by ardent activity; he was helped by his sense of humor to cast off the burden; a vivid concern about intellectual question strengthened him and helped to still a nearly unquenchable thirst for knowledge and comprehension. Yet his spirit never knew escape from the torturing question—For What?¹⁴

If we do not go on to some higher spiritual plane after our death, how do we cope with the nothingness of death? Do we have only two paths to choose from, as Woody Allen, with black humor puts it: “Despair and utter hopelessness” or “Total Extinction”? Total Extinction it could be, but, if so, there are several things that we can do along the way to ward off and hold at bay the despair and hopelessness of this outcome.

One thing to do is to live day-to-day in the eternal present. Like George Crosby, we should strive to live in a way that embraces a compassionate approach to life. Look again at the photograph of him on page 71. The loving care with which he handles those vines seems to inject a kind of kinetic energy into the body of this nearly 102 year-old-man, almost like it comes from another world. And, indeed, as I have tried to make clear in this book, in a sense it does. But not from *another* world. It comes from the innermost nature of *our* world, from the ultimate underlying reality of life. From the Noumenon. And George Crosby's philosophy of life, of "*Do unto others as you would have them do unto you, and do it first,*" is an approach to life worth following, particularly because it can help us to channel and constrain our all-pervasive, and sometimes health-impairing, motive of self-interest. I am convinced, not only as an observer of the human condition but also as a physician, that following this approach to life is the best and most secure way one has of living, in good health, to an old age. That is, of course, with the caveat that "old age" means living to the full limit of one's genetically programmed somatic cell life span.

Another way we can cope with the potential oblivion of death is to engage in "a vivid concern about intellectual questions" and to have "an unquenchable thirst for knowledge and comprehension." Gustav Mahler did this. Many other people do this as well. Intellectual pleasures are one kind of pleasure seeking that does not produce boredom. Instead of boredom, seeking intellectual pleasures and insights produces the opposite effect. It breeds a sense of time urgency. There is simply not enough time to read all the books you want to read and to gather all the information you find that you want to gather. The only thing one can do is to live a long life, like George Taylor, who in his nineties continues to be a voracious reader with well-honed critical faculties and a sharp wit. Live long enough and you may have the time to read all the books you want to.

We may not like what we find out about the realities of life, but at least there is some solace in knowing. There is some comfort to be found in knowing that we are not being fooled or duped about what the true realities of life really are. And, as I have tried to show, not everything we can learn about life's realities is as awful as the Rape of

Nanking. The veneer of civilized behavior in human beings may be thinner than we thought, or would like it to be, but there are many fascinating and comforting aspects to the realities of life. We can take a kind of deep-seated consolation in knowing how bacteria work altruistically to support each other as a global community. It is interesting to know and understand how we evolved from them, and to appreciate the very close biological connection we have with all living things.

And finally, we reflective animals have acquired the wonderful capacity to be able to appreciate art. As hard as I had to work in my training to become a heart surgeon, which included being on duty every other night at the hospital for seven years, I still had the opportunity, for five of those seven years, to spend my nights off-duty attending opera, ballet, and symphonic performances as one of the house doctors at Lincoln Center. Being able to watch Suzanne Farrell and Patricia McBride dance to the choreography of George Balanchine at performances of the New York City Ballet in the late 1960s made all those sleepless nights in the hospital worth it. For me, as it is for a lot of people, experiencing art is an important part of the meaning of life. Art itself can serve as a kind of religion. André Malraux was right when he said, “Art is the last defense against death.” The arts not only enrich our lives and gives meaning to life, but they give us insight into the innermost nature of things, as we have seen, thanks to Schopenhauer.

To feed our ongoing thirst for knowledge and comprehension, and to have enough time to contemplate art to the fullest degree possible, one needs to live a long life. To do that we need to maintain our health, for without our health we have nothing. And if we can live to a very old age, concerns about personal immortality become less important. Live long enough and what Mark Twain says about life could apply. He writes:

Whoever has lived long enough to find out what life is, knows how deep a debt of gratitude we owe Adam, the first great benefactor of our race. He brought death into the world.

In her formative years my paternal grandmother, Jennie, lived with her husband on a farm in southwestern Nebraska. She taught school in a one-room schoolhouse, where all the students, from age 6 to 18, rode their horses from miles around to attend class. She also worked hard morning and night on the farm. She was sturdy and self-

reliant. She was very proud of her only child, who was the first one in her family to go to medical school and become a physician. Later in life, widowed, she lived in Florida alone in a small apartment a mile-and-a-half from my parents' house. Refusing to move in with her son and daughter-in-law or go to a nursing home, she eventually had to have 24-hour live-in help because of her increasingly poor sense of balance. One of her goals was to live to be one hundred. And she did. I attended her 100th birthday party, and she was particularly pleased that I had flown all the way from Seattle to be there. Jennie died peacefully in her sleep a week later.

