Heart in Hand

Donald W. Miller, Jr.

Other books by Donald Miller

The Practice of Coronary Artery Bypass Surgery(1977)

Atlas of Cardiac Surgery (with David Dillard, 1983)

In memory of

my sister Nancy (1946-1978)

Preface

This book is about the nature of life, as I see it. I offer my reflections on a wide variety of subjects: on sex, death, love, God, and the importance of music, and art in general, in our lives.

I am a heart surgeon. For the last 25 years I have lived in Seattle, practicing and teaching heart surgery at the University of Washington and at Swedish Medical Center. Several things happened during these years that led me to write this book.

First there was an untimely death. My sister Nancy died in 1978 when she was 31 years old, from breast cancer. I was 38 years old at the time.

Then, six years later, I was changing out my scrub clothes in the surgeon's locker room after doing a coronary bypass operation on an elderly woman and talking with a surgical colleague, Dr. Alfred Blue, when he happened to notice a mole on my unclothed shoulder. He said, pointing to the mole on my shoulder, "how long have you had that thing?" Dr. Blue is an outspoken, no nonsense plastic surgeon—qualities usually not seen in that breed of physician. I told him that it had been there for awhile and that one of the other surgeons on the staff looked at it a year ago and said that it was nothing to worry about. Dr. Blue said, in his usual blunt fashion, "it oughta come off."

He excised it in his office later that afternoon. Much to my surprise, and his, for that matter, it turned out to be cancer—a malignant melanoma. I went back to his office a few days later and he did a wide excision of the skin, fatty tissue, and lymph nodes around the site under local anesthesia. While he was cutting away a large pizza-sized wedge of skin and subcutaneous tissue from my shoulder, Dr. Blue made a comment that forever after endeared him to me. He said, "I'm glad you're the one whose got this problem and not me!"

The reader might think that this statement is a bit crass, an unfeeling thing for a doctor to say to his patient. But I took comfort in what he said and looked at it this way:

one does not often encounter such stark honesty in a physician. To me, his being that honest meant that I could fully trust him, no matter what.

All of a sudden, at the age of 44, I had to confront the prospect of an early death, like my sister Nancy and my grandfather, Louis Hicks Williams, had to do. He was a career Navy surgeon. He died at the age of 41 from viral encephalitis, which he contracted in Haiti when he was stationed at a hospital there with the US Marines in the late 1920s. I was in the prime of life, with a successful practice and my second book on heart surgery just published. I had been appointed to the Board of Directors of the Seattle Symphony and was a member of their six-person search committee formed to select a new conductor for the orchestra. This couldn't happen to *me*. Suddenly, I was faced with the realization that death was not just something that happened to other people, it was also something that was going to happen to me, and perhaps very much sooner than I had ever thought possible.

My sister's breast cancer was diagnosed when she was 26 years old, soon after the birth of her second child. She knew how bad the prognosis was—breast cancer that arises during pregnancy is highly lethal—but she nevertheless fought it valiantly. She lived five more years, several years longer than any of her physicians thought possible with the kind of cancer that she had. Two years before her death she came to Seattle with her husband and two young daughters and we went on a day hike together on Hurricane Ridge in the Olympic Mountains in Washington State, on what turned out to be a beautiful, warm day.

Although I cherished that time with her, I generally treated my sister's death with denial. My basic approach was don't think about it, go on with your life and it won't bother you too much. I was too busy with my University teaching and patient care responsibilities—with saving lives—to go to her funeral in Florida. Now, however, faced with the possibility of a very shortened life span myself, the full force of my sister's struggle with the reality of her impending death hit me like a brick dropped on my head from a five-story building.

I had been interested in religion and questions about God since I was a child. Now having to face the prospect of death head on, I began to look more carefully at other

aspects of the living state and to undertake a reordering of life's priorities. Seeking fame as a heart surgeon no longer seemed so important. Cultivating more meaningful relationships did. I married my loving wife, Linda, in 1987. She gave me free rein to work on this project and has provided me with valuable insights along the way.

Fortunately, for me, the cancer cells apparently had not yet spread beyond their site of origin before the malignancy was discovered and excised, thanks to Dr. Blue's timely intervention. The adjacent lymph nodes were clean. The prognosis was good. But melanoma has a way of turning up years later in remote locations. I remember exploring a patient's abdomen for signs and symptoms of intestinal obstruction when I was a surgical resident. His intestines were covered with a bright brown carpet of melanoma. We could do nothing for him. The patient had had a mole removed from his back twenty years before and had remained in good health until he started vomiting the week before his surgery. It is now sixteen years since Dr. Blue removed that mole from my shoulder.

As I began to think more carefully about the realities of life, I found myself becoming increasingly drawn to the philosophy of Arthur Schopenhauer (1788-1860). The first volume of his central work, *The World as Will and Representation*, was published in 1818. As things go, this philosopher is not very popular today, but in the *19*th century the great Russian novelist Leo Tolstoy considered Schopenhauer to be "the most brilliant man who ever lived," and Sigmund Freud counted him as one of the half-dozen or so greatest men in history. In philosophy, Fredric Nietzsche and Ludwig Wittgenstein viewed themselves as Schopenhauer's successors. And such notable artists as Richard Wagner, Thomas Mann, Marcel Proust, and Thomas Hardy all acknowledge that they were greatly influenced by Schopenhauer's insights into the human condition and the nature of the world.

Schopenhauer was the first philosopher to carry out an in-depth study of sex. He was also the first philosopher to study, like a social psychologist, how humans experience compassion, and to show how it determines morally right and wrong conduct. He was the first Western philosopher to study extensively Hindu and Buddhist beliefs. Indeed, he arrived at insights, from a Western philosophical perspective, that he was surprised to

find were essentially the same, when he eventually studied them, as those taught by these two principal Eastern religions. His insights foreshadowed the discoveries that have been made in this century in psychology, evolutionary biology, and nuclear physics. The Austrian-born British philosopher of science Karl Popper once said that there are more good ideas in Schopenhauer than in any other philosopher except Plato.

Schopenhauer is generally viewed as the philosopher of pessimism. Pessimistic he may have been about some of the conditions of life, but his philosophy is grounded in compassion. I prefer to view Schopenhauer as the philosopher of compassion rather than, more conventionally, as the philosopher of pessimism.

Another experience that led me to write this book was my meeting a 101-year-old man named George Crosby. He was languishing in the intensive care unit of Swedish Medical Center in severe congestive heart failure, requiring oxygen and continuous intravenous medications when I first met him. He had coronary disease and a stiff, scarred aortic value that would not open properly. He had otherwise always been very active and in good health, and he looked much younger that his actual age of 101. He had a small farm on the Olympic Peninsula, near Port Townsend. I did heart surgery on him, an aortic valve replacement and a single coronary bypass graft (this was in 1983). This fellow came through the surgery very well and was discharged home with his wife ten days later. His wife was 93 years old, and they had recently celebrated their 75th wedding anniversary. He was soon able to resume all of his daily chores on the farm.

The thing that most struck me about this person was that he was filled with compassion, which is the subject of the third chapter of this book. The more I read Schopenhauer and the more I thought about the philosophical, medical, and moral significance of compassion after my own brush with mortality, the more I began thinking about George Crosby. After several years had passed, I began to realize that my experience with this remarkable person had deeply touched me. Deciding whether or not to take on this project, I pulled out a photograph of him working on his farm six months after his surgery, which was in his office record. His wife had sent it to me to show how well he was doing after his surgery, as a heartfelt thank you for my being willing to take a man of his age on and do open heart surgery on him. After he died my wife Linda and I

visited his widow at their home, an hour-and-a-half's ferry ride and drive from Seattle, in 1986. The memory of George Crosby helped inspire me to write this book.

I have been a Woody Allen fan since 1969 when his first film made with his own screenplay, acting, and direction, *Take the Money and Run*, came out. But it wasn't until 1984 that I really began to take him seriously. What did it was *Broadway Danny Rose*, which was released that year. Not only did he film a scene in this movie at Roosevelt Hospital where I had trained, but it showed a side of Allen that I had not fully appreciated, although *Interiors*, his first "serious" film, released in 1978, gave a strong hint of what was to come. It was not lost on me that Danny Rose has the attributes of a *20*th century Parsifal—that of a guileless fool. I soon realized, although no writers that I am aware of have approached *Broadway Danny Rose* from this perspective, that this film is in essence a study of compassion, the very subject that was so occupying my attention at the time. *Broadway Danny Rose* strips away the riot of self-directed concerns for possessions, sensual pleasures, control over others, and fame; and the film shows, in its subtle way, what the true values of life are—forgiveness, acceptance, and love. In a word, compassion. I studied Allen's work more carefully, including all of his prose works along with his published screenplays and films. I found that one of his essays, "Mr. Big," has considerable religious significance. It is an excellent parable for the human search for God. I came to realize that Allen's work offers important insights on life which, from a 20th century perspective, complement those of Schopenhauer. Along with Schopenhauer, Woody Allen also figures importantly in this book.

The two books I wrote on heart surgery provided the groundwork for writing this book. My first book on heart surgery, *The Practice of Coronary Artery Bypass Surgery*, was published in 1978 by Plenum Press. It received very good reviews, one in particular by Dr. John Kirklin, one of the pioneers of heart surgery, in *The New England Journal of Medicine*. As a result, an editor at MacMillan approached me to write an atlas of heart surgery in the style of their Zollinger *Atlas of General Surgical Operations.* This book was then in its fifth edition, employing an 11 by 14-inch format, with illustrations on the right-hand page and text on the left. I was particularly interested in taking on this project because I had an excellent illustrator in mind, a senior heart surgeon on the University of

Washington faculty, Dr. David Dillard. The text for our *Atlas,* titled *Atlas of Cardiac Surgery* had to be limited, like the Zollinger *Atlas,* to no more than 1800 words—the maximum number that could fit—on each page opposite a plate of illustrations. One plate might show the technique of aortic valve replacement, another a diagram of a heart-lung machine, and I would summarize on the opposite page subjects like these that have had entire books written about them. Our *Atlas of Cardiac Surgery* was published in 1983. This project provided me with very good training and discipline for this current undertaking, where I attempt to present the religious significance of the Beat Generation in a convincing fashion, for example, in less than three pages. Summarizing broad areas of knowledge in cardiac surgery in the *Atlas* has helped me here to offer a broad, interwoven view of the nature of life, which addresses philosophy, science, medicine, religion and culture in a relatively short book.

My interest in music, a very important facet of life, as I see it, began at an early age. I grew up in a musical family, the oldest of four children. My mother was a church choir soloist and part-time opera singer, and my father helped put himself through medical school in the 1930s playing the alto saxophone in a swing band. My sister Mary studied ballet and teaches piano. I happened to find my father's saxophone stashed away in the attic of our house when I was eight years old and by the age of twelve I was playing the baritone saxophone in a student jazz band.

I did my post-graduate surgical training in New York City, most of it at a hospital two blocks south of Lincoln Center—Roosevelt Hospital. While there, from 1965 to 1970, I served as one of the house doctors at Lincoln Center—at the State Theater, home of the New York City Ballet and NY City Opera; Avery Fisher Hall, NY Philharmonic; and sometimes also at the Metropolitan Opera House. We had a sign-up sheet for this activity in the resident's lounge in the hospital, and my name was always on it. In return for two tickets in the back row of the orchestra the house doctor was obliged to deal with any emergencies that might arise during the performance. During the first five years of my surgical training I thus had the remarkable opportunity to attend, on my off-duty nights, without having to buy a ticket, many outstanding opera, ballet, and symphonic performances at Lincoln Center.

My longstanding interest in philosophy began in college, fueled initially by a desire to study the philosophy of religion. When I was there, in 1958-1961, the philosophy department at Dartmouth College was a fairly small department. The professors were great. They shared an infectious enthusiasm for their calling and had a warm camaraderie with the students. One thing about those years that I will always remember is the day one of the professors, who I particularly liked, a husky, sandy-haired, shy man who was partial to the philosophy of Spinoza, drove to work in a newly purchased flaming red Corvette.

My interest in science, particularly molecular biology, was greatly stimulated by a summer I spent in 1962, between my first and second year of medical school, at the Marine Biological Laboratory at Woods Hole, Massachusetts. I spent the summer there doing electrophysiological research on heart muscle cells of king crabs and tunicates. Tunicates are sea squirts, a primitive marine chordate that is an evolutionary link between invetebrates and vertebrates. The Nobel Prize laureates Albert Szent-Györgyi, who discovered and isolated Vitamin C, and James Watson, who along with Francis Crick described the structure of the DNA molecule as a double helix, were in residence there that summer. It was a thrilling experience for an eager, young medical student to meet such leaders of the human quest for scientific truth and attend their lectures.

I moved to Seattle in 1974 after completing my heart surgery training at Columbia-Presbyterian Medical Center in New York. Seattle has a highly regarded Medical School at the University of Washington and the top class Swedish Medical Center, both very appealing from a professional standpoint, but when I moved here in 1974 I wasn't sure, coming from New York, what it would be like culturally.

The distinguished British conductor Sir Thomas Beecham conducted the Seattle Symphony from 1941 to 1943. At a banquet at the Washington Athletic Club in Seattle on November 14, 1941 he said, "if I were a member of this community, really I should get weary of being looked on as a sort of aesthetic dustbin." He viewed Seattle as "young, fresh, with something of the spring of life in your blood," and he offered, with the benefit of his musical experience, to help change things. The arts in Seattle have assumed increasing importance over the ensuing decades. This city now has a new

concert hall for a new century, a glorious one indeed—Benaroya Hall. Its acoustics are in the same league with the revered concert halls in Boston, Amsterdam, and Vienna. Gerard Schwarz, Music Director and Principal Conductor of the Seattle Symphony since 1985, was instrumental in making this hall become a reality.

The arts in Seattle came into full bloom when Speight Jenkins was recruited from New York in 1983 to become the General Director of Seattle Opera. The productions he has mounted in Seattle are comparable with those presented by the Big Three American opera companies in New York, Chicago, and San Francisco. He has done wonderful things for this community and the world of art by putting together internationally recognized and deeply insightful productions of great opera. People from 45 states and 14 countries, including music critics from the leading newspapers in Europe and the United States, came to Seattle in the summer of 1998 to see and hear his acclaimed new production of Wagner's *Tristan and Isolde*. The eminent Dallas critic John Ardoin wrote, "So what does Seattle know that the rest of the opera world doesn't?" Sir Thomas would be very pleased, if he were still alive, to see how far this vibrant city in the northwest corner of the continental United States has progressed in the arts since he conducted the orchestra there in the early 1940s. This city has provided fertile ground for nurturing my interests in philosophy and the arts.

My views on life are shaped from spending a lot of time on a day-to-day basis over the years in an open heart surgery operating room. Outside of the operating room my views on life have been shaped from a number of other interests—from time spent in movie theaters, opera houses, and concert halls; from reading books on a wide range of subjects; listening critically to classical music and jazz; and raising a family. Another thing that has also helped to enrich my appreciation of the realities of life are hiking and climbing the mountains of Washington State and taking multiple week-long hikes through the Grand Canyon.

I spent two nights on Mount St. Helens in 1979 with three other climbers, not far from the summit, one year before it erupted. We stayed on a part of the mountain that jutted out on its northeast side called the Dog's Head. We cut blocks of packed snow with ice saws, placed them on top of each other just the right way, as instructed by the

one member of our group who knew how to do it, and made two igloos, each one large enough for two persons. For me, not being much of a handy man, sawing those ice blocks more than eight thousand feet above sea level proved to be very hard, exhausting work. But once done, the inside of that igloo was still and serene and surprisingly warm, with the heat of the backpack stove glazing the snow walls to ice. In an explosion in 1980 that was heard 200 miles away, that part of the mountain where we had slept secure in our igloos was broken up into fine dust particles and spewed across the wide expanse of the states of Washington and Montana.

In *The Denial of Death*, Ernest Becker presents a post-Freudian synthesis of psychology and religion that focuses on the work of Otto Rank and Søren Kierkegaard. I have followed a similar course in this book, but here I have chosen to weave the philosophy of Schopenhauer and the films and writings of Woody Allen within the context of the narrative—although I will also be turning to Otto Rank in the first chapter of this book.

I have written this book for a broad audience, for theologians, psychoanalysts, cultural historians, attorneys, professional musicians, oncologists, molecular biologists, philosophers, and housewives in New Jersey. For such a diverse group of readers, I explain various terms and concepts as they are introduced. A molecular biologist certainly does not need to be told what a eukaryotic cell is, but it might be helpful to a theologian or a musician to explain it—and a "cell" in general, for that matter, as the term is used in biology. On the other hand, a theologian does not need to be told what the characteristics of a mystical experience are, but it needs to be explained to other people. And musicians certainly do not need to have the elements of melody, harmony, and rhythm explained to them. I explain them in order to more clearly explore the philosophical significance of this art form. For those who are already quite knowledgeable about various subjects that I discuss here, please bear with me.

My dear friend Jim McDonald spent a lot of time carefully editing this manuscript. He provided me with many good suggestions to improve it. Shortly after finishing the last chapter he had to confront his own death when he found out that he had incurable lung cancer. I am very sorry that he did not live to see this book published.

Doug McClennan also provided invaluable help to me in the preparation of this book. His merciless critique of the manuscript from a postmodern perspective was very helpful. He has helped to make it a better book than it would have been without his input. He also came up with the title *Heart in Hand.* Nicholas Kurte critiqued an earlier version of this manuscript, and Richard Broz and Elaine Monsen gave me needed support and encouragement. I owe a great debt of gratitude to my wife, Linda, for her insights and her patience, and to my two younger children, Michael and Daniel, for graciously letting me spend the time required on the computer to write this book while they were growing up.

Our society very much needs to have a more integrated view of life, a post post-modern *re*constructionist view of life if you will, one that incorporates the great insights of our philosophers, artists, and scientists of the past as well as those active today. I hope my approach can be useful.

CONTENTS

1

Getting What One Wants

We all want what we can't have
in life. It's a natural thing.
Woody Allen
Broadway Danny Rose

Why would someone want to do heart surgery? Many people think it is because heart surgeons are well paid. Another is that they are held in high regard. Heart surgery also provides its practitioners with a large measure of self-fulfillment. Having the ability to acquire and utilize the knowledge base, technical dexterity, and judgement necessary to do open heart surgery is very satisfying. Achieving the respect of one's cardiac surgical peers makes it even more satisfying. All of these reasons are based on the motive of self-interest—what I want and what's good for me.

There is another reason why people want to become heart surgeons, other types of physicians, or any other health care professional for that matter, like nurses, physical therapists, and pharmacists. This is a heartfelt, compassionate desire to help others who are in distress and in pain. But more of that later.

Living things, from single-cell organisms to surgeons, are guided principally by their own self-interest. People in my family like to be doctors. I am the third generation to take up the practice of medicine. My maternal grandfather, Louis Hicks Williams, received his M.D. degree from Johns Hopkins in 1914, and my father, Donald Sr., from the University of Nebraska in 1938. Both were career Navy surgeons. I received my M.D. degree from Harvard in 1965. My daughter, Elizabeth, will be the fourth

generation in our family to obtain the privilege to practice medicine. She is halfway through medical school and will receive her M.D. degree from Harvard in 2001.

Five thousand generations ago, about 100,000 years in the past, my ancestors, and yours too, most likely lived in East Africa and moved about in small isolated groups of hunter-gatherers. They weren't concerned with obtaining a medical degree. They spent their time looking for something to eat. Five hundred thousand generations ago, we humans shared a common ancestor with chimpanzees and gorillas.

Life arose on this planet about 3.5 to 4 billion years ago in the form of single-cell bacteria. When our solar system was formed—from the residue of an older star that exploded in this part of our Milky Way galaxy about six billion years ago—our planet happened to be just the right size to maintain a life-sustaining atmosphere. It has exactly the right amount of gravitational force, being 7,600 miles in diameter, to hold on to gases vented through volcanoes from the interior to its surface. This planet is just the right distance from the sun, which is 93 million miles away, to receive an optimal amount of energy so that water can remain in a liquid state and life can exist. (Mars, further away from the sun, is too cold to have an open body of unfrozen water; and Venus, which is closer, is too hot. The water on that planet is all steam.)

All life on earth, including we human beings, is derived from these microscopic bacteria. There are now some 10 to 50 million species living things on the planet, and bacteria, ancient as they are, continue to thrive. We cannot live without them. Bacteria are so ubiquitous—and necessary—that there are more than four *billion* of them in a person's stomach, and there are more than 100 billion bacteria in a spoonful of garden soil.

Bacteria are single-cell organisms. A *cell* is the basic structural unit that makes up all living things. Go below, or divide a cell and there is no life—only water, carbon-containing organic molecules, and salts. Essentially, cells are tiny membranous bags of water that contain the molecular machinery of life. These membranous bags of water eat, move about, and produce offspring, and thus are considered to be alive.

Bacteria are *prokaryotes*—"pre-nucleus" cells. Two billion years after these cells spontaneously arose in the warm waters of planet Earth, they evolved into a more complex kind of cell, known as a *eukaryote*—a "true-nucleus" cell.

Biologists theorize that eukaryotes arose when a larger bacterium swallowed a smaller bacterium and the two bacteria then continued to live on together as one organism, mutually supporting one another. In time, measured not in months but in millions of years, the smaller bacterium eventually became the mitochondria of the newly evolved larger cell. Mitochondria are tiny factories inside the cell that convert oxygen and the breakdown products of food into chemically usable energy. Important evidence that supports this theory is the finding that mitochondria have their own, distinct DNA, which only the mother transmits to her offspring.

Bacteria excepted, all living things—amoebas, molds, plants, and animals—are composed exclusively of eukaryotic cells. These cells have a distinct, membrane-enclosed nucleus, like the yoke in an egg. The nucleus houses the cell's genes, which are made up of DNA—deoxyribonucleic acid. (The DNA in a prokaryote floats freely in its cell, usually in a circular configuration.) Eukaryotes also contain other specialized structures that prokaryotes don't have, like mitochondria and lysosomes, the cell's trash compactor. The eukaryotes that make up our bodies—all 100 trillion of them—are very small, less than one-thousandth of an inch in diameter. Bacterial cells are much smaller than that.

Heart surgeons have to reckon with both of these kinds of cells on a daily basis. We repair an individual's diseased heart by interrupting blood flow through the coronary arteries, the source of the heart's nourishment, draining all the blood out of its chambers, and then quieting the heart's cells with a special solution that we inject through the coronary arteries. To do this we place a clamp across the aorta just above the heart, preventing blood flow into its coronary arteries, and we drain all the blood out of the heart with tubes that are connected to the input ports of the heart lung machine. With the heart quiet and still, emptied of blood, the surgeon can open it up and replace a valve, close an inborn hole in the heart, or precisely sew a new bypass graft onto a one-tenth of

an inch wide, blocked coronary artery on the surface of the heart without it moving and messing up the anastomosis.

Eukaryotic human heart muscle cells can survive for up to twenty minutes without oxygen at a normal temperature of 98.6 degrees Fahrenheit. The heart surgeon buys further time by cooling and relaxing the cells that constitute the heart's muscular walls with a special solution. The surgeon injects this solution, made up of potassium-enriched cold blood, into the coronary arteries. It greatly reduces heart cells' oxygen demand and will keep them alive for up to two hours or more in their arrested state.

Cells have a protective membrane coat through which they ingest energy-containing molecules and various substances, including oxygen, to maintain their living state. An assortment of chemical pumps in the cell's semiporous membrane coat pump such chemicals as potassium, sodium, and calcium into or out of the cell. The membrane coat of a cell that is on the verge of death becomes more porous. The pumps stop functioning, the cell loses some of its high concentration of potassium and becomes flooded with sodium and water. If oxygen-rich blood flow is restored soon enough, membrane integrity and cellular function and composition return to normal. If not, the cell ruptures and dies. Until better methods were developed for protecting heart muscle cells during surgery, heart surgery was a race against the clock. Cells need constant nourishment to maintain their living state, except in unusual circumstances like heart surgery where special measures are taken to temporarily protect them in a relaxed state.

Heart surgeons also have to contend with bacteria—prokaryotic cells. Allow bacteria to gain a foothold inside a patient's body, and these organisms fulfill *their* self-interest by feeding off the tissues of the patient. Serious infection and death can result. One of the most serious infections that can occur after heart surgery is bacterial endocarditis on a newly placed artificial heart valve. The bacteria grow and multiply around the valve, working it loose, which causes the heart to fail and the patient to need another operation to replace the infected valve. We give strong doses of intravenous antibiotics to kill bacteria that may contaminate the wound during surgery to prevent this terrible complication. These antibiotics also kill bacteria that normally reside in our mouth and intestines. One side effect of heart surgery is that many patients lose their

appetite for a time after surgery, until the bacteria that reside in the intestines grow back to a normal level.

We need bacteria in our intestines to help us digest our food. But if they gain access to our bloodstream or our surgical wounds they can cause great harm. Looked at from an evolutionary perspective, human beings are essentially walking communities of bacteria, which include those in our intestines *and* the cells that make up our bodies, since their ancestors were, in the distant past, free-living bacteria.

This is how the evolution of bacteria into humans occurred:

- *2 billion years ago* prokaryotic bacteria transformed themselves into a more complex eukaryotic cell.
- *1 billion years ago*, organisms composed of many eukaryotic cells—multicellular organisms—appeared.
- *500 million years ago* some of these multicellular creatures, including reptiles with newly evolved lungs, left the sea and started living on land.
- *200 million years ago* our mammalian ancestors evolved from reptiles.

The first mammals that evolved from reptiles were small rodent-like creatures. They lived an inconspicuous, nocturnal existence. The predators of these early mammals were giant reptiles—dinosaurs. Dinosaurs dominated the planet for more than 150 million years until they suddenly became extinct 66 million years ago. This resulted, we now know, from the impact of an asteroid that struck the earth with devastating effect. The entire world caught fire and more than 90 per cent of the world's forests burned. The impact this approximately six mile in diameter asteroid produced a blast of energy that was 20,000 to 100,000 times greater than that contained in the entire nuclear arsenal currently stockpiled on the planet. It caused a mass extinction that eradicated 75 to 80 percent of all living things that then existed on the planet.[1]

The first mammals had genes that provided them with fur coats and the ability to internally control their body temperature. They were thus able to survive this mass extinction and withstand the colder climatic conditions that ushered in the beginning of the present Cenozoic era.

Following the demise of the dinosaurs, with no formidable predators to contend with, except other mammals, mammals relatively quickly evolved into a wide variety of species. They colonized the sea in the form of whales, porpoises, and seals; they took to the air as bats; and on land they diversified into more than 4000 different species, including us. We can trace our line of descent directly back to the prosimian, which closely resembled modern-day tree shrews. They were one of the first primates—the order of mammals that includes monkeys, apes, and humans. Evolution by natural selection can bring about an astonishing variety of living entities, but it occurs over vast spans of time.

These extraordinary facts about our species' origins took on, for me, a vivid hue when I was hiking through the bottom of the Grand Canyon on rocks that are more than a billion and a half years old. I have now done this a number of times, compelled by some deep-seated need to keep going back there, taking weeklong backpacking trips from both the North and South rim with my wife, Linda, and other hiking companions through different parts of the canyon. One walks on rocks at the bottom of the canyon, thousands of feet below the rim, that were formed when the only life forms that existed on the planet were microscopic bacteria, and when the oxygen content of the atmosphere was only 1 percent instead of its current 21 percent.

Trying to drift off to sleep one night in my sleeping bag after a tiring ten-mile hike with a heavy backpack, which contained things like a compact stove and a canister of fuel to run it, freeze-dried food, maps, suntan lotion, insect repellant, a flashlight, first-aid material, extra clothing, etc., I kept being distracted by the sounds of deer mice rustling through our campsite looking for scraps of food. I started thinking about their rodent mammalian ancestors who lived under the thumb of the dinosaurs more than 100 million years ago and about those giant reptiles that thrived on the planet for more than 150 million years. Lying on an intricately constructed, collapsible air mattress in my high-tech, lightweight tent, I wondered how our species will ultimately fare compared to those adaptable and resourceful little deer mice scurrying about our campsite in the dark. When the next mass extinction occurs on the planet, whether from another large asteroid

impact, nuclear weapons, or some other cause, those little deer mice, like their rodent ancestors did 66 million years ago, will probably survive. Will we?

One of the stark facts of life is that all living things are obliged to try their luck in this planet's "casino of evolution," as the biologist Richard Dawkins phrases it, where the stakes waged are survival and reproductive success. Nature's casino is an indifferent, hard-hearted place, where the gamble for survival and reproductive success depends both on avoiding or besting one's predators and on being able to adapt to changing environmental conditions.[2]

Beginning with our earliest human ancestors in the transition from apes to humans, human beings that exist today are the product of 4,000,000 years of biological evolution. Fully evolved, biologically "modern" human beings existed in Africa 100,000 years ago, and they soon thereafter migrated to Europe and Asia, and then Indonesia and Australia/New Guinea; and much later, probably around 13,000 years ago, to North and then South America.

In the last 50,000 years of this four-million-year time frame, our species has also undergone a *cultural* evolution. Paleoanthropologists tell us that humankind began to develop the rudiments of symbolic culture somewhere between 50,000 and 100,000 years ago, beginning with the ability to speak a language. Human cultural evolution took off about 50,000 years ago. Using radiocarbon dating techniques at archeological sites in East Africa, Europe, and the Near East, this is about the time when humans began using increasingly standardized and complex stone and bone tools. They made jewelry—archeologists have found ostrich-shell beads that are more than 40,000 years old in Africa and Europe—and they created works of art which we still contemplate today, most notably the life-sized paintings of bulls and horses in the Lascaux Cave in France.

Compared to evolution on a biological time scale, our species' cultural evolution has occurred extremely rapidly. Indeed, it has occurred, in large part, over a 12,000-year time frame, from the end of the last ice age, when agriculture and animal husbandry began, to the present. In the Upper Paleolithic period, 40,000 to 12,000 years ago, human "culture" consisted of isolated groups of hunter-gatherers. They moved about and lived on wild food—fish, hunted animals, wild fruits, nuts, seeds, roots, and tubers. The

transition from hunting-gathering to food production occurred first in southwest Asia, in what is known as the Fertile Crescent (present day Iraq, Syria, and Jordan). It happened during a 3,000 year period from 9,000 BC to 6,000 BC. At the beginning of this period people subsisted on wild food. By 6,000 BC some people were living almost exclusively on crops and domesticated animals.

Now, 8,000 years later, there are a lot of additional things we culturally evolved human beings need, want, and desire. In addition to such things as *food*, *clothing*, *shelter*, and *adequate nurturing*, these include a need for *self-definition.* Humans obtain self-definition from the passive assignment, by birth, of such components as geographical home and family lineage, and also, by choice (to some degree at least), from a person's religion, political affiliation, career, and mate. We seek *sensual pleasures*, particularly from sex and mind-altering drugs, and *self-fulfillment*. We obtain self-fulfillment from our work; from relationships—with a significant other, friends, and colleagues, whose approval and respect we seek; from raising children and seeing them do well. We also obtain self-fulfillment from other sources: from sports, hobbies, intellectual endeavors, and various forms of play; and from helping others.

Some people are driven to obtain *possessions and wealth.* They desire wealth so that they will have enough money to pursue, without restriction, various sensual, intellectual, or aesthetic pleasures—and to feel financially secure. Some people want possessions for self-definition, others simply to have them. Other people desire *interpersonal recognition and power*. Such people are driven to achieve honors, rank, and fame; or to be a celebrity. Some want to exert control over other people's lives. And finally, some people seek *intellectual* and *aesthetic pleasures and insights*, such as readers like you who are reading this book. These needs, wants, and desires are fueled by self-interest.

Self-conscious, reflective human beings have other needs and wants as well. These include a desire not to die, and failing that to have a continued existence after death; and a need for faith, for a "faith state" that can combat a deep-seated sense of uneasiness that there is something wrong about us as we naturally stand, which will enable us to make a connection to a higher power on a higher spiritual plane. Some depth

psychologists say that we have, at an unconscious level, a nostalgia to return to our primeval existence in the depths of the sea. I will offer my thoughts about that later.

This is how Schopenhauer describes the motive of self-interest, as it is manifested in human beings:

> The individual is filled with the unqualified desire of preserving his life, and of keeping it free from all pain, underwhich is included all want and privation. He wishes to have the greatest possible amount of pleasurable existence and every gratification that he is capable of appreciating; indeed, he attempts, if possible, to evolve fresh capacities for enjoyment.

He adds:

> Egoism [one's self-interest] is a huge giant overtopping the world. If each person were allowed to choose between his own destruction and that of the rest of mankind, I need not say what the decision would be in most cases. Thus it is that every human unit makes himself the center of the world, which he views exclusively from that standpoint. Whatever occurs, even, for instance, the most sweeping changes in the destinies of nations, he brings into relation first and foremost with his own interests, which, however slightly and indirectly they may be affected, he is sure to think of before anything else.[3]

Tina, a character in Woody Allen's film *Broadway Danny Rose*, gives this view of how the motive of self-interest best operates in our species:

> You know what my philosophy of life is? It's over quick, so have a good time. You see what you want, go for it. Don't pay any attention to anybody else. And do it to the other guy first, 'cause if you don't, he'll do it to you.

Taken aback, Danny replies, "This sounds like the screenplay to *Murder Incorporated*." Danny tells Tina that this view of life is a stark contrast to his Uncle Sidney's philosophy of life, which embraces "acceptance, forgiveness, and love." Some people aggressively pursue what they want; others are more restrained and forgiving.

According to the U. S. Bureau of the Census, on August 21, 1999 there were 6,007,130,506 people living on the planet, of which 273 million live in the United States. Each one of these six billion people has his or her self-interest foremost at hand, and we

must compete with each other for the things that we want. There is also a vast number of species of other living things on the planet that strive to fulfill their basic needs and wants. Some of them compete directly with us for various food sources, like the insects and pests that infest our orchards. Other small creatures, such as mosquitoes, invade our bodies for their nourishment, and various microscopic bacterial, viral, fungal, and parasitic pathogens inhabit and feast on our tissues. But we humans do real well in this carnival of life. We eat a great variety of animals, from other mammals to insects, including fish, birds, reptiles, amphibians, mollusks, and crustaceans. The Kentucky Fried Chicken fast food chain of restaurants, for example, kills and cooks more than 900,000 chickens each day. And we burn vast areas of tropical rain forests, killing countless numbers of living things.

In Allen's *Love and Death* Boris and Sonia have this conversation:

> *Sonia*: Boris, look at this leaf. Isn't it perfect? And this one, look. Ah yeah. Yes. I definitely think that this is the best of all possible worlds…. Isn't Nature incredible?
>
> *Boris*: To me, Nature is, I don't know, spiders and bugs. And big fish eating little fish, and plants eating plants, and animals eating—Its like an enormous restaurant, that's the way I see it.

Schopenhauer points out, in his book *On the Will in Nature*, how animals are optimally constructed to fulfill their will to live. A pelican has a huge pouch under its beak where it can pack and store the fish that it catches. Owls have enormous pupils that enable them to see better in the dark and soft feathers to make their flight noiseless so that they can fall unawares upon their sleeping prey.

There certainly is a conspicuous predatory aspect to life. In nature's giant restaurant living things pursue their will to live at the expense of and generally without regard for other living things.

A snake wrapped in a circle eating its own tail is an ancient symbol of life. Being in essence a traveling alimentary canal, the snake symbolizes the primary function of life, which is eating. Furthermore, by periodically shedding its skin the snake symbolically throws off death and is reborn, just as life sheds one generation of living things and is

reborn in the succeeding generation of a given species. In his book *The Origins and History of Consciousness,* Eric Neumann says that the symbol of a snake wrapped in a circle eating its own tail, known as an *Ouroboros,* reaches down into the furthest depths of the human psyche and represents both an image of self-procreating primal gods and the union of masculine and feminine opposites.

Natural selection is the mechanism by which life sheds one generation of living things for another. The concept of evolution by natural selection, proposed by Charles Darwin in *On the Origin of the Species by Means of Natural Selection,* published in 1859, is now well accepted. The evidence in support of this mechanism guiding our species' origins is overwhelming, the arguments of creationists notwithstanding.

Darwin's contemporary Herbert Spencer coined the phrase "survival of the fittest" to explain this concept. Now that we know more about the biology of living things than Darwin and Spencer did in their day it would be more accurate to say "survival of the fittest *genes*." What is selected, and survives, is the gene pool of a particular species. The most adaptable genes are the fittest genes, and they survive by making copies of themselves that are perpetuated in future generations of individuals in the species. In plants and animals and more complex single-cell organisms, like amoebas and yeast, copies of genes are mixed sexually and then transmitted to their offspring. In less complex single-cell bacteria copies of genes are cloned. It is changes in the environment—in climate, in the availability of food, the arrival of new predators—which genes must adapt to. Selection of the fittest genes is "natural" because it is nature—the environment—that does the selecting.

Assuming one's needs for food, clothing, shelter, and adequate nurturing are met, Aristippus, in ancient Greece, said that the pursuit of pleasure should be the primary goal of life. From his point of view, and that of the school of philosophy he founded, there are two fundamental driving forces that guide the behavior of all creatures. These are the pursuit of pleasure and the avoidance of pain. Life is short, and one should simply seek enjoyment and pleasure in life, according to Aristippus.

Tina's philosophy of life as espoused in *Broadway Danny Rose* is to "have a good time." Tony, in Allen's *Stardust Memories*, has this to say about the matter over lunch with his friend Sandy:

> You set things up so you can play a little golf, get a little poon. You smoke some good grass, and that's what life's all about, you know?

Most people, ascetics excepted, seek sensual pleasure. And the two kinds of sensual pleasures that human beings particularly desire come from sex and drugs. Having treated a lot of heroin addicts in New York City when I was an intern and resident at Roosevelt Hospital (which Woody Allen used for a scene in his film *Broadway Danny Rose*) and seen what large doses of cocaine can do to a person's cardiovascular system, I offer you here my assessment of drugs.

Drugs provide two contrasting mind-altering effects. One is an *energizing high*, a euphoric state of mind marked by feelings of confidence and elation. We obtain this kind of high from stimulants such as caffeine, nicotine, amphetamines, and cocaine. The other is a *mellow high*, a relaxed state of mind where anxieties are temporarily relieved and inhibitions are loosened. We obtain this kind of "high" from chemical depressants such as alcohol, diazepam (Valium), and heroin.

While the typical boisterous drunk might suggest otherwise, alcohol has a depressant effect on the brain. Small to moderate amounts can make a person feel relaxed, happy, and at ease; and in the right setting it can also bring about a loss of inhibitions. The seeming stimulatory effect of alcohol in people who become noisy and boisterous after a few drinks is actually a result of its depressant effect on the inhibitory control mechanisms of the brain. With increasingly larger amounts, brain function steadily deteriorates, resulting in a loss of coordination; a loss of judgement; unsteady gait; slurred speech; and the outpouring of repressed emotions, such as feelings of hostility, aggression, sorrow, or remorse. Signs of drunkenness are apparent in most people when the blood alcohol concentration reaches 0.10 per cent, and most people will have lost consciousness and be difficult to arouse when it reaches 0.4 per cent.

Some mind-altering drugs, like marijuana, have both depressant and stimulant properties. Some drugs, like LSD, have hallucinogenic effects.

Humans use mind-altering drugs for a variety of reasons, all of which are related to either the energizing or mellow highs that drugs can give. These include:

- dulling one's consciousness
- combating depression and boredom
- promoting and enhance social interactions
- improving physical performance
- stimulating artistic creativity
- expanding one's consciousness

Our species, it turns out, is not unique in seeking sensual pleasures from drugs. Other animals also use intoxicating, mind-altering drugs. For example, koalas get hooked on eucalyptus, and grasshoppers set high-jumping records after munching marijuana. Yellow ants develop a consuming mania for the intoxicating secretion of the *Lomechusa* beetle, to the point that, with increasing consumption, they hoard the larvae of this beetle and guard it more zealously than they guard their own young, a compulsion that is seen in humankind in cocaine or heroin addicts.

Some mind-altering drugs in our culture, of course, are legal and freely available, such as alcohol, caffeine, and nicotine. Some require a doctor's prescription, and others—the ones that give the highest highs—are illegal, principally marijuana, cocaine, and heroin. I believe that all mind-altering drugs, cocaine and heroin included, should be legalized. Just as prohibition of alcohol in the 1920s and early 30s failed, with the unintended consequence of establishing a strong foothold for organized crime, so too making marijuana, cocaine, and heroin illegal is just as bad, if not worse, particularly with the new asset forfeiture laws that allow law enforcement officials to seize, without due process, the property of people who choose to use these drugs. Making these drugs illegal has not only further strengthened the widespread influence of organized crime in

our society, but, given the vast amounts of money and payoffs involved, it has also led to widespread corruption in government.

Alcohol is our most widely used potent mind-altering drug (caffeine is more widely used but is not nearly as potent). Human beings have consumed alcohol for thousands of years. It is even mentioned in the first chapter of the Bible. In Genesis 9: 20, we learn that Noah has a vineyard and makes wine, and he is found lying in his tent naked and drunk. The Babylonians were obliged, 3,600 years ago, to issue regulations, in the Code of Hammurabi, to control their drinking houses. Indeed, some cultural historians believe that our species' desire for beer, made from the grain of barley, may have played a pivotal role in the development of agriculture, which initiated our species' greatly accelerated cultural evolution. The importance of alcohol in the life of human beings is reflected in myths by the god Dionysus, the son of Zeus and the god of wine. Dionysus was considered to be a supreme deity. He was celebrated in ancient Greece and Rome with large-scale drunken festivals—the Dionysia and Bacchanalia respectively, precursors to our modern-day Mardi Gras. More than 170 million people in the United States, 70 percent of all adults, drink alcohol.

Yeast, a type of single-cell eukaryote, make alcohol. From a broader biological perspective, it is interesting to note that yeast get what *they* want by feeding on grapes and barley. They extract the chemical energy in the sugars of these plants by fermentation, a metabolic process that does not require or use oxygen. The chemical process of fermentation produces alcohol and carbon dioxide as byproducts. The cells of most other living things extract chemical energy from food through a chemical process, termed *oxidative phosphorylation*, that usesoxygen.

Plants produce a wide variety of mind-altering drugs, which include caffeine, nicotine, cocaine, opium, and marijuana. These drugs cause chemical changes at the junctions between nerve cells deep within the brain. Opium is a milky juice that is obtained from the unripe seedpods of the poppy plant, which grows naturally throughout southern Europe and western Asia. Heroin is a potent (semisynthetic) derivative of opium. The Sumerians discovered opium more than 7000 years ago. Nomads in Ethiopia found caffeine in the beans of a tropical evergreen shrub thousands of years ago.

New World Indians found nicotine in the leaves of tobacco plants and cocaine in coca plants indigenous to the eastern slopes of the Andes, and the Chinese found marijuana in the hemp plant. All of these plant-produced drugs are what neurobiologists call messenger molecules. These molecules give our brain cells—cells that evolved from the very same ancient bacteria as did the plant cells that make them—a pleasing effect.[4]

There is no doubt that the human desire for sensual pleasures from drugs is an important fact of life. Unfortunately, this compelling desire can produce several adverse consequences. Schopenhauer points out that a concerted pursuit of sensual pleasure leads to a fate worse than having had no "poon" or good "grass" at all, namely *boredom.* He writes:

> Oysters and champagne are the acme of his [or her] existence, and the purpose of his life is to procure for himself everything that contributes to bodily welfare. He is happy enough when this causes him a lot of trouble. For if those good things are heaped on him in advance, he will inevitably lapse into boredom against which all possible means are tried, such as dancing, the theatre, society, card-playing, games of chance, horses, women, drinking, travelling, and so on.

People who do not have to work for a living, and have all the money they need to do whatever they want, and to gratify their every desire, wind up being bored. They succumb to boredom. Wealthy people who have little interest in intellectual pursuits, or in the arts, are especially prone to this unpleasant state. Schopenhauer has this to say about such people:

> As soon as want and suffering give man a relaxation, boredom is at once so near that he necessarily requires diversion and amusement. The striving after existence is what occupies all living things, and keeps them in motion. When existence is assured to them, they do not know what to do with it. Therefore the second thing that sets them in motion is the effort to get rid of the burden of existence, to make it no longer felt, "to kill time," in other words, to escape from boredom. Just as need and want are the constant scourge of the people, so is boredom that of the world of fashion.

Sensual desires are satisfied in sequence, one after the other. Joseph Brodksy explains that boredom is a product of repetition. The repetition of satisfied pleasures over and over again, again and again, eventually produces boredom. Brodsky, in his

1989 commencement address at Dartmouth College, said that, "nobody is as bored as the rich, for money buys time, and time is repetitive." To the graduating students of this elite Ivy League school, he said:

> Potential haves, you'll be bored with your work, your friends, your spouses, your lovers, the view from your window, the furniture or wallpaper in your room, your thoughts, yourselves. Accordingly, you'll try to devise ways of escape. Apart from the self-gratifying gadgets mentioned before, you may take up changing jobs, residence, company, country, climate; you may take up promiscuity, alcohol, travel, cooking lessons, drugs, psychoanalysis.

This Nobel laureate did not paint a pretty picture for these soon-to-graduate college students. His advice to them? Meet boredom head on, and wallow in it![5]

Our species is the only one that possesses a conscious awareness of time. Children are prone to boredom, particularly children from well-to-do families. Older people, less so, perhaps because they are more acutely aware of their eventual mortality. The seven-year-old daughter of a wealthy friend of ours tells me that when she gets bored she plays with her dog. If that doesn't work, and she is very bored, she says that she tries to go to sleep. My eleven-year-old son, Daniel, usually quite occupied in a variety of pursuits, including writing plays (he wants to become a screenplay writer like Woody Allen) starts complaining that he is bored after he has been playing video games for an hour or two. During the first hour he seems to be quite engrossed in it, but a rather dyspeptic look gradually begins to spread over his face and then, usually half way through the second hour, he says he is bored. The repetitiveness of the pleasure, for some people that is, of playing video games wears thin after awhile, and the child sinks into a disagreeable state of boredom.

In my corner of the world we have what are known as the "Microsoft millionaires." These are people in their mid-thirties who have become millionaires working at Microsoft, the mammoth software corporation. They have a grueling day-to-day work schedule and often have to work on weekends as well. Many retire early. The first thing some of them do after they retire is travel extensively. Tiring of that they build a new house, or they do some volunteer work. Eventually, having bought all that leisure

time with their millions and still, in their mid-thirties, relatively young, they find themselves sinking into a profound state of boredom.

There are other adverse consequences to the pursuit of pleasure, in addition to boredom. Another is the twin sequelae of tolerance and dependence.

Tolerance means that an individual requires increasingly larger doses of a drug—or an activity, like running—to achieve the desired effect. There is a gradually diminishing responsiveness, or sensitivity, to the effect of the drug, or activity. Another, more recently appreciated type of tolerance is this: even though the original dosage remains just as effective, users find themselves increasing the amount of drug consumed in order to get an even stronger effect—a higher "high." Examples of these two types of tolerance are seen in alcoholics and cocaine users respectively. An alcoholic may have to consume three times as much alcohol to get the same intoxicating effect that he obtained when he first started drinking. A cocaine user winds up snorting more of it, or begins smoking or even injecting it, in order to achieve an ever more intense and euphoric high.

Dependence means that a person feels compelled to take a particular drug—or engage in potentially addictive activities like gambling, "womanizing," or long distance running—even when it begins to produce less and less pleasure and brings on adverse consequences. Such consequences include two major ones: 1) a deterioration in one's physical or mental health, and 2) impairment in one's ability to work and to maintain close interpersonal relationships. *Addiction* is dependence carried to its most self-destructive degree. That is, addiction is an extreme form of dependence.

Schopenhauer points out that the three greatest blessings of life are *health*, *youth*, and *freedom*. And most people do not fully appreciate these blessings until they lose them. With regard to health, Schopenhauer writes:

> In general, nine-tenths of our happiness depends on health alone. With it everything becomes a source of pleasure, whereas without it nothing, whatever it may be, can be enjoyed. And even the other subjective blessings, such as mental qualities, disposition, and temperament, are depressed and dwarfed by ill-health... From this it follows that the greatest of all follies is to sacrifice our health for whatever it may be, for gain, profit, promotion, learning, or fame, not to mention sensual and other fleeting pleasures; rather should we give first place to health.

Perversely, drugs that provide the most intense pleasure are also the most addictive and dangerous to one's health. Heroin gives an intensely satisfying, mellow high, but it has a high potential for addiction. Studies show that 95 per cent of people who use heroin will consume this drug daily, if it is readily available, in doses that are damaging to their health. Cocaine may be more dangerous even than heroin. Monkeys trained sto obtain injections of various mind-altering drugs by pressing a lever will press the lever more than ten thousand times to get a single injection of cocaine. When the animal is able to obtain unlimited amounts of this drug they soon die from a self-administered overdose. With heroin, the animal will gradually raise the dose and self-administer this drug at a steady rate that avoids both gross toxicity and withdrawal symptoms.

Nicotine is highly addictive, like cocaine. This drug, obtained by smoking tobacco, is responsible for more than 500,000 deaths in the United States each year—from coronary artery disease, lung cancer, and emphysema. This number of deaths far surpasses those resulting from the use of all other psychotropic drugs combined. I have had patients come back for a second coronary bypass operation because they could not bring themselves to stop smoking, even after undergoing heart surgery to treat the ravages of this addiction. Most of my patients, however, are able to stop smoking after their surgery. I tell them that when they get an urge to light up six weeks, six months, even sometimes six years later, they should first stand in front of a mirror, open their shirt or blouse and look at the scar down the front of their chest. Then they should ask themselves this question: Do I want to have this scar opened and undergo another heart operation to replace the rusted out bypass grafts that will result from my starting to smoke again? Most resist the temptation and the urge passes. I also point out to them that by smoking a cigarette a person gives up one's will to be well for the momentary gratification that the cigarette, with its bolus of nicotine, can give. Many people who have had to undergo coronary bypass surgery because of their coronary prone life style and nicotine addiction appreciate well Schopenhauer' admonition about the importance of health, and they make concerted efforts to maintain their restored health after their surgery.

Alcohol also has a high abuse potential. Approximately ten percent of people who drink alcohol consume daily amounts that are damaging to their health, and to the society they live in. An estimated 17 million people in the United States are either confirmed alcoholics or problem drinkers. Daily use of this drug in relatively high doses can adversely affect multiple organs in the body, resulting in cirrhosis of the liver, chronic pancreatitis, cardiomyopathy, and a type of brain disease known as Korsakoff's psychosis. If you have not seen a person suffer delirium tremens from alcohol withdrawal (the DTs), as I have over the years in my medical practice, I can assure you that it is a pretty awful sight.

We use mind-altering drugs not only to dull our consciousness, but also to *expand* our consciousness. In his book *The Varieties of Religious Experience*, William James (1842-1910), the American psychologist and philosopher or religion writes:

> The sway of alcohol over mankind is unquestionably due to its power to stimulate the mystical faculties of human nature, usually crushed to earth by the cold facts and dry criticisms of the sober hour. Sobriety diminishes, discriminates, and says no; drunkenness expands, unites, and says yes... Not through mere perversity do men run after it. To the poor and the unlettered it stands in the place of symphony concerts and of literature; and it is part of the deeper mystery and tragedy of life that whiffs and gleams of something that we immediately recognize as excellent should be vouchsafed to so many of us only in the fleeting earlier phases of what in its totality is so degrading a poisoning.

The untoward consequences of tolerance and dependence apply not only to the use of drugs, but also to other human endeavors as well. These include such things as enjoying fine foods, sexual conquests, gambling, exaggerated physical exercise, the acquisition of possessions and wealth, and the need for interpersonal recognition. I have known heart surgeons, for example, who just want to operate, continuously, to the exclusion of other things, including their family life, until an overpowering need for sleep forces them to take a break. Unfortunately, in a self-interested desire to get what we want humans tend to transform activities that initially give us pleasure into compulsive behavior, which then become a burden and an obligation. We keep doing it even when

we no longer enjoy it. In a chapter titled, "On the Vanity and Suffering of Life," in *The World as Will and Representation*, Schopenhauer writes:

> Every satisfied desire gives birth to a new one... In proportion as enjoyments and pleasures increase, susceptibility to them decreases; that to which we are accustomed is no longer felt as a pleasure.

Those people, for example, who make the enjoyment of fine foods a central goal in their lives are prone to gluttony. People who compulsively engage in one sexual encounter after another can be viewed as addicts of a sort. For some people, gambling becomes a self-destructive, compulsive form of behavior. Others become addicted to exaggerated types of exercise, such as long-distance running or bicycling, to the point that they neglect their families and their work and damage their bones and joints in pursuit of the endorphin-induced high that these activities can provide. Likewise, some people are compulsively driven to amass ever-greater amounts of possessions and wealth. Regarding this endeavor, Schopenhauer writes:

> Riches are like seawater, the more you drink, the thirstier you become.

Schopenhauer also makes this comment about people that strive after wealth:

> [They] work from morning to night as industriously as ants and in restless activity to increase the wealth they already have... If their luck has been good, then as a result they have at the end of their lives a really large amount of money, which they now leave to their heirs to increase still further or to squander. Such a life, though pursued with a very serious air of importance, is therefore just as foolish as is many another that had for its symbol a fool's cap.

We can take some comfort, at least, from this fact: Addiction to drugs, to sex, or to any other activity is not an irreversible disease. Addiction is a reversible behavior disorder, not an irreversible disease, as some would have us believe. Alcoholics, compulsive gamblers, and sexual addicts must all be held accountable for their actions. They cannot be absolved for activity that encroaches on other persons or their property simply because they have a "disease." Stanton Peele corroborates this statement in an

excellent article titled “Ain’t Misbehavin’: Addiction Has Become an All-Purpose Excuse,”in the July/August 1989 issue of *The Sciences*. During the Vietnam, for example, a relatively high percentage of the American servicemen who fought there became addicted to heroin. The numbing, mellow high produced by this drug ideally suited the needs of these soldiers who were helplessly thrust into an unpopular war far away from their family and friends, and who lived with an incessant fear of being killed in a sudden, unpredictable guerrilla attack. A potent form of heroin was readily available in Vietnam, and it was relatively cheap. But when these heroin-using soldiers returned home only a small percentage of them, less than five percent, remained addicted to this drug. Back home, in a different social setting, the vast majority of them walked away from that drug and never looked back. As this example makes clear, dependence and addiction are not simply a biological phenomenon; there is an important psychosocial component as well.

The pursuit of pleasure—as does a compulsion to acquire possessions and wealth, and interpersonal recognition and power over others—has another downside, in addition to the first two already mentioned. The third adverse consequence of a self-interested pursuit of these things is this: we fall prey to *deception* and *pretense*.

We practice both deception and pretense without giving it a second thought in order to get what we want. If a man wants to have sex with a new date, for example, rather than simply ask her to go to bed with him he will be more acceptably and appropriately devious. He will say something like “let’s go over to my place,” and then, perhaps, “let’s have some wine and go sit in the hot tub [nude, of course; that goes without saying since she obviously didn’t bring a bathing suit along for a dinner date].” If the woman is so disposed, she will agree, simulating innocence but knowing all the while his true intentions. And if all goes well, they soon will be copulating in the bedroom.

In Woody Allen’s *Play It Again Sam*, Allan brings Linda to his apartment for dinner and wants to seduce her, but he is uncertain about how to go about it and does not know what to say. Sitting next to her on a sofa, Humphrey Bogart appears behind them, visible only to Allen, and gives him some advice. He tells him to say, “I have met a lot of

dames but you are really something special." Allan thinks the line is too corny and argues with him about it, but finally says it to her, and he is surprised to find that it works. He exclaims privately to Bogart, "She bought it!" Sincerity and truth are expendable commodities when a human being, driven by self-interest, strives to get what he or she wants, particularly sensual pleasures from sex and drugs, possessions and wealth, and interpersonal recognition and power.

Pretense means the act of pretending, of presenting a false appearance, of being devious. It connotes an action that disguises or papers over a person's true feelings, beliefs, or intentions. Like an actor on the stage, humans use pretense and devious behavior to achieve at least three goals: to manipulate people in order to get what one wants, to avoid adverse consequences that may result from being honest and sincere, and to win acceptance and affection. Motivated by a fear of rejection, many of us go through life pretending to be something that we are not in an attempt to win acceptance and love. We are frightened to let our true selves, and what we really feel inside, show through for fear that we will be rejected. Rather than being straightforward, direct, and honest with others, and ourselves, we say what we think other people want to hear rather than what we really think and believe. Such behavior is seen most sadly in the person who, riddled with cancer, keeps smiling until the end of her life. When asked how she is doing, she replies, falsely, "Everything's great," keeping up the pretense that nothing is wrong. Indeed, such behavior may well be an important *cause* of disease, particularly cancer. More about that later.

Deception employs deceit. Deceit is the act of causing another person to believe what is not true. In our competitive world we often use deceit in our self-interested desire to get what we want. In short, we lie. Regarding this aspect of human behavior, Schopenhauer writes:

> Just as our body is covered with clothes, so is our mind with *lies*. Our words, our actions, our whole nature are deceitful; and only through this veil can our true sentiments sometimes be guessed, just as the shape of the body is guessed through the clothes.

These are some of the reasons why people lie:

- To hide something that causes shame
- To evade responsibility
- To manipulate another person in order to get what one wants (such as the scam artist who cheats an old lady out of her life-savings)
- To attract attention
- To inflate one's importance (such as the politician who said that he had attended Oxford University when he had actually only been there as a tourist)

Manipulative charm is a valued asset in our culture—not only in our social life, but also in business and politics. We enjoy and even thrive on intrigue and deceit, as witnessed by our fascination with spies and the popularity of the kind of novels that are written by authors like John LeCarre and Robert Ludlum. (The names of these two authors are, appropriately enough, pseudonyms.) Politicians have their "hidden agendas" and spouses their extramarital affairs. Our social fabric is interwoven with deceit.

The inherently deceitful nature of our social fabric includes the commonly accepted social norm of politeness. Schopenhauer points out that *politeness*—having good manners and being indulgent with others according to social norms—is nothing more than a "piece of recognized hypocrisy." He notes that it is both expected and commended because it conceals the more offensive, self-centered side of human nature. Politeness hides this aspect of our nature "just as people like to have repulsive objects hidden at least by a curtain."

Politeness also has its manipulative aspects. My matriarchal great-grandmother, Mary Lyde Hicks Williams, would remind me, on our summer visits to her antebellum home in eastern North Carolina when I was a child, that "politeness is the key that opens all doors."

She was a very special woman. Her father was captured in the Battle of Gettysburg, in a charge in which two-thirds of the North Carolina regiment he commanded was killed. He was released in a prisoner exchange and returned home before the war ended. She was born in 1865, at the close of the Civil War. She studied

art and became a portrait painter of some renown—she has 28 paintings titled "Plantation Scenes from Life" permanently housed in the North Carolina Museum of History in Raleigh. When her granddaughter, Charlotte (my mother), lost her mother at the age of eighteen months, Mary Lyde helped raise her. She had a large library in her home, where as a teenager I first encountered the works of Schopenhauer. She liked me, but repeatedly expressed the opinion—I never could tell whether she was serious or not with the straight-faced way she would say it—that, although I had a lot of potential and would eventually amount to something, as she put it, I needed to be sent to military school to learn some manners.

Doublespeak is a particularly pernicious kind of deceit that is widely practiced. *Doublespeak* employs inflated language, well-disguised euphemisms, obsfucating jargon and bureaucratic gobbledygook. It pervades every aspect of our society, as evidenced by these examples: In the past, loans that were not paid were in default, but in order to look good, bankers and lending institutions now call them "nonperforming assets"—or they are "rolled over," or "rescheduled." People no longer go to jail, they are sent to a "correctional facility." Used cars are "experienced cars," or "pre-owned cars" and car mechanics are "automotive internists." Doublespeak not only entails the use of such euphemisms and inflated language but also the use of bureaucratic gobbledygook and jargon, such as an airline company calling the crash of one of its Boeing 727s an "involuntary conversion" on the financial balance sheet of its annual report. As is the case with lies, people use doublespeak for a variety of similar reasons: to mislead others, to avoid responsibility, and to make the bad seem good.[6]

Doublespeak is a favorite technique of deceit among politicians, who called the invasion of Grenada in the 1980s, for example, a "predawn vertical insertion," term tax increases "revenue enhancement" or "tax reform." More intrusive government regulation of health care is now known as "health care reform." In it's most socially and politically harmful form, doublespeak involves the use of language that is grossly deceptive, evasive, and confusing. Academic and professional people, particularly some physicians and sociologists, often employ doublespeak in their discourse to mystify the methods of their particular discipline. They cloak relatively straightforward concepts with opaque

words and use turgid prose in an effort to enhance their professional status. Schopenhauer scathingly criticized his academic contemporaries, particularly Hegel, for doing this sort of thing in their philosophical discourses.

Allan Janik and Stephen Toulmin, in *Wittgenstein's Vienna*, point out another adverse consequence of this kind of deceit. They write:

> Nowadays as much as in the years [in Vienna] before 1914, political dishonesty and deviousness quickly find expression in debased language, which blunts the sensitivity of the political agent himself to the character of his own actions and policies. So the intention to deceive others ends by generating self-deceit.[7]

Deception and pretense are fairly modern concepts. While deception has been practiced by humans—and other species of living things as well—for thousands of years, as Homer's *Iliad* and *Odyssey* attest, the "concept" of deception coupled with a new sensitivity to human deceit was first brought into clear focus by Machiavelli 500 years ago and then by Shakespeare. If we were living in the Middle Ages I would not be writing this book, and all of us would be viewing ourselves in an entirely different light.

To begin with, in the Middle Ages most people did not question their station in life. In the West their mindset was shaped by Saint Augustine's dictum, written four centuries after the birth of Christ, that God had assigned each person a fixed place in the community. It was a world of visions—of apparitions and dream messages from the dead—where the ultimate logic of existence was to be found in unquestioned religious truths. The average person in this era (before 1500 AD) lacked a substantial sense of an inner self, of having an identity separate from their social rank and status. Each individual was considered to be a link in the "great chain of being," more a "We" than an "I." This is why there is a remarkable scarcity of autobiographical writing in the historical record of our species up until quite recently. People had little if any privacy; it was not something one desired. As one cultural historian notes in regard to this period in human history, "nobody was ever left alone."

By 1500 the political influence and intellectual control of the church had begun to wane, and the European feudal order was beginning to break up. Social mobility

increased, along with increasing urbanization and the growth of a middle class. These historical developments all helped to bring about a new level of human self-awareness. Indeed, in the 16th century, as cultural historians have shown us, something like a mutation in human nature took place. The mutation in human nature that took place at this time involved the concept of *self*, and it is reflected in the fact that the words *self-interest* and *self-consciousness* were coined only relatively recently, in 1649 and 1690 respectively according to the Oxford English Dictionary. People began to place increasing emphasis on the dichotomy between an individual's *true inner self*, with its underlying motives, and one's *observable outer self*. Machiavelli and Shakespeare were two key observers of the human condition who recognized and described how one's outward appearance can be misleading. Thus arose the concept of *sincerity*. To be sincere simply means that one's observable self and one's hidden, true self are an undivided, single entity. A person is sincere when his outward appearance and behavior are an honest and genuine reflection of his true thoughts, intentions, and feelings. As a good friend of mine, a retired diplomat, put it, referring to sincerity as it is practiced in American politics: "In life it is absolutely essential to be sincere, even if you have to fake it."[8]

Along with the increasing importance of sincerity in human affairs, people began to focus on its close cousin *integrity*.

My brother, Rody, is a social psychologist. His main area of study is on embarrassment, and he has written two books on this subject. In order to be embarrassed one must have a strong sense of self.[9]

Woody Allen focuses on the human characteristics of sincerity, integrity, and sense of self in his screenplays. He tells us, most importantly, that sincerity and integrity are absolute prerequisites if one wishes to attempt to fathom the true nature of life. Deceit, pretense, and devious behavior pose formidable obstacles to this endeavor. Zelig, in Allen's film of that name, recalls, under hypnosis, the following discussion with his Rabbi:

> I'm twelve years old...I run into a synagogue...I ask the rabbi the meaning of life...He tells me the meaning of life...but he tells it to me in Hebrew...I don't understand Hebrew...Then he wants to charge me six hundred dollars for Hebrew lessons.

One path that people take to find happiness and meaning in life is via an overweening pursuit of pleasure. But following this path, instead, results in boredom, a loss of one's health, and the sacrifice of one's integrity. It is a wrong path to take for finding the true reality and meaning of life, or lasting happiness, for that matter. The pursuit of pleasure, as Sandy says in *Stardust Memories*, is "shallow." It lacks depth and insight. But if it is shallow and ultimately self-defeating, why do so many people make it the chief concern of their lives?

Lou Canova, the over-the-hill Italian nightclub singer in *Broadway Danny Rose*, is quite devious and deceitful in getting what *he* wants, notably, his girlfriend Tina (under the nose of his wife) and fame. When no other theatrical managers will handle him because of his drinking problem and his overbearing personality, Danny takes him on and works tirelessly to keep him sober and to help him make a comeback. When he starts to make it big, with an engagement at the Waldorf-Astoria and an important television contract in the offing, Lou decides to jettison Danny and go with a "big-gun" manager, one recommended to him by Tina. As they leave the Waldorf after a successful opening night show, Lou breaks the news to Danny that he is leaving him. Danny is shocked and stares at him in disbelief; whereupon Lou says, "Danny, naturally if anything comes out of this, you know you're gonna be in for a taste." Why, indeed, do people like Lou and Tina seem driven to obtain more sensual pleasures, possessions, and interpersonal recognition than other people? And why are some people much more devious, deceitful, and aggressive than others in getting what they want?

Schopenhauer believed that a person's character, or basic nature—manifested by one's temperament, disposition and personality—is inborn and unalterable. He believed that self-interest, malice, and compassion—in his view the three fundamental springs of human action— "are intrinsic to everyone in different and strangely unequal proportions." Some people, he said, are so self-centered and motivated by self-interest that they are not likely to sacrifice their interests to take vengeance on a foe or to help a

friend. But another person, "whose nature is highly susceptible to malicious motives, will not shrink from doing great harm to himself, so only that he may injure his neighbor." In modern terms, Schopenhauer's view that a person's basic nature is innate and ineradicable means that it is genetically programmed. More than a century before sociobiologists and other behavioral scientists recognized the importance of genetic influences on human behavior, Schopenhauer wrote:

> It is possible to remodel what one does, but not what one *wills to do*... It is not possible to change the goal that the will strives after, but only the path expected to lead thither. Instruction may alter the selection of means, but not the choice of the ultimate object which the individual keeps before him in all he does; this is determined by his will in accordance with its original nature. It is true that the egoist may be brought to understand that, if he gives up certain small advantages, he will gain greater; and the malicious man may be taught that by injuring others he will injure himself still more. But Egoism [self-interest] itself, and Malice itself, will never be argued out of a person; as little as a cat can be talked out of her inclination for mice.

But we now know that a person's character and temperament are also influenced by environmental factors, to some degree at least. Behavioral scientists recognize that a person's character, temperament, personality, and behavior are derived from a complex interaction between *both* genetic influences and environmental experiences.

There is an ongoing debate among people who study these things whether our species is innately aggressive. Do human animals have a genetically programmed aggressive nature, a "beast within" us, as some call it? Or is aggressive behavior in our species mainly a response to various environmental factors that thwart the satisfaction of our needs and wants? In literature, the idea of a "beast within" is well drawn in Kurtz, the refined, artistic European intellectual in Joseph Conrad's *Heart of Darkness*. On a trip up the Congo River to collect ivory he becomes the godlike leader of a local tribe and regresses to a life of savagery and brutality. An optimistic assessment of the matter is that mentally healthy, well-loved human beings are not innately aggressive. From this

perspective, aggressive behavior is a learned response generated by a variety of environmental factors, perhaps the most important being poor rearing conditions. Three other factors that promote aggressive behavior in otherwise healthy human beings are these: conflicts of interest; social disorganization; and envy, of another person's happiness, possessions and accomplishments.[10]

Most aggressive behavior is typified by Tina's motto, "Do it to the other guy first, 'cause if you don't, he'll do it to you." In most cases, aggressive behavior is not generated by malice, where one inflicts harm solely for the enjoyment of hurting someone. We are motivated principally by our own self-interest, which often comes into conflict with other people's self-interested desire to get what they want.

Thwarted desires and wants breed feelings of hostility and anger. In Allen's film *Interiors*, for example, Fredrick is given to writing scathing reviews of new books. His wife comments:

> He's angry. He's teaching, when he really wants to be writing… Now he's taking his rage out in these critical pieces under the guise of high standards.

Also in this regard, Schopenhauer writes:

> Ill will usually arises from the unavoidable collisions of Egoism [i.e., self-interest] which occur at every step... Everything that opposes the strivings of a person's Egoism awakens his dislike, his anger, his hate... If it were possible, he would like to possess everything for his own pleasure; as this is impossible, he wishes to at least control everything.

Perhaps the most crucial environmental factor that is related to aggressive behavior and the desire to possess and control everything is whether or not that person, as an infant and young child, received sufficient parental love and nurturing, particularly from one's mother, and in particular, *unconditional love*. Woody Allen provides us with a crucial insight regarding this important consideration. In *Broadway Danny Rose*, Danny says that Tina strives to have a good time and get what she wants, without hesitating to "do it" to the other guy first, because *she doesn't feel very good about herself*. Tina is quick to disagree and says, "Stop saying that. I like myself fine;"

whereupon Danny replies, “Well, you know, I'm just saying down deep, I sense that you don’t.”

Allen’s artistic insight on this subject, which is now being confirmed by behavioral scientists, can be summarized this way: People who make the pursuit of pleasure the chief concern of their lives and who are most given to deceitful, devious, and aggressive behavior generally have a lack of self-esteem and consequently don’t feel very good about themselves. Having to suffer through a loveless childhood is probably the most important factor that makes a person have a lack of self-esteem. A child needs a lot of nurturing and unconditional love from his or her mother during the first two to three years of life. As Thomas Verny points out in his book, *The Secret Life of the Unborn Child*, bonding between mother and child begins in the womb. He argues that a mother’s thoughts and feelings can have an important impact on the emotional development of her unborn child. A mother’s inability to provide enough love to her child may well be due to the fact that she herself suffers from a lack of self-esteem, perhaps as a result of having been deprived of a requisite degree of nurturing and love from *her* mother. A person who has been deprived of such love tries to compensate for his resulting lack of self-worth by seeking pleasurable experiences, acquisitions, and achievements. Such people, in particular, are given to pretense. They say what they think a person wants to hear rather than what they really believe, fearing that they will be rejected if their true feelings are revealed.[11]

In this regard, psychologists at New York University have carried out some fascinating studies with a technique they term “subliminal psychodynamic activation” to treat obesity and alcohol and nicotine dependency. Subliminal messages are flashed on a special machine so fast (at about one-thousandth of a second) that they do not register on the conscious mind, but they are nevertheless perceived outside the normal range of consciousness, as evidenced by brain-wave changes which indicate that the brain is responding to these messages. Subjects who received the subliminal message MOMMY AND I ARE ONE on the machine’s screen had a statistically greater success rate in overcoming their addictive behavior than a comparable control group who received a neutral phrase PEOPLE ARE WALKING.

Our lives begin in the dark, warm, watery environment of our mother's womb. Our species has only relatively recently, in the evolution of life on this planet, emerged from life forms that spent their first three billion years on this planet in the watery environment of the planet's oceans. Our artists can best bring to light our deeply felt, unconscious knowledge of this fact. Kate Braverman describes this touching scene in her novel *Palm Latitudes*, where Marta Ortega is sitting in her backyard terrace rocking her newly born daughter Angelina to sleep in her arms. She writes:

> Angelina's weight numbed her arms. Marta Ortega felt her flesh transmuted in wood, links of a tree. She merged with her daughter, their grain identical. Her daughter's feet brushed against her torso like wings or feathers or fins as Angelina rocked her infant asleep, still part creature of the ocean, with memories cyclic, unmolested, liquid.

We are soon thrust out of our mother's womb, exposed, into a brightly-lit world that becomes increasingly complex as we grow older. This aspect of life is movingly portrayed in the film *Round Midnight*, where Dale Turner, a famous jazz saxophonist (played by Dexter Gordon), is recovering from his heroin addiction during a sojourn in France. As he walks along a beach with a friend and his ten-year-old daughter, who is running up ahead and skipping along the edge of the surf, Dale says:

> It's funny how the world is inside of nothing. I mean you have your heart and your soul inside of you. Babies are inside of their mothers. Fish are out there in the water, but the world is inside of nothing. I don't know if I like this or not, but you better write it down.

With regard to "getting what one wants," some psychoanalysts say that what all human beings want most, at the deepest unconscious level, is to be back inside their mother's womb. Otto Rank believed that our most basic desire is to return to one's original abode inside the mother. He developed the idea that the greatest single emotional shock in an individual's life is the trauma of birth. He postulates that the desire to re-enter the womb—the safest, most protected, most peaceful, most loving place on earth—is reflected in our dreams. For example, you dream that you are taking too long to pack and thereby miss a train. Rank interprets such an anxiety-provoking dream

as a "primal repression of the birth trauma," where the departure of the train can be interpreted as meaning separation from the mother. Rank, initially a strong supporter of Freud, broke away from Freud's teachings by placing greater emphasis on the role of the mother and birth trauma than on the role of the father and the Oedipus complex in the psychological development of a human being.[12]

Another member of Freud's inner circle, Sandor Ferenczi, went even further. He suggested that fetal life in the amniotic fluid of the mother's womb is a reenactment of the existence of the earliest forms of life in the planet's oceans. He theorized that when vertebrates with newly formed lungs emerged from the sea to live on dry land they experienced a trauma akin to the trauma of birth. Our having to leave the security of our mother's womb is, in essence, a repetition of the original trauma that our animal ancestors experienced when they left the relatively secure environs of the sea. Ferenczi postulates that the unconscious wish to return to our mother's womb and the comfort of its dark amniotic fluids symbolizes an even more deep-seated wish to return to the origin of life, to our primeval existence in the sea. Anticipating the findings of 20th century evolutionary biology and depth psychology, the first Western philosopher, Thales, said more than 2,600 years ago that *water* is the origin and mother-womb of all things.

Our artists also consider the desire to return to the ocean, the womb of all life on the planet, in their poetry and novels. Jack London excelled in depicting the often violent struggles of elemental, hard-living men. In his novel *Martin Eden*, Martin is an acclaimed writer who has lost his zest for living, and he attempts to stir himself by taking a pleasure cruise to Tahiti. He can no longer find any delight in old familiar things, and he finds it increasingly difficult to endure the "white glare of life." He comes upon the cure for this profound unease in this stanza of poetry by Swinburne:

> From too much love of living
> From hope and fear set free,
> We thank with brief thanksgiving
> Whatever gods may be
> That no life lives forever;
> That dead men rise up never;
> That even the weariest river

Winds somewhere safe to sea.

After reading this poem, Martin comes upon a way to end his life. He squeezes through the porthole of the steamer into the ocean and willfully drowns himself. The way I look at it, Martin's squeezing through the porthole into the sea reenacts his going back up through the birth canal to his watery origins. London writes, "His shoulders stuck, and he forced himself back so as to try it with one arm down by his side."

Woody Allen concludes his first serious work, *Interiors*, in a similar fashion. At the end of this film, Eve, having suffered through a depressive life of pretense and conditional love, walks from her beach house into the ocean to her death—back into the liquid, peaceful place of her species' origin. Her daughter tries to save her and nearly drowns; but, at the last moment, she is pulled back onto the beach and revived by her stepmother, Pearl, her father's earthy, sincere, direct, and nurturing new wife. In returning to their origins in the sea, Martin Eden and Eve can only *end* their lives there. We cannot return to the womb and we cannot return to the life of the ocean.

You can, of course, spend a limited amount of time submerged in the ocean, in the depths of the sea, if you use a self-contained underwater breathing apparatus, as in scuba diving. Part of the appeal of this sport, I think, lies in the contented feeling of weightlessness that one gets while underwater with correctly buoyant scuba diving gear. This feeling of underwater weightlessness harks back to life as a fetus in the watery confines of our mother's womb. It is a sobering realization, however, to watch how quickly the nitrogen bar graph rises on one's dive computer while one lingers 100 feet below the surface, as I recently did in the warm waters of the Caribbean, where the visibility is so good that at that depth one can still see the surface. This graph indicates how much nitrogen is being absorbed into the tissues at the higher atmospheric pressures that exist underwater. A safe stay at this depth is limited to less than 20 minutes without having to make a series of decompression stops.

In Henrik Ibsen's play *The Lady from the Sea*, Ellida, who believes that human beings experience a nostalgia to return to their primeval existence in the depths of the sea, has this to say:

> Once you have become a land animal, there's no going back to the sea again--nor to the life of the sea.

We arose from life that lived in the planetary oceans for more than three billion years, protected and cradled by the rhythm of lunar tides. Only after this vast length of time did our amphibian ancestors finally become land animals, about five hundred million years ago. Our species has spent more than 5/6ths of its biological history living in the sea. It should therefore come as no surprise that we humans harbor a deep-seated urge to return to our origins in the sea.

We have evolved from microscopic bacteria into a species that over the last 50,000 years has also undergone an accelerated cultural evolution. Consequently we need and desire a lot of things. With the motive of self-interest hard-wired into the genes of each living entity on the planet we are thrust out into a world where countless numbers of other living things also strive to fulfill their needs. In this world of separate, self-interested individuals our desires are often thwarted, and many people on the planet are forced to live in such a manner and with a degree of discomfort that affluent Americans would find very hard to endure. Even more perversely, as well-off people are finding out, when we do have the means to fully satisfy our desires then we fall prey to boredom, and other adverse consequences that damage our health.

The world of separate self-interested individuals seeking to get what one wants is a world, for many, of toil and suffering, a world that for all of us ends in death. And we find, when we look closely at the world, that it is filled with deception and pretense, where even politeness oftentimes turns out to be hypocrisy, and where things like fame, honor, power, and profit are not what they seem to be. These things are ephemeral and illusory and ultimately meaningless in the face of death; they have the "glitter of mere dust in the sunlight" into which they are dispersed, as one writer puts it.

How did all this come about? Through sex, the next subject of my musings.

2

The Significance of Sex

Man is incarnate sexual instinct, since he
owes his origin to copulation and the
wish of his wishes is to copulate.
Arthur Schopenhauer
The World as Will and Representation

When human beings are put together in relatively small groups populated by both men and women sexual overtones are always present. It happens in all types of settings: in an office environment, on a construction site, in a classroom, and in an open heart operating room. In this latter setting, with the patient asleep and covered with drapes on an operating table in the center of the room, nine men and women work as a closely integrated team. The team of people working constantly together in the heart room is like a test tube sample of human culture.

The operating room team for heart surgery consists of the surgeon, his or her surgical assistant, two scrub nurses (who are gowned at the table with the surgeon and surgical assistant), a circulating nurse, the anesthesiologist, an electronics technician/anesthesiology assistant, the perfusionist—this individual runs the heart-lung machine, and an echocardiogram technician. Additional personnel include, in certain cases, a second perfusionist to run an intraortic balloon pump, and one or two technicians to run a kidney dialysis machine. One of my cardiac surgeon partners is a woman, Dr. Mary Grace Gregg. We have worked together for more than ten years. Some of our

scrub nurses are men and some the anesthesiologists, surgical assistants, and perfusionists are women. Working together as a smoothly functioning team, these men and women spend many hours together in close quarters, day after day, year after year fixing people's hearts. It is a highly charged atmosphere, where potential disaster and the threat of death is ever present. Sexual feelings pervade an open heart operating room just as in any other group setting, but with perhaps even greater intensity. In the atmosphere of this unique setting I have seen a number of new relationships form among members of the heart team resulting in the breakup of a number of marriages.

Sex and death are like the poles of a magnet. Sex at the molecular/cellular level, along with the act of love making, generates new life. Death ends it. When the threat of death seems near in the societal micrcosm of the open heart operating room sexual feelings become heightened and energized, as if pulled by some strange magnetic force. Our desire for sex is an elemental, all encompassing force that lies at the root of our nature, and it pervades all aspects of our lives.

Schopenhauer's analysis of sex, three-quarters of a century before Freud, became a cornerstone of his philosophy. In his seminal work, *The World as Will and Representation*, the first volume of which was published in 1818 and the second, in 1844, Schopenhauer writes:

> [Sexual desire] is so very much the chief thing, that no pleasures make up for the deprivation of its satisfaction; for its sake, moreover, animal and man undertake every peril and conflict... It is really the invisible central point of all action and conduct, and peeps up everywhere, in spite of all the veils thrown over it. It is the inexhaustible source of wit, the key to all hints and allusion, and the meaning of all secret signs and suggestions, all unexpressed proposals, and all stolen glances; it is the daily thought and desire of the young and often of the old as well, the hourly thought of the unchaste, and the constantly recurring reverie of the chaste even against their will, the ever ready material for a joke, only because the profoundest seriousness lies at its root.

And in another chapter of this book, which is titled "The Metaphysics of Sexual Love," he writes:

> Every day [man's sexual impulse] brews and hatches the worst and most perplexing quarrels and disputes, destroys the most valuable relationships, and breaks the strongest bonds. It demands the

> sacrifice sometimes of life or health, sometimes of wealth, position, and happiness. Indeed, it robs of all conscience those who were previously honorable and upright, and makes traitors of those who have hitherto been loyal and faithful.

If we wish to fathom the deeper levels of life, we should carefully analyze sex. As I see it, sex is tied together in a fundamental way with the subjects of the next three chapters—Compassion, God, and Music. Sex and God? How are they tied together, you say? In a very interesting way.

Each one of us exists because our parents had sex, and each one of us started life inside our mother's womb as a single cell. We began life when an ovum that our mother ovulated into her uterus became sexually fertilized by one of our father's sperm. The sexual urges that drove our parents to copulate and produce us suddenly come to occupy a central place in our lives with the onset of puberty.

Children, before the onset of puberty, as Schopenhauer puts it, possess a character of "innocence, intelligence, and reasonableness, which is peculiar to the age of childhood." He writes:

> Childhood, which is predominantly theoretical and eager to learn, is followed by the restless age of [teenage] youth, now boisterous and impetuous, now dejected and melancholy, and this passes subsequently into the vigorous and earnest age of manhood.

While thinking about and writing this book I have watched, more carefully than with my two older children, how my son, Michael, made the transition from the sweet reasonableness of childhood to that of a troubled teenager. He is a handsome, blond-haired boy, with a somewhat reserved and detached demeanor that girls seem to like. Beginning at a very young age up to the age of twelve he was unfailingly pleasant, charming, curious, and interested in a wide range of subjects. With the onset of puberty he changed. He became more touchy, particularly with his mother, withdrawn, and sullen. Sports—football and then soccer—provided only a temporary respite to the new torment he seemed to bear. A succession of girlfriends began to hang out with him. Then a particularly voluptuous one came along and took over his life. He recently set off

across the country for college in his loaded down, twenty-year-old car, his girlfriend at his side, to enter, one hopes successfully, the vigorous and earnest age of manhood.

Once in place at puberty, when do our sexual urges finally subside and go away? I have a close friend, George Taylor, who is 93 years old. When asked, "when does a person's sexual desire finally fade away?," he replied, without a moment's hesitation, "about six hours after death." He is married to his fourth wife, who recently celebrated her 80th birthday. He is a tireless patron of the arts, and he remains intellectually very sharp. This man has led a very interesting life, one worthy of a book on its own. He was an advisor to Presidents Roosevelt and Truman on Japanese war psychology during the Second World War and was instrumental in persuading Truman to let the Emperor remain on his throne, thus enabling the Japanese to surrender honorably and avoid the bloodshed that a major allied assault on the Japanese mainland would have entailed. Among other things he also founded the School of Far Eastern Studies at the University of Washington.

I will offer my reflections on sex from three perspectives: from an evolutionary biological standpoint; from the viewpoint of how sex affects our personal lives; and from a philosophical perspective.

Sex began in bacteria early in the evolution of life on this planet, but not like you might think. It began as a way to fix bacterial genes damaged by the ultraviolet light of the sun. Three billion years ago, before a protective ozone layer had formed around the planet, sunlight was much stronger than it is now, particularly the gene-damaging ultraviolet part of light.[13]

Genes are composed of DNA molecules. DNA molecules contain the information necessary for building, maintaining, repairing, and reproducing cells. They are like the blueprints engineers use for constructing a space shuttle, but rather than being written down on paper the tiny DNA molecule contains chemically coded instructions. Damage to this complex molecule, from the sun or any other cause, can result in the destruction of the cells that it controls and regulates. At some early point in the evolution of life, a single bacterium somehow acquired the ability, with the aide of a newly constructed enzyme, to replace its sun-damaged DNA with undamaged portions of this molecule

obtained from some other source. Bacteria have two potential sources of undamaged DNA, that from another bacteria, amorous or not, or from a virus. Viruses are nothing more that genes—strands of DNA, (or RNA)—on the loose without their own cell to live in. Sex at the cellular level is the intermixing of genetic material from more than one source. Sex at this level does not have to involve reproduction.

Bacteria reproduce by a kind of asexual cloning, as is now being done experimentally in sheep, and soon to be happening in humans. A bacterium makes a duplicate copy of its DNA, and then it simply divides in two. The "child" thus produced is an exact replica of the "mother." These more simply constructed single-cell organisms do not need to engage in sex to produce offspring. There is only one parent. But the enzymes that bacteria initially developed to fix ultraviolet-damaged strands of DNA, ultimately provided the means whereby many-celled organisms can produce offspring. These bacteria-derived enzymes, evolutionarily passed on to multicellular organisms, enable plants and animals to engage in two-parent sex.

In plants and animals, and single-cell eukaryotes, sex brings about the union of genes from more than one source to produces a genetically distinct offspring, one which contains a unique mixture of genes from each parent. In the higher vertebrates—reptiles, birds, and mammals—sexual reproduction is inextricably linked to copulation. They engage in sexual intercourse to produce offspring. (Fish and amphibians, the other two of the five classes of vertebrates that have evolved from more primitive life forms, procreate by laying eggs that are fertilized externally.)

While we humans may follow various intellectual pursuits and aspire to create works of art, we are, nevertheless, a species of mammals known as *Homo sapiens.* And we share the same "animal urges" for sex, as do other mammals. Like them, and all the other more than 4,000 species of mammals that currently exist on the planet, we are a class of hairy and warm-blooded vertebrates that conceive offspring inside the mother, who, after birth, are nourished with milk produced by her mammary glands. Our closest mammalian relatives are the great apes, which include the chimpanzee, gorilla, gibbon, and orangutan. We shared a common ancestor with the gorilla approximately 8 million years ago and with the chimpanzee 5 to 7 million years ago. Indeed, we are as close

genetically to a chimpanzee as a sheep is to a goat. Comparisons between human and chimp DNA strands show a 99% fit. A complete fit of their respective DNA indicates that the two organisms are members of the same species and are therefore sexually compatible, which means that their genes can intermix to form a new individual. (Usually, only organisms that are members of the same species are sexually compatible, although sterile hybrids can be produced when certain animals and plants from closely related species mate, such as a mule from the mating of male donkey with a female horse.)[14]

Humans mix their genes by copulating, most commonly, face-to-face. But only marine mammals (with rare exception), such as whales, seals, and sea otters, also engage in sexual intercourse face-to-face. All other higher vertebrates, including chimpanzees and gorillas, have sex belly-to-back. Why do we do it like dolphins rather than like our closest cousins, the chimpanzee and gorilla? Experts in anthropology, evolutionary biology, and paleontology have no agreed-upon, generally accepted answer to this question, but they have come up with some interesting theories. One theory, which I particularly like, postulates that our ape ancestors, after branching off from the path of evolution that led to the present day chimpanzee, left the land and became aquatic apes. Five to seven million years ago, according to this theory, our aquatic ape ancestors spent most of their time in shallow seas near the shore diving for shellfish. Unlike the chimpanzee, we have a short, broad pelvis that is more suitable for upright posture. Marine mammals, like seals, have a similar pelvic configuration, which makes it possible for them, as it would for an aquatic ape, to more readily float upright in a vertical position and scan the water for food. Also, in contrast to chimpanzees, we human great apes have a subcutaneous layer of fat, a well-developed diving reflex, salt wasting sweat glands, and we are relatively hairless, all of which could have come from aquatic ape ancestors.[15]

Our oldest *human* ancestor, *Australopithecus afarensis*, came into existence approximately four million years ago. This four-foot tall creature lived in a part of Africa that is now Ethiopia. They walked upright on two legs, like we do, and they used rudimentary tools. Their brains were small, and they were probably not particularly smart. (Some paleoanthropologists postulate that another species of *Australopithecus*—

seven have so far been discovered—is our actual ancestor, *Australopithecus africanus.* This species of *Australopithecus* lived in what is now South Africa.)

With regard to sex a crucial evolutionary development occurred in these human-like ancestors. It had to do with their manner of ovulation. Australopithecine females did not develop a brightly colored swelling on their rump at the time of ovulation as other apes and monkeys do, which lets their male companions know when they are ready to be impregnated. Like women today, paleobiologists believe that no observable changes occurred in their behavior or physical appearance when they ovulated. Their ovulation was concealed—hidden—from their male partners, and themselves. As a consequence of this new evolutionary development, Australopithecine females became sexually receptive on a more or less continuous basis. And the males in this species, like men today, were obliged to stay with a favorite female for extended periods of time in order to impregnate her. Concealed ovulation, so the experts tell us, led to pair bonding. Such a relationship benefited the female because the male stayed around to help provide protection and nourishment for her and their progeny. These benefits were important because the children of these ancestors, like our children today, required a prolonged period of childrearing, twice that of chimpanzees. From the male point of view pair bonding was acceptable because he had ready access to a female who remained sexually receptive on a regular basis, and he could also be reasonably sure that the offspring she produced was actually his.[16]

Compare this with the sexual practices of chimpanzees and gorillas, our closest cousins. When a female chimpanzee develops a brightly colored swelling on her rump, which signals that she has ovulated, and goes in heat, she will mate with all of the male chimps she is traveling with—with big ones and small ones—sometimes with more than fifty. As a result, genes for both large and small male body size are propagated equally into subsequent generations of chimpanzees, so the males and females in this species of primate are basically the same size. Gorillas, our "second cousins," have harems. Male gorillas have wrestling contests in order to decide who takes control of the harem. Since the biggest and strongest male gorillas generally win the contest, they are the ones that get to mate with the females in their newly won harems. Consequently, only genes for

large body size are propagated into subsequent generations of male gorillas, and as a result male gorillas are considerably larger than female gorillas. Both species of great apes, however, copulate infrequently, only once a month when the female goes into heat. Sex is relatively unimportant in the day to day behavior of chimps and gorillas. As with other mammals, it only becomes important when the female goes in heat—during the few days each month when an ovum is ready to be fertilized in her uterus. Most animals in nature devote the bulk of their energies towards finding food and avoiding predators, not to sex. Their interest in sex is nothing like our species' interest in sex, which we pursue on a daily basis. Sex for us, of course, does not serve a solely reproductive function, as is the case in nearly every other animal species. A distinguishing characteristic of our species is that we have sex not only for "procreation," but also for "recreation," as one evolutionary biologist rather cutely describes it.[17]

The importance of sex in our lives is reflected by the unusually large size of a woman's breasts and a man's penis, as compared with other primates. The human penis is considerably larger than that of a chimpanzee or a gorilla, and other female mammals do not have breasts as such--they have mammary glands that are relatively inconspicuous and enlarge only during lactation when they feed their offspring milk. Human females are unique in having prominent, alluring breasts, but the size of a woman's breasts has nothing to do with how well she can produce milk--when not lactating they are composed almost entirely of fat. Big breasts are widely admired in American society and serve to heighten sexual interest, sell magazines, and hold one's attention during television commercials.

Men tend to be more easily aroused and more available for sex than women, or at least it would so appear. Indeed, in most animal species the male is sexually more eager and less discriminating than the female. Such behavior is consonant with the biology of mammalian sex. A woman produces around 400 ova in her lifetime, generally one a month during her childbearing years, and that egg is 85,000 times larger than a man's sperm. Each ovum represents a substantial reproductive investment, particularly if it becomes fertilized. In contrast, a man produces 100 to 300 million sperm with each ejaculation. They are plentiful and they are easily replaced. Like their sperm, whose

business it is to be active and find any egg, the males in most species of mammals will attempt to fertilize any available female. The act of copulation, therefore, is biologically of much greater reproductive importance to a woman than it is to a man.

In our species, women also obtain a substantial degree of pleasure from sex because they are biologically equipped to experience an orgasm. Males of other mammalian species probably experience, as human males do, a climax of sexual excitement when they ejaculate. The females of other mammalian species, to the best that one can tell, probably do not experience an orgasm when they engage in sexual intercourse. A female ape, for example, would just as soon look around and eat a banana while she is copulating as not. Human females, however, do clearly experience orgasms. It is associated with a release of swelling in the clitoris and with spasms of the uterine and pelvic muscles. Controversy exists over whether a woman also ejaculates a nonurineferous fluid from her urethra. A man's orgasm entails a clear-cut feeling of sudden intense pleasure, which occurs with ejaculation. A woman's orgasm, however, has less well-defined physical characteristics. It has been described as a climactic, tension-releasing response that starts in the groin and culminates in a crescendo of feeling, where all thought processes seem to stop and a warm, relaxing glow suffuses the body. Woody Allen puts it this way in *Manhattan* (in a conversation that takes place between Issac and a woman at the Museum of Modern Art, where a large group of people has gathered to support the equal rights amendment):

> *Woman*--I...uh, I finally had an orgasm and my doctor told me it was the wrong kind.
>
> *Isaac*--Did you have the wrong kind? Oh, really? I never had the wrong kind.
>
> *Woman*--Yes?
>
> *Isaac*--ever, never. Uh, my worst one was right on the money.

Since both men and women in our species can have an orgasm, the question naturally arises: who derives the most pleasure from sex, the man or the woman? At first glance one might conclude that it must be the man, since it is men who are most often the

sexual aggressors and who seem to be the most eager for sex. In our society it is usually men who are accused of sexual harassment. But what is the reality of the situation?

One place to try and find the answer to this question is in myths. As Carl Jung and other analytical psychologists point out, myths reveal the basic inner truths about human nature. Myths are a symbolic distillation of human experience that are true for all time. As my women colleagues in the operating room were surprised to learn (but none of them disagreed), the Tiresias myth tells us that it is *women* who derive the greatest pleasure from sex. Tiresias was a Greek seer and the only person in Greek mythology who had experienced life both as a man and a woman. When Zeus and his wife Hera get into an argument over whether the man or the woman experiences the greatest pleasure in love making, they decide to consult Tiresias. Without hesitation he assures them that if the enjoyment of sex is constituted out of ten parts, nine go to the woman and only one to the man. In the story, furious that this woman's secret has been revealed, Hera strikes him blind. But a grateful Zeus then gives Tiresias the gift of unerring prophecy by enabling him to understand the speech of birds.[18]

Tiresias' insight into human sexuality helps to explain why some women have a "prodigious sexual appetite," as is the case with Jennifer in Allen's *Play It Again Sam*. Sitting on the comfortable sofa in her apartment on their first date, she says to Allan (played by Woody Allen), "I won't deny it. I'm a nymphomaniac. I discovered sex very early. I slept with everybody. My schoolteacher--my sister's husband--the string section of the New York Philharmonic. I wanted to have sex all the time." It is not unreasonable to suggest that Teresias is right, that the women of our species experience the greatest amount of sexual pleasure. Coupled with a natural male eagerness for it, one can thus well understand why we are so preoccupied with sex, and why it pervades every aspect of our lives.

In some cases the human pursuit of sexual pleasure is propelled by a deep-seated need to fill a void in one's life. Alvy Singer puts this fact well in *Annie Hall*, when he says, "I think there's too much burden placed on the orgasm, you know, to make up for empty areas in life." Human sex certainly did not start out this way, that is, as a means, because of the pleasure we derive from it, to make up for the empty areas in life.

Two and a half million years ago our Australopithecine ancestors, with their small brains, did not confront the meaning of life or have to deal with any "empty areas" in their lives. Even though they walked the way we do, on two legs, and were our first human-like ancestors, they did not reflect on such things. Then the brains of our human ancestors began to enlarge. This occurred very slowly through more than 150,000 generations of two successive species of ape-like humans, *Homo hablis* and *Homo erectus*, before our species, *Homo sapiens*, came into being. Our ancestor *Homo erectus* lived from 1,600,000 to 300,000 years ago, first in Africa and then later also in Europe, Asia, and Indonesia. When the biologically modern form of our species emerged around 100,000 years ago, we wound up with brains more than three times larger than those of our earliest human ancestors.[19]

Our big brains have conferred consciousness on us. We are conscious of ourselves and of others, of our place in the world, and of the fact that we are eventually going to die. We are aware of the feelings and motives that drive us. We can reason and think logically and engage in reflective thought. We became a substantially different and unique kind of animal when we developed self-awareness, and this attribute has disconnected us from all other animals. By acquiring consciousness our species has been expelled from the instinct-driven world of animals in nature—the Garden of Eden—into a brave new world, where we have a remembered past and an uncertain future. We now live in a world with religion, laws, inventions, science, and art. And with our big brains, and 50,000 years of cultural evolution behind us, we have developed a multifaceted approach to sex. But we are still mammals, and we still possess animal instincts—disguised, suppressed, and sublimated as they may be. As Carl Jung puts it: "What we call our civilized consciousness has steadily separated itself from the basic instincts, but these instincts have not disappeared."

I see the biblical Garden of Eden story as a mythological rendering of birth of consciousness. The apple that Adam and Eve ate symbolizes the birth of consciousness. In eating that apple, human beings gained self-knowledge and an awareness of opposites. After Adam and Eve ate the apple, they recognized that they were naked—and different from each other—and they covered themselves. By giving in to their temptation to eat

this fruit, the Bible says that our species committed a sin, the Original Sin, and we must be punished for it. Other myths echo this theme. The gods punish Prometheus for stealing the light of their celestial fire, from which he obtained self-knowledge and consciousness.

In other myths, the apple is a symbol of life, of libido, of natural energy and earthly desires, including the thirst for knowledge. In Norse mythology, for example, a barren woman becomes pregnant by eating a magic apple. But in Hebrew and Christian teachings an apple is a tainted, forbidden fruit. It is responsible for the Fall of man and woman from a state of unknowing, timeless unity with nature into a conscious world made evident by an awareness of opposites—of life and death, good and evil, happiness and unhappiness, truth and falsehood, and war and peace.[20]

In addition to its importance in myths, this fruit also figures importantly in two other pivotal developments in the cultural evolution of our species. In the 17th century, Newton watched an apple fall from a tree at his mother's farm, which, he said, led him to discover the law of gravity, a discovery that brought about the Industrial Age and the Newtonian worldview. And in this century, for no apparent reason other than it "sounded good," Steve Jobs selected the name Apple for the personal computer that has become a major catalyst in the transformation that is now occurring from the Industrial Age to the Information Age.

The symbolic importance of the apple is reflected in the Alar scare that occurred in the United States in 1989, which led to a decreased demand for apples, causing their price to plummet and thereby devastating the US apple industry. Alar is a pesticide that enhances the beauty and crispness of apples, and the unfounded media reports that this chemical could cause cancer in children reaped havoc on the apple industry. The public was told that this fruit, which in myth conferred self-consciousness on our species, when treated with Alar can damage one's health. Apples were taken out of school lunchrooms. The media ignored the fact that peanut butter contains an equal amount of this chemical and the sale of peanut butter was not affected by the scare.

The origin and significance of consciousness is important in considering the subject of sex because this uniquely human attribute has had a great impact on our sexual

behavior. Indeed, concealed ovulation may have come about as a result of a conflict between biology and consciousness. According to one theory, concealed ovulation was naturally selected in human evolution for this reason: Early human female apes that became aware of the connection between ovulation, as manifested by the swelling and change of color of their external genitalia, and pregnancy would tend to avoid sex when they ovulated so as not to get pregnant and suffer the consequences of a painful childbirth, with its high mortality rate, and the responsibilities of childrearing. When the physical attribute of concealed ovulation arose (through a random, chance genetic alteration, the way all new physical attributes arise in the evolution of living things), females with this attribute wound up producing more offspring than women who could tell when they ovulated and could thus avoid getting pregnant. As more and more offspring were produced containing the genes for concealed ovulation, the early human/ape women who knew when they ovulated died out. Women who developed the ability to have an orgasm likewise would tend to copulate more frequently, produce more offspring, and eventually populate the species with more and more women that had this attribute. After many generations women without the new genes that provided orgasmic pleasure from sex died out as well.

From a sociobiological perspective, Tiresias' disproportionate allocation of sexual pleasure between the woman and the man is quite appropriate. The female in our species must bear the greatest burden in the propagation of offspring. She must first nurture the developing fetus inside her womb, which greatly distorts her body contours in the process. Then, after nine months of gestation and a painful and potentially dangerous delivery, she must nourish the helpless infant with milk from her breasts (or now, in our culture, alternatively from a bottle) at frequent intervals throughout the day and night. And then she assumes the primary responsibility for childrearing over the next eighteen years. In a species that has become conscious of these facts, it indeed seems quite reasonable that nine-tenths of the pleasure of sex should go to the woman, if for no other reason than as an inducement to make her more willing to bear the heavy burdens of procreation.

In addition to engaging in sex for procreation and for the orgasmic pleasure that it can give, human sexual behavior is inextricably entwined with feelings of love. When, for example, the three prostitutes invite Tom to have sex with them in Allen's movie *The Purple Rose of Cairo,* he says, "No, I'm in love with someone else," whereupon one of the prostitutes replies, "No, we're not talking about *in* love, we're talking about *making* love." Humans not only "make love" for the pleasure it can give, but we use sex to establish a loving, caring relationship with another person, which is to say, we fall "in love." Some behavioral scientists term the kind of sexual activity that is associated with being in love (as only they can) *relational sex.* Our biologic predisposition for pair bonding and face-to-face copulation promotes close emotional attachments, which (with our conscious brains) we recognize and foster. This person-to-person, romantic form of love, however, is a recent innovation in the history of our species. According to Joseph Campbell and other scholars, it began only about 800 years ago—with the troubadours in *12*th century Medieval Europe.

What we know about love comes from a variety of sources: most importantly, from personal experience, but also from poets, novelists, filmmakers, and philosophers; from myths and religions; and also now from the behavioral sciences and neurobiology. In his book, *The Unbearable Lightness of Being,* Milan Kundera tells us that being in love brings about the desire for shared sleep. He writes:

> Having sex with a woman and sleeping with a woman are two separate passions, not merely different but opposite. Love does not make itself felt in the desire for copulation (a desire that extends to an infinite number of women) but in the desire for shared sleep (a desire limited to one woman).

On the one hand we have an "animal lust" to copulate, what Joseph Campbell calls "the zeal of the organs for each other." And we also find ourselves forming romantic, intimate, loving relationships with another person. These two passions, however, may not be as separate and distinct as one might think. Reflecting on this subject, Ariel says, in Allen's *A Midsummer's Night Sex Comedy,* "Is it possible to feel lust without also being in love?" And in *Love and Death,* Sonia says:

> Love is everything Boris. I want to meet some man and scale the heights of passion. Some man who embodies the three great aspects of love--intellectual, spiritual, and sensual. So many women settle cheaply. They marry for money. But I tell you I feel as though my life would be wasted if I didn't love deeply with the man whose mind I respected, whose spirituality equalled mine, and who had the same lustful appetite for sensual passion that drives me insane. I guess you could say I'm half saint, half whore.

Behavioral scientists describe two types of sexual love. They term one type (once again, as only they can) *passionate/romantic* love. It is a highly charged, transitory state, and couples who are caught in its grip develop a strong craving for each other. The burning desire that the lovers have for each other, however, eventually subsides—after a number of months, or after a year or two. Passionate love has the quality of a blind intensity, where one is pierced by Cupid's arrow and falls "head over heels" in love. Some observers use the term *Eros* for this type of love. Often, when the exhilarating, overpowering emotions of *Eros* begin to wane, faults and imperfections in the loved one initially overlooked become apparent. If a transition is not made to a more enduring type of sexual love, trouble ensues. Stable, "level-headed" people tend to view the behavior of those who are caught up in the grip of passionate/romantic love as rather foolish, particularly because it doesn't last. Behavioral scientists term the other type of sexual love *companionate* love. It is less turbulent and more durable. It produces long-lasting monogamous relationships founded on trust, sharing, respect, and affection. Sexual desire is an important component, but qualities such as caring, respect, commitment, intellectual and spiritual compatibility are equally, if not more, important. From what I have seen, this type of long-lasting sexual love is not limited to heterosexual couples. Same sex couples—male-male and female-female—also seem to experience the same level of companionate love as do female-male couples.

Anthropologists have studied sexual behavior in more than 850 human societies. Their findings can be briefly summarized as follows: The marriage form in most societies is *polygynous*, where one man is married to more than one woman. A relatively small number of societies, approximately 15 percent, are *monogamous*, where a man can be married only to one woman (at a time). A very small percentage of societies, well

less than 1 percent (only 4 in the 850 that anthropologists have studied) are *polyandrous*, where one woman is married to more than one man. Our society, of course, is supposedly monogamous. Isaac (in Allen's film *Manhattan*) espouses this cultural practice when he says, "I believe that people should mate for life, like pigeons and Catholics." I say "supposedly" because we certainly do not live up to this ideal very well. The great majority of men and women in our society do not remain sexually faithful to only one person throughout their lives. A variety of population studies indicate that more than 50 percent of both men and women in our society engage in extramarital sex. Furthermore, more than 50 percent of marriages now end in divorce and these men and women go on to form other sexual bonds.[21]

It turns out that less than 5 percent of all species of mammals are monogamous. It used to be thought that more than 85 percent of bird species are monogamous. This traditional view of sexual behavior in birds, however, has now come into question, and the actual number of species of birds that are monogamous is much lower, probably around 30 percent.[22]

Men and women also can experience orgasmic sexual pleasure alone, through masturbation. As Alvy says in *Annie Hall*, "Don't knock masturbation, its sex with somebody I love." And, as we well know, human beings also have sexual relations with other people of the same sex. The realities of human sexuality are indeed very complex. After completing his extensive population studies of male and female sexual behavior, (the ever controversial) Alfred Kinsey is reputed to have said, "In matters of sex, everything you can possibly imagine has occurred and much that you cannot imagine."

What is it about this powerful desire that keeps the brothels full, the topless bars well attended, and pornographic videos and web sites in heavy demand? What is the underlying reality of our desire for sex?

If we wish to fathom the true nature of this elemental force that so rules our lives, we must turn to philosophy, and the two philosophers that can best help us to understand the philosophical importance of sex are Immanuel Kant and Arthur Schopenhauer.

With the publication of his *Critique of Pure Reason* in 1781, Immanuel Kant (1724-1804) revolutionized the way human beings view the world. If this book had been

an earthquake, it would have registered a 9.5 on the Richter scale. In this thought-provoking work Kant presents a new theory of cognition—a new theory of perception and knowledge. It turned philosophy on its head. Kant shows us that the world we perceive with our five senses—what we see, hear, touch, taste, and smell—is *not* the real world, the world of things as they are in themselves, or Thing-in-Itself. Our perceptions are framed by the concepts of *space*, *time* and *causation*. We perceive things within a scaffolding of three-dimensional space and within the tenses of past – present – future. We conceive of things as extending in space and changing in time. And events occur within a framework of causal connections.

What Kant did that was so revolutionary was to show that the way we see the world is not the way the world really is. Our pre-programmed concepts of space, time, and causality help us to make sense of the world we live in. But—and this is his great insight—this scaffolding is *not an integral part of the structure of the world itself*. Our concepts of space-time-causality are like a software application in a computer. Our brains contain an inborn, biologically pre-programmed type of software application—call it the "*Homo sapiens* space-time-causality program"—that processes, organizes, and stores the sensory information that it receives. The *Homo sapiens* space-time-causality program serves a practical, evolutionarily successful function: it works quite well in organizing and interpreting the sensory data that we obtain in the world of human experience.

Underlying reality—the *real* world—is something altogether different from what we experience as human beings, including those aspects of it that we can describe mathematically and measure with special instruments. Our everyday Newtonian concepts of space and time do not apply either to the macroworld of special and general relativity or the microworld of quantum mechanics. Indeed, they make no sense whatever in the microworld of quantum mechanics. And nothing was known about the theories of special and general relativity and quantum mechanics in Kant and Schopenhauer's time.

In his theory of special relativity, Einstein showed that time, as we conceive and measure it slows to a halt when an object approaches a speed of 186,000 miles a second,

the speed of light. At this speed the spatial dimensions of the object contract to nothing and its mass increases infinitely. An electron, for example, when pushed to 99.999 percent of the speed of light in a giant particle accelerator will gain 40,000 times its original mass.

In the microworld of quantum mechanics, mathematical equations describe an uncertain, random world of particles that are also simultaneously waves. The nature of the subatomic forces, waves, and particles in the quantum world is, as one physicist puts it, "utterly alien to human thought." The world that we know from our biologically determined sensory apparatus is nothing like the world of quantum mechanics that physicists describe with their mathematical equations, which, in any event, are simply models that confer a logical and predictable structure to physical reality. We do not see things as they are in themselves, nor, for that matter, does the mathematics of quantum physics. We see, measure with instruments, and mathematically describe only *aspects* of things.

Kant terms the world that we perceive and measure the *phenomenon*. He terms the reality that underlies our perceived world, the world of things as they are in themselves, or Thing-in-Itself, the *Noumenon*. Schopenhauer uses the term *vorstellung* for the perceived world, which in English means the "content of experience," or "representation," and the term *Ville—Will* in English—for the Noumenon. I use Kant's term Noumenon for underlying reality throughout this book. Schopenhauer's term Will, with a capital "W", can be confusing when, at other times, he uses this word with small case "w" to indicate the psychological state of human willing.

Kant tells us that the Noumenon is inaccessible to human knowledge and lies outside the realm of human thought. Schopenhauer, Kant's immediate successor, agrees, but he thought that there might at least be something that we could know *about* it. Schopenhauer found a new path to the realm of the Noumenon, and the first way station on this path is sex.

He pursues an empirical approach. (I like to think that this is because Schopenhauer first studied medicine before he became a philosopher.) Such an approach is grounded in experience and is, by its nature, consensually verifiable. Schopenhauer

strongly cautioned against bantering about empirically empty concepts like "Ground of Being," "Substance," "Necessity," "Perfection," and "The Good." Such rhetoric, he says, serves no useful purpose—and it fogs the mind. He harshly criticizes other philosophers, most especially his contemporary Hegel, for doing that.

Schopenhauer recognizes—along with Kant and other philosophers that followed them, notably Ludwig Wittgenstein and Henri Bergson—that the walls of the "castle" that contains the essential truths of the world are impenetrable to analytical thought. And he recognizes that an attempt to scale the walls of this metaphorical castle with descriptive language and conceptual thinking, particularly with empty universal concepts like "Ground of Being" and "The Good," is futile and a waste of time. Schopenhauer makes clear that the essential truths of life and questions about underlying reality, regardless of how we might imagine it, lie beyond the boundaries of language and rational thought. But he nevertheless did find an entrance of sorts into the castle that contains the essential truths of life. He says that our capacity for self-awareness and self-reflection provides a way in. Schopenhauer discovered that one can enter this otherwise impenetrable castle of rock bottom reality through a Freudian type of self-analysis he terms *intuitive perception*. Through careful self-examination of our inner sense we can gain *intuitive* "knowledge," or insight, into the essential metaphysical truths. The 20th century philosopher Ludwig Wittgenstein subsequently showed, in a convincing fashion, that such "knowledge" does indeed necessarily fall outside the limits of descriptive language, and that it can only be conveyed, if at all, by indirect mystical or poetical communication.

Schopenhauer makes this surprising observation—but it is really not so surprising when you think about it, since all of us who have reached puberty have been caught up, at one point or another in our lives, in the thrall of sexual desire: We have only to sense intuitively what drives us so to have sex, and we can catch a glimpse of the inner nature of the world, of underlying reality, of the Noumenon. Words, we know, can't describe it, but we can at least say that the Noumenon is something <u>like</u> a *blind impulse*; an *insatiable, undifferentiated, primal energy*; a *mindless, irrational will to exist*; a *primitive, unconscious force*; an *incessantly striving, pulsating totality*. Everything in the

universe, in one way or another—inanimate objects, microorganisms, plants, and animals—is a manifestation of this more basic reality. And since this root "primal force" underpins all things, Schopenhauer concludes that "*force and substance are inseparable for at bottom they are one.*" And consider this: Schopenhauer (along with Kant) came upon this insight almost a century before Einstein formulated his revolutionary theory of the *equivalence* of mass and energy, defined by $E=mc^2$ (where energy [E] is equal to the mass of an object [m] times the speed of light [c] squared).

Following this line of thought to its logical conclusion, Schopenhauer pointed out that our species' conscious intellect has no metaphysical significance. Our reasoning, reflective intellect is merely our utilitarian guide to the surface events of the perceived world. It is simply a unique, biological byproduct of our big brains. Using an analogy from our current information age, where the brain could be viewed as our body's internal computer, our intellect is a complex software application for the hard drive of our body's biologic computer. Our intellect provides a shiny veneer to our basic animal nature. Schopenhauer likens intellect to the surface of the earth. The ultimate reality of the human condition must be plumbed from our unconscious interior, not from our conceptual, conscious surface. He terms this unconscious interior the will, with a small case w, and he surmised that the will in human beings to some degree mirrors, or is a manifestation in the phenomenal world of the noumenal Will. We know intuitively that irrational, internal forces affect our unconscious will, particularly sexual desire. Schopenhauer first defined, more than a half a century before Freud, the central ideas that form the basis of Freudian psychology. These include the pervasiveness of sexual motivation, the concept that our thoughts and actions are for the most part unconsciously motivated, and that the *will* (i.e., the unconscious mind) can repress the intrusion of unpleasant thoughts and feelings into one's consciousness. Freud acknowledged Schopenhauer's primacy in these matters (although he claimed that he happened upon these insights independently). Bryan Magee and other scholars have pointed out that there is a striking similarity between Schopenhauer's descriptions of the *will* and *intellect* and Freud's descriptions of the *id* and *ego*. Freud, however, viewed the sexual instinct as a thing in itself and theorized that it plays a primary role in what he called the oral, anal,

and phallic stages of an individual's early psychological development. He seldom discussed sexual impulses in relation to procreation, whereas Schopenhauer viewed the sexual instinct principally as a driving force that is concerned primarily with determining the composition of the next generation.

The ultimate aim of sexual intercourse is to produce offspring. Schopenhauer writes:

> The ultimate aim of all love affairs is actually more important than all other aims in man's life; and therefore it is quite worthy of the profound seriousness with which everyone pursues it. What is decided is nothing less than the *composition of the next generation.*

By producing offspring, Schopenhauer writes, the "kernel of an individual's true nature," his or her "true being-in-itself," is transmitted in one's children and through them to subsequent generations of our species. It turns out that the DNA molecules that make up our genes are the "kernel of an individual's true nature." Humans, in fact, have more than 100,000 genes housed in the nucleus in each one of our cells, packed into 23 matched pairs of chromosomes—46 in all. Our sex cells, sperm and ova, each contain 23 chromosomes. Upon entering an ovum the 23 chromosomes in a man's sperm pair up with the 23 chromosomes in the woman's ovum to make up a new, unique, complete set of 46 chromosomes. The new individual thus created is an amalgam of one-half a genetic copy of the father and one-half a genetic copy of the mother. In all plants and animals, this is the basic process, known as *two parent meiotic sex*, by which the "kernel of an individual's true nature" is transmitted to one's offspring, which Schopenhauer described more than 150 years before it was known that DNA molecules in the form of genes are the functional unit of heredity.

Schopenhauer discerned that *procreation* is the driving force behind our sexual desires, not the orgasmic pleasures or loving relationships that human beings can derive from sex. He points out that our two most basic animal instincts are the *will to reproduce* and the *will to live*, and of the two the will to reproduce is the most important. When a person dies the will to live in that individual is extinguished once and for all. By producing a child, however, half of the parent's genes remain alive! The information contained and encoded in our genes lives on in our progeny. The abiding joy with which

an elderly person greets the birth of a grandchild reflects the importance of this child as the carrier of that person's genes into the future. As the grandparent's life draws down to a close, it is through one's grandchildren that one achieves a certain degree of biologic immortality (more about this in the last Chapter).

Schopenhauer notes that each species of living things is analogous to a tree. The innermost features of a tree—its roots and trunk—represents the collective sexual impulses of the species with its given pool of genes. Each individual of the species is like a leaf on the tree, drawing its nourishment from the genes it contains; *and* the individual also participates in the tree's nourishment by sexually reshuffling its genes with those of other individuals to propagate new "leaves" on the tree. The sexual impulse that spurs propagation issues forth through the roots of the "tree" of the species, from the fertile soil that embodies the innermost reality of life. Reflecting on the strong attachment that two lovers have when they are caught in the grip of passionate/romantic love (to use the behavioral scientists term for it), Schopenhauer writes:

> They feel the longing for an actual union and fusion into a single being, in order then to go on living only as this being; and this longing receives its fulfillment in the child they produce. In the child the qualities transmitted by both parents continue to live, fused and united into one being.

People who are swept away in the passion of sexual love are, as Schopenhauer says, "caught in the whirlpool of the will of the species." Their behavior may sometimes appear wild and foolish, but it is closer in touch with the basic reality of life than other more measured and reflective human activities. While I admit it could be a stretch, one might even argue that the quality of what is produced is directly related to the degree of sexual passion involved in its production. That is to say, the better the match for producing a genetically balanced and healthy offspring the greater the degree of passion involved in the sexual relationship that produces it. Left to its own devices, our sexual instinct leads us to select mates that are a good genetic counterpart for the child we wish to produce. Women in particular, since they are biologically more discriminating and selective, instinctively select sexual partners that will provide a good genetic match for siring their offspring. As Allen humorously notes in his screenplays, this might be why

Jennifer prefers to have sex with the string section of the New York Philharmonic while Ariel prefers the infield of the Chicago White Sox. Could it be that Jennifer and Ariel prefer violinists and baseball players respectively for sexual partners because they know instinctively that the resulting offspring would be a good genetic match for them? I don't want to belabor this point, but it seems, intuitively, to be correct. Maybe that is why, with an artist's insight, Allen knows that he can make us laugh by having Ariel prefer to have sex with the infield of the Chicago White Sox, because it reveals an unexpected, important truth about the reality of life.

The driving force that propels us into the bonds of passionate sexual love and that makes us want to produce offspring comes from a deeper realm than that which leads us to establish monogamous relationships and companionate sexual love. It is an irrational, timeless force. Like the Noumenon, it is tenseless—it does not have a sense of past or future. The consequences of one's actions are only the concern of conscious individuals in the phenomenal world of space-time. Schopenhauer writes:

> [Sexual love] is infinitely superior to any interest of mere individuals, however important it be. Therefore honor, duty, and loyalty yield to this alone, after they have withstood every other temptation, even the threat of death..., and adultery is committed recklessly when passionate love, in other words the interest of the species, has taken possession of them. It seems as if they believed themselves to be conscious of a higher right than can ever be conferred by the interest of individuals, just because they act in the interest of the species.

Our myths also support the view that our sexual impulses arise from a noumenal source. The Greek God of Sexual Love, Eros, was born at the beginning of time out of Chaos (the Void), and he brought about the union of the original father and mother, Uranus (sky) and Gaia (earth). Eros, in this early version of the myth, is the oldest of the gods; he is a personification of the generative power of life that infuses living creatures. He is a procreative force that ensures the continuity of the species as well as the internal cohesion of the cosmos. In this regard, the Greek philosopher Empedocles, in the 5th century BC, taught that there were two opposite forces in nature, one of attraction and binding and the other of separation and repulsion. He termed these two forces *Love* and

Strife respectively.

A later version of Eros makes him the youngest of Gods, a son of Aphrodite, the Goddess of love. We know this Eros best as Cupid. In spite of his childish appearance, Cupid has the qualities of a tyrant and despotic demon. He is blind and has wings and carries a deadly dart. Schopenhauer notes that the concerns of individuals pale before Cupid's great work. He writes:

> Compared with the importance of his great business concerning the species and all the generations to come, the affairs of individuals in all their ephemeral totality are very insignificant; hence he is always ready to sacrifice these arbitrarily.

Consider the familiar phrase "love is blind." From a mythic perspective, which compares with Schopenhauer's view of the matter, this is what I think Cupid and his actions mean: Cupid's blindness symbolizes the noumenal origin of sexual love—it is a primal force that is not sense dependent. Eyesight, one of the means with which humans and other animals perceive our world, has no relevance to the Noumenon. Cupid's deadly dart symbolizes the sacrifices that he requires of individuals in perpetuating one's genes in the species. Cupid's wings signify changeableness—with passion spent on the last affair one's sexual ardor is transferred to a newly desired person who comes into view. Cupid seems capricious because he is not concerned with what is good for a particular individual, instead he is concerned foremost with the genetic composition of the next generation. Irrespective of what close personal attachments individuals may form, whether legally defined through marriage or not, if an attractive match for producing genetically desirable offspring presents itself, Cupid will tear those attachments apart regardless of the consequences. And once the desired offspring are produced, Cupid couldn't care less whether the romantic attachment that formed between the two individuals in carrying out this task endures or not. The bop jazz saxophonist and humorist James Moody puts it this way, "Love is blind, but after you get married your eyesight comes back!"

Perhaps the most striking manifestation in nature of the primal force that spurs on living things to reproduce offspring is to be found in the emperor penguin. Schopenhauer

talks about the instincts of insects, bees, ants, dogs, ducks, and woodcocks, among others, but when he lived nothing was known about the breeding habits of emperor penguins. These big, four feet tall, swimming, flightless birds live and breed in Antarctica. They are the only animals that are able to live on the Antarctic Continent during the extremely cold winter. Their large size and correspondingly relatively small body surface area protects them from the cold, but their offspring must also grow to a relatively large size in the egg in order to be able to withstand the cold when the egg hatches. Consequently, their eggs, once fertilized, take a long time to hatch and must be protected through the fierce Antarctic winter. The male penguins, it turns out, fattened up for the task, incubate the egg while the females leave the continent and head out to sea to feed. Each male penguin cradles his precious egg on the top of his feet so that it won't freeze on the ice, and covers it with a fold of feathered skin that hangs down from his abdomen. He stands there, huddled together with other males protecting their eggs, for several months, in the worst, coldest, windiest weather imaginable on the planet, without food or water, until the egg hatches. Then the newly hatched chick remains squatting on its father's feet, warmed by his feathered abdominal apron, until the mother returns. She travels over many miles of barren ice and returns to the exact spot where the father and chick are huddled together, where she feeds her newly hatched offspring a diet of regurgitated, half-digested fish. Schopenhauer would have loved how the Will (Noumenon), as it is manifested in reproductive animal life, shines so brightly in this example, a striking one indeed.

Emperor penguins do not reflect on the meaning of life, and they do not have empty areas in their lives that they need to assuage with sex. The relationships that form between male and female penguins are not cemented by love. They are formed by a powerful common instinctual drive to reproduce offspring that can survive the rigors of the Antarctic winter. Emperor penguins do not have a multifaceted approach to sex.

Capable of reflective thought, we conscious human animals exercise some freedom of choice in the conduct of our sexual behavior. Given the pleasure that our species derives from sex, and with birth control measures and abortion now widely available, it is now possible to almost completely isolate human sexual behavior from its procreative role. To further complicate matters, some people become sexually attracted

to members of the same sex. And masturbation is a sexual outlet that is frequently used by both men and women. In addition to our species' instinctual drive to reproduce offspring, evolutionary developments such as concealed ovulation and pair bonding, female orgasm, and consciousness have led human beings to engage in sexual activity for reasons other than procreation.

As I see it, the significance of sex in our personal lives has three components. First, we engage in sex for sensual pleasure. And according to Tiresias, which runs counter to conventional wisdom, women achieve more sensual pleasure from sex than men do . Second, sex fosters long-term, caring and meaningful interpersonal relationships, both heterosexual and homosexual. And third, we have sex to procreate offspring. This is the reason why sex has philosophical importance, according to Schopenhauer. Our blind, compelling urge to copulate and produce offspring is a direct reflection of the restless, vibrant innermost reality of the world.

3

The Philosophical, Moral, and Medical Importance of Compassion

Compassion…an impersonal,
yet somehow natural love,
cementing the very atoms
John Clellon Holmes
Go

I had a patient a number of years ago named George Crosby, the 101-year-old man that I mentioned in the Preface as one of the reasons that stimulated me to write this book. Up until a month before I saw him, he was still able to do his daily chores on his farm in Port Townsend, although with increasing difficulty, which included looking after some cattle, and tending a stand of fruit trees and a bean field. He was in a hospital intensive care unit when I met him, on oxygen, undergoing treatment for congestive heart failure. One of his heart valves, the aortic valve, had become thickened and scarred, blocking the flow of blood out of the heart into the body. He was now unable to breathe comfortably despite continuous oxygen and intravenous medications. I agreed to do open heart surgery on him, inspite of his age, and replace the valve. This was the only way that he would be able to leave the hospital alive. To the surprise of some of my colleagues who argued that this patient was too old to withstand—or deserve—heart surgery, the indomitable centenarian came through it without any trouble. Two days after

the operation he left the intensive care unit and started walking in the halls. When I asked him how he was feeling, he said simply, "I'm not tip top." He went on and made a smooth, uncomplicated recovery and left the hospital eight days later. He was soon able to resume all of his chores on his farm with renewed vigor.

Awed and inspired by his incredible resilience and spirit, I asked George Crosby to please tell me, if he could, how he had done it. How had he been able to maintain such good health that would enable him to withstand major heart surgery at his age? Without hesitation, George told me that his philosophy of life was this: "Do unto others as you would have them do unto you—and do it first." He accepted life as it is and was not given to judgmental thinking. He did not harbor regrets for the past or concerns about the future. He lived in the eternal present. He had wanted to be an engineer but was put out to work after the eighth grade. Instead, he worked contentedly at a lumber mill. He was quick to forgive but, as his wife told me, slow to forget. When his son was having difficulties in high school he pulled him out and put him to work logging their property. After a year of this backbreaking work, the boy gladly resumed his education. He graduated from college and had a career as a bank executive. (George's son was 75 years old at the time of his father's surgery, sitting with his mother in the surgical family area, waiting to hear how it turned out.) George Crosby possessed loving-kindness for all living things, as the photograph of him given to me by his wife, taken six months after his heart surgery and shortly before his 102nd birthday, showed. It was taken of him working out in the field, crouched over a trestle of vines, his arms outstretched, tending them with his hands. A friend of mine who saw the photograph described it well: She said, visibly stunned, "Those hands are hands of the earth. And the way he is holding them [the vines]. It is a celebration of life."

George Crosby died two months after that photograph was taken, from complications suffered from a fall off the roof of his barn, one week before his 102nd birthday. He had climbed onto the roof to repair a leak. When Linda and I called upon his widow at their farm in Port Townsend two and a half years later, she said, "George was doing so well after his surgery he would have lived for a good while if he hadn't gone up and worked on the roof of that barn." I asked her more questions about this

remarkable man. She said he always kept busy. He never complained about anything and accepted life as it was. If they had a disagreement about something he would usually remove himself to the barn until the storm blew over and find things that needed to be done. He rarely watched television. She said he used to like to watch baseball games, but stopped doing that when the player's desire for ever higher salaries seemed to overshadow their love of the sport. He didn't complain about it and accepted it for what it was, he just preferred to now spend his time doing something else. She said that he was happiest when he was out in the field tending his crops and vines, or milking his cow. George Crosby lived a simple life that radiated compassion.

We hear a lot about compassion now in our daily life, particularly from our politicians, who espouse it in their political discourse. What is "compassion" and why do I think it has both philosophical and moral, and medical importance?

Compassion includes two cardinal virtues: *natural justice* and *loving-kindness.* Schopenhauer writes:

> Whoever is filled with compassion will assuredly injure no one, do harm to no one, encroach on no man's rights; he will rather have regard for everyone, forgive everyone as far as he can, and all his actions will bear the stamp of justice and loving-kindness.[23]

This impulse to act justly and to embrace other creatures with loving-kindness is heartfelt and entirely unselfish. Compassion moves a person to come to the aide of another creature, especially one who has experienced misfortune and is in distress, *without any self-serving considerations at all*. A sympathetic sharing of the sufferings of another is combined with an effort to promote his or her welfare. This feeling is directed not just to other human beings but to all living things. Compassion is unconditional love, in its broadest sense.

Schopenhauer's philosophy is grounded in the view that this irrational force is a manifestation of the innermost reality of life. It is not derived from any rational concepts of duty, laws, or social morality. He writes:

> Compassion is an undeniable fact of human consciousness, is an essential part of it, and does not depend on assumptions, conceptions, religions, dogmas, myths, training, and education. On the contrary, it is original and immediate, and lies in human nature itself.[24]

The natural justice that compassion embodies is distinct from justice that is framed in laws and enforced by penalties. The fundamental principle of natural justice is *do harm to no one*. A corollary principle is *take from none his own.* Our innate compassionate feeling of natural justice counterbalances our self-serving and malicious motives; it keeps us from bringing harm or inflicting injury on another person, or on his or her property or possessions. We live in a world, however, where the competing motives of self-interest and malice present formidable obstacles to the full expression of compassionate natural justice. So societies have derived a practical form of justice based on legal ordinances and the compulsion of law to maintain peaceful intercourse among competing, self-seeking individuals. The natural justice that arises from compassion, in contrast, is "original and immediate."

The motive of self-interest also can compel a person to engage in just and legal actions, if such actions make a person look good in the eyes of his peers. Just and legal actions of human beings are also based, as Schopenhauer notes, on the self-interested, recognized need of possessing civil honor and a good name in order to advance in the world.

Loving-kindness, the other cardinal virtue of compassion, manifests the deep-seated kinship that each of us has with all fellow creatures. The fundamental principle of loving-kindness is this: *help all people as far as lies in your power.* This impulse makes a person capable of rising to nobleness and magnanimity, where one *suffers with* another person. This selfless helping of others, Schopenhauer observed, is a mysterious thing. He writes:

> For it is one which Reason can give no direct account of, and its causes lie outside the field of experience. And yet it is of daily occurrence. Everyone has often felt its working within himself; even to the most hard-hearted and selfish it is not unknown. Each day that passes brings it before our eyes, in single acts, on a small scale; whenever a man, by direct impulse, without much reflection, helps a fellow-creature and comes to his aid, sometimes even exposing himself to the

> most imminent peril for the sake of one he has never seen before, and this, without once thinking of anything but the fact that he witnesses another's great distress and danger. [25]

The loving-kindness of compassion is a central feature of the world's great religions, especially in Hinduism, Buddhism, and Christianity. Schopenhauer says that the great and distinguishing merit of Christianity is that it theoretically formulates and advances *loving-kindness* as the queen of all virtues, which should extend even to one's enemies. Prior to the advent of Christianity the ancient Greek philosophers, most notably Plato, considered *justice* to be the primary and essential cardinal virtue.

I am convinced that Woody Allen's film *Broadway Danny Rose* is one of his most important films, and I would strongly suggest that the reader see, or see again, this fine film. This film is important for our purposes here because it is an insightful study of compassion.

Danny Rose, played by Woody Allen, is a theatrical manager who handles a motley group of clients, such as a one legged tap dancer, a blind xylophone player, and an over-the-hill alcoholic Italian night club singer. He is very devoted to his clients and works tirelessly on their behalf. As one of Danny's colleagues puts it, "the man is a living legend." Danny's family of clients join him at his small apartment every Thanksgiving, where he serves them frozen turkey TV dinners. As Danny puts it:

> You know I gotta get involved. Like, like my...Herbie Jayson, my bird act. The cat ate the, the lead bird. So, I gotta leap right into the breach, you know. Or my Puerto Rican ventriloquist. The kid's a wonder, he's got everything you need to make it big, but he's a dope addict. So I, you know, I gotta get in there and help.

But when Danny's clients get a little success, like the Italian nightclub singer, they leave him. Nevertheless, Danny harbors no bitterness and continues to work hard to see that his other less successful clients do well. He is tolerant and has a willingness to give. He sums up his philosophy of life, which he learned from his late Uncle Sidney, in three words: "Acceptance, forgiveness, and love."

Given the inherent self-interest of all living things, Schopenhauer asks how is it possible that another's well being and suffering should directly affect me? Why do I

directly desire another creature's well-being just as habitually and immediately as I do for myself and suffer with that person (or other creature) in the same way as I feel my own woe? He writes:

> For this to be possible I must in some way or other be *identified* with him; that is, the *difference* between myself and him, which is the precise reason for being of my egoism, must be *removed*, at least to a certain extent....When once compassion is stirred within me, by another's pain, then his well-being and woe go straight to my heart, exactly in the same way, if not always in the same degree, as otherwise I felt my own. Consequently, the difference between him and myself is no longer an absolute one.[26]

The essential point is that a person who feels compassion "draws less distinction between himself and others than is usually done." Thomas Merton (1915-68), the American Trappist monk, religious writer, and poet puts it this way, "The whole idea of compassion is based on a keen awareness of the interdependence of all these living beings, which are all part of one another and all involved in one another." Or to put it another way: *Compassion arises from our intuitive perception that there is a metaphysical identity and oneness of all beings.* It is an automatic, unconscious impulse that springs from the ultimate reality of all living things. Compassion penetrates the apparent distinction between oneself and others and enables us to dimly perceive the true nature of the world. The central core of Schopenhauer's philosophy, which is derived in large part from his analysis of compassion, boils down to this: the essential reality underlying all things is *that we are all one and the same entity.* The great Albert Einstein writes:

> A human being is part of the whole, called by us "Universe;" a part limited in time and space. He experiences himself, his thoughts and feelings as something separated from the rest—a kind of optical delusion of his consciousness. This delusion is a kind of prison for us, restricting us to our personal desires and to affection for a few persons nearest us. Our task must be to free ourselves from this prison by widening our circle of compassion to embrace all living creatures and the whole of nature in its beauty.

Schopenhauer postulates that the underlying reality of the world—the Noumenon—is something like a unified, undifferentiated, insatiable, primal *force*. We

are in the throes of this insatiable root force, and we intuitively sense it, when we have sex. We experience its unified, undifferentiated nature through compassion. It therefore follows that just as space-time, as our brains are biologically programmed to conceive them, are foreign to the rock bottom reality underlying the cosmos, *so also must multiplicity be*. Schopenhauer writes:

> Individuation is merely an appearance, born of Space and Time; the latter being nothing else than the forms under which the external world necessarily manifests itself to me, conditioned as they are by my brain's faculty of perception. Hence also the plurality and difference of individuals is but a *phenomenon*, that is, exists only as my mental picture. My true inmost being subsists in every living thing, just as really, as directly as in my own consciousness it is evidenced only to myself.

So, following Schopenhauer's line of thought regarding the philosophical importance of compassion, we come, like the Hindus and Buddhists do from a somewhat different approach, to this inescapable conclusion: An undifferentiated singularity underpins the world that we perceive with our biologically constructed intellect and sensory apparatus. All beings and things in the universe are entwined in a *cosmic oneness,* to use a popular New Age term for this state. Woody Allen puts it this way, through Boris in *Love and Death*: "We all relate universally to a great oneness."

The phenomenal world that we perceive and measure, with its 100 billion galaxies, is certainly different than the Schopenhauerian/Hindu-Buddhist noumenal world that has no space, time, or multiplicity. Our planet in our perceived and measured world is located, with its sun, two-thirds of the way out in one of the spiral arms of a galaxy that contains more than *100 billion* suns. Light, traveling at 186,000 miles per second, takes 27,000 years to get to our solar system from the center of our Milky Way galaxy. Astrophysicists picture our universe as a kind of huge, rapidly expanding bubble where all the stars and galaxies are positioned on its surface, and they are rapidly moving away from each other as the bubble expands. If astronauts were to travel across the observable universe at the speed of light it would take them more than 125 billion years to traverse it, and they would travel in a giant circle and ultimately wind up back where they started![27]

Despite the incredible expanse and multiplicity of the perceived and measurable universe, nuclear physics provides us with a different, more profound perspective on the world, more akin to the Schopenhauerian/Hindu-Buddhist view of the numenon—of ultimate reality. Physicists have determined that all matter in the universe, vast and complex as it is, is composed of two types of subatomic particles. Everything—stars, planets, oceans, rocks, bacteria, plants and animals—consists of leptons and quarks. Matter is constructed with one kind of lepton—an electron—and two kinds of quarks, termed up (*u*) and down (*d*) quarks. These subatomic particles are the constituents of atoms, the fundamental structural unit for all matter in the universe.

An atom has a tiny centrally placed nucleus that is composed of quarks, which is surrounded by a shell of one or more electrons. The quarks in the atom's nucleus are bound tightly together in groups of three to form either protons, which have one *d* and two *u* quarks, or neutrons, which have one *u* and two *d* quarks. The diameter of an atom's nucleus is more than ten thousand times smaller than the diameter of the atom's relatively spherical electron shell, but since electrons possess negligible mass almost all of the weight of an atom is contained in its nucleus. As a result, atoms, even those that make up the heaviest elements, such as gold (which has a total of 591 quarks in its nucleus along with 79 electrons in its outer shell), *consist almost entirely of empty space*. If the nucleus of an atom in a bar of gold were blown up to the size of a grain of sand, its electron shell would be the diameter of a domed football stadium, which, as one physicist puts it, would look like a thin zone of insubstantial heat lightening.[28]

An averaged-sized human being is made up of 7.0×10^{28} *u* quarks (7 with 28 zeros after it), 6.5×10^{28} *d* quarks, and 2.5×10^{28} electrons. By sharing electrons with each other, atoms combine to form molecules. And strung together in complex ways, molecules make up the structural components a cell, the basic building block of life.

To tie everything up together even more, the leptons and quarks that make up all things, including all living things, are very old. Physicists believe, with good evidence to support their theory, that a gigantic explosion occurred 15 to 20 billion years ago, known as the Big Bang, which produced all the leptons and quarks that make up the universe. They have determined that the universe is rapidly expanding, and all the galaxies in it are

hurtling apart from each other. This finding suggests that at some point in the past there was a gigantic explosion that initiated this process.

Before the Big Bang, physicists theorize, the universe existed in a quantum state of virtually zero size, and what there was of it was immeasurably hot. In the first infinitesimal fraction of a second after the explosion occurred, the universe was still so small that it could have fit inside a hen's egg. The four fundamental forces present in the world—gravity, electromagnetism, and the strong nuclear and weak nuclear forces—where then one unified force. During the first 1/100th of a second after the explosion only unbound quarks existed in the universe. As it rapidly expanded and cooled, quarks came under the influence of the now separate and distinct strong nuclear force. They began to stick together, in groups of three, to form protons and neutrons.

By the end of the first second, so the theory goes, the universe had cooled down to a temperature of 10 billion degrees Centigrade, a temperature equivalent to that generated by a hydrogen bomb explosion. Then, during the next few hundred thousand years the universe cooled sufficiently to permit electrons to combine with protons and neutrons to form atoms of hydrogen and helium. Several billion years later, hydrogen atoms coalesced to form stars.[29]

The first stars that formed in the expanding universe generated all of the carbon, oxygen, and nitrogen that, along with hydrogen, make up the proteins in living things, and they also forged the ionic inorganic elements that are present in our bodies, such as sodium, calcium, and chlorine. A star is basically a gigantic thermonuclear furnace—t burns and releases energy by fusing hydrogen atoms into helium, like a hydrogen bomb. Our sun fuses some 4.5 million tons of hydrogen into helium every second, and we perceive the energy it releases as heat and light. It has been doing this for some five billion years and physicists calculate that it will continue to do so for another five billion years and then burn out. Stars use atoms of hydrogen and helium to forge heavier atoms, from carbon, which is made with three helium atoms, to iron, the heaviest element that a star can make from the energy that is released by the thermonuclear reaction.

The trace elements that are present in our bodies, such as cobalt, copper, and zinc, were formed by the immense energy that is generated when a large star collapses upon

itself and explodes, a process astronomers term a *supernova***.** Large stars undergo an explosive collapse after approximately 10 percent of its hydrogen atoms are fused into helium atoms, as a result of the increased gravitational pull that results from the presence of heavier helium atom.

Our sun is a second-generation star, formed, along with the planets in its solar system, from the dust and residue of a large first-generation star that exploded in this region of our Milky Way galaxy around six billion years ago. This supernova provided all of the constituents necessary to generate life, matter which is more than six billion years old, with some of it, like hydrogen, more than 15 billion years old.

Given this most remarkable, incredible history, we can see that life on earth is at its very essence an expression of the energy of the universe, a direct result of two unimaginably violent energy-producing explosions—one that created the universe 15 to 20 billion years ago and then another one in this region of our galaxy 6 billion years ago that created our solar system and all of the matter necessary for life to form.

Unaware in the *19*th century of what the universe was like before the Big Bang, Schopenhauer, from his philosophical musings, reached the conclusion that "force and substance are inseparable for at bottom the are one."

Likewise, Einstein, in this century, determined that an object's mass is equivalent to a specified amount of energy. And he showed us that at sufficiently high temperatures matter and energy are completely interchangeable. The equivalence of mass and energy is explained in Einstein's Special Theory of Relativity. His General Theory of Relativity interweaves space, time, and gravitation into a single unit. It shows that space and time are indivisible from matter. Indeed, the structure of space and time *depends* on the presence and motion of matter.

Recent discoveries in molecular biology also lend support to the Schopenhauerian/Hindu-Buddhist metaphysical insight that that there is an underlying unity of being. Consider this: All species of living things use the same chemically coded DNA language to express the genetic instructions that determine the structure and activity of their respective cells. A DNA molecule is like a very long strand of ticker tape, with a length that is more than 700,000 times greater than its width. The information contained

in the DNA molecule is written with an alphabet consisting of four "letters," represented by the nitrogenous bases adenine, guanine, thymine, and cytosine respectively. This "alphabet" has a vocabulary of 64 "words," each one of which is three letters long. Many thousands of these three letter words are lined up one after another on the long DNA strand.

Molecular biologists have now found that all living things speak the same DNA language, be it a tubercle bacillus, an oak tree, or a human being. The basic instructions that regulate a cell's activity, such as processing energy to maintain its living state, are all remarkably similar for all types of earthly life. Cells metabolize sugar as their main source of immediate energy. With rare exception, plants and photosynthetic bacteria make these sugars from the energy that is provided by sunlight. (The exception is bacteria in the depths of the sea, called chemolithotrops. Two miles deep in the ocean, where there is no sunlight, these bacteria make sugars with energy derived from the oxidation of inorganic sulfur-containing compounds that are spewed forth from deep hydrothermal vents.)

All of the many millions of species that live on this planet, including we human beings, obtain energy in a usable chemical form (as ATP, adenosine triphosphate) the same way our ancient bacterial ancestors obtained it billions of years ago.

Life not only shares an underlying unity of structure and function—there are many other examples which I won't go into here—but there are also fascinating examples of cooperative, that is to say altruistic, behavior among living things. Consider this example, which as a heart surgeon, trying to prevent infections in my patients, I find particularly interesting: Bacteria engage in altruistic behavior by making and giving specially produced genes to each other. Such genes carry instructions designed to enhance the survival of a given strain of bacteria, genes that provide a vulnerable bacteria, like Staphylococci, with a new recipe for making an enzyme that is capable of neutralizing antibiotics like penicillin that can kill them. This is how bacteria become resistant to various antibiotics. Until recently doctors and microbiologists have been baffled over how bacteria in widely distant locations, from Tokyo to New York to Paris, all of a sudden develop strains that are resistant to the destructive effects of a particular

antibiotic. We now know that such resistance is conferred to vulnerable bacteria in these various locations by genetic messengers that are carried worldwide by sea currents, rivers, wind, and people riding on airplanes. Bacteria that possess such genes will produce copies of them encased in a virus-like protective protein coat. The bacterium that produces them ruptures and dies. These virus-like genetic messengers (termed *temperate phages*) are then disseminated widely to other bacteria whose survival will be enhanced due to the genetic instructions that these unique messengers carry. In a relatively short period of time bacteria in hospitals all around the world acquire this new gene and become resistant to a particular antibiotic. Bacteria associate not only with those adjacent to each other in the same strain but also as a global community. It has been shown that strains of otherwise harmless soil bacteria will deliver genes to different strains of pathogenic bacteria that confer resistance to penicillin. By shuffling genetic information between each other with temperate phages (and by other means as well) bacteria, practicing a kind of cellular altruism, promote the welfare of other bacteria all around the planet.[30]

In contrast to compassion, altruism, at both the cellular and the societal level, is always inherently self-serving. A seemingly selfless, altruistic concern for the welfare of others is found, on closer examination, to be based on either *kin selection* or *reciprocity*. A self-sacrificing concern for the well being of one's immediate family is a prominent feature of animal behavior, both in human and nonhuman animals. Risking one's life to ward off predators that threaten