If one is fortunate enough to live a long life, erasing one's personal identity in the endless sleep of death may not be all that awful. Live to be 100 and the prospect of a continued existence after death might not be too appealing, even for people in our Western culture who have an individualistic mindset. How would we exist in this other world? Would my Grandmother Jennie's spirit or soul or persona in this life-after-death world be that of a young mother, who worked hard on the farm and taught school in that one-room schoolhouse? Would she exist as a sturdy and self-reliant young woman? Or perhaps would it be that of a 95-year-old widow near the end of her life, becoming increasingly forgetful and unsteady on her feet?

Maybe, as the Hindus and Buddhists believe, the final comfort to devolve from life is to relinquish our individual souls and merge back into the universal compassionate oneness of the Noumenon. If this is what God is, if "God," shorn of its anthropomorphic connotations, is another word for the Noumenon, and compassion—unconditional love in its broadest sense—is a direct manifestation of the Noumenon, then it follows that *God is Love* and *Love is God*.

Leo Tolstoy, in *War and Peace*, puts it as only he can. Prince André is lying on his deathbed with a mortal bullet wound in his stomach. Reunited with his beloved Natasha, who is tenderly caring for him, Prince André is constantly occupied with thoughts about death. He has this thought:

Love? What is love? Love hinders death. Love is life.... Everything is united by it alone. Love is God, and to die means that I, a particle of love, shall return to the general and eternal source.

If what happens after death is that we blend back into the Thing-in-Itself, then branding Schopenhauer as the philosopher of pessimism is, as they say in the movies, a bum rap. Hindus and Buddhists say that before we can erase our individual souls into a compassionate cosmic oneness we must first undergo an almost endless cycle of births and rebirths, and that a final release from this cycle is what one should most desire and work towards. Schopenhauer says, more optimistically, that we don't have to go through all that to get there. We get there the first time we die, with no trouble. When Death comes for Boris in *Love and Death*, as a white-cloaked apparition knocking on his door, Boris tells him, "don't bother." Death replies, "It's no bother."

Maybe Tolstoy is right. Prince André suddenly perceives, shortly before he dies, that "death is an awakening." As life awakens from sleep, death is an awakening from life. Tolstoy writes:

His soul was suddenly flooded with light, and the veil that had till then concealed the unknown was lifted from his spiritual vision. He felt as if powers till then confined within him had been set free, and that strange lightness of being did not leave him [until he died, several days later].

Is death a selfless compassionate awakening from the self-interested carnival of life? Like what Tristan and Isolde seek to attain in a burning catharsis of sexual love, perhaps the higher spiritual plane that we go to after death is a place where our conscious sense of self merges into a blissful compassionate oneness with the world.¹⁵

As we make our way through this carnival of life we would do well to moderate our self-interested desire to get what we want, and to keep such desires from becoming an overweening concern. Like George Crosby, we should try to embrace life with compassion on a daily basis. Acceptance, forgiveness, and love. This is the best way to live our lives in this world, and also to prepare us for our passage into the next one.

ENDNOTES

- ¹ In 1961 Dartmouth Medical School was only a two-year school (it is now a four-year medical school). The first two years of medical school are devoted to the basic sciences. The majority of medical students who graduated from Dartmouth Medical School in those days, with a Bachelor of Medical Science degree, went on to Harvard (as I did) to do the last two, clinical years. (My M.D. degree is from Harvard.)
- ² Regarding the fear of being buried alive and the marketing of coffins with breathing and speaking tube, see the excellent, well-referenced article by the medical historian Marc Alexander: “‘The Rigid Embrace of the Narrow House’: Premature Burial & The Signs of Death,” *Hastings Center Report*, June 1980, 25-31.
- ³ For more about the origin of mortuaries and the determination of death, see Arnold, J.D., et al. “Public Attitudes and the Diagnosis of Death,” *Journal of the American Medical Association* 206: 1949-1952, 1968.
- ⁴ See Booth, W., “Voodoo Science” *Science* 240(4850): 274-7, 1988 (April 15 issue); and Davis, W., “Tetrodotoxin and the Zombi Phenomon” *Journal of Ethnopharmacology* 25(1): 119-22, 1989 (Feb. issue). Wade Davis, an ethnobotanist, went to Haiti in 1982 to investigate zombies and their connection with folk poisons used in voodoo rituals and celebrations. See also his book, *The Serpent and the Rainbow* (Touchtone: New York, 1987), which documents his discoveries that I allude to here.
- ⁵ William R. Clark, *Sex & the Origins of Death* (Oxford University Press, New York, 1996)
- ⁶ From *Sex & the Origins of Death*, page 83 (1998 paperback edition)
- ⁷ Statistics on life expectancy from DeSpelder, Lynne Ann and Strickland, Albert Lee, *The Last Dance: Encountering Death and Dying* (Mayfield Publishing, Palo Alto, 1987; Second Edition)
- ⁸ See Chang, Iris, *The Rape of Nanking: The Forgotten Holocaust of World War II* (Basic Books, New York, 1997) and Yin, James, *The Rape of Nanking: An Undeniable History in Photographs* (Triumph Books, 1997)
- ⁹ From *The World as Will and Representation*, vol. 2, page 466.
- ¹⁰ The statement that “99 per cent of all the species of living things that have existed on the planet are now extinct” comes from an article by Lynn Margulis and Edwin Dobb, “Untimely Requiem,” which appeared in *The Sciences* (January/February, 1989), and from Bill McKibben, *The End of Nature* (Random House, New York, 1989). Margulis and Dobb’s article reviews this book very thoroughly.

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- ¹¹ This is some of the relevant literature on studies of apparitions (“ghosts”), out-of-body experiences, messages ostensibly from the dead, reincarnation memories, and near-death experiences:
 Bennett, E. *Apparitions and Haunted Houses: A Survey of the Evidence* (Faber & Faber, London, 1939)
 Gauld, A. *Mediumship and Survival: A Century of Investigation* (Heinemann, London, 1982)
 Green, D. and McCreery, C. *Apparitions* (Hamish Hamilton, London, 1975)
 Green, H.L. *If I Should Wake Before I Die: The Biblical and Medical Truth About Near-Death Experiences* (Crossway Books, Wheaton, Illinois, 1997)
 Lewis, James R. *Encyclopedia of Afterlife Beliefs and Phenomena* (Visible Ink Press, Detroit, 1995)
 Murphy, G. *Challenge of Psychical Research* (Harper & Row, New York, 1961)
 Osis, K. and McCormick, D. *At the Hour of Death* (Hastings House, New York, 1986)
 Siegel, R.K. “The psychology of life after death.” *American Psychologist*, 35: 911-31, 1980
 Stevenson, I. *Children Who Remember Previous Lives* (University Press of Virginia, Charlottesville, 1987)
 Thouless, R.H. “Do we survive bodily death?” *Proceedings of the Society for Psychical Research*, 57: 1-52, 1984
- ¹² The cardiologist I refer to here is Dr. Floyd Short. His article, a portion of which I quote on this page, was published in the February, 1989 issue of the *Bulletin of the King County Medical Society*
- ¹³ Kerouac’s essay “After me, the Deluge” can be found in *Last Words and Other Writings: The Collected Essays of Jack Kerouac* (Zeta Press, 1985)
- ¹⁴ Quote on Mahler from: Bruno Walter, *Gustav Mahler* (Alfred A. Knopf, New York, 1958), pages 146-7.
- ¹⁵ A short bibliography on the subject of death:
 Ariés, Philippe, *The Hour of Our Death* (Alfred A. Knopf, New York, 1981)
 DeSpelder, Lynne Ann and Strickland, Albert Lee, *The Last Dance: Encountering Death and Dying* (Mayfield Publishing, Palo Alto, 1987; Second Edition)
 Enright, D.J. *The Oxford Book of Death* (Oxford University Press, New York, 1983)
 Jones, Constance, *R.I.P.: The Complete Book of Death and Dying* (HarperCollins, New York, 1997) This book is well written but poorly referenced.
 Kastenbaum, Robert and Kastenbaum, Beatrice, eds. *Encyclopedia of Death* (The Oryx Press, Phoenix, 1989)
 There are four Journals (in the University of Washington library, at least) devoted to this subject: *Death Studies, Journal of Death and Dying, Omega, and Thanatos*
 And finally: The classic work on Buddhist religious thought about death is *The Tibetan Book of the Dead*, composed in the eighth century AD. “It is intended to prepare the soul for the trials and transformations of the afterworld” (to quote the book’s dust jacket). Bantam Books (New York, 1994) has published it in paperback, newly translated into English by Robert A. F. Thurman. It is well worth reading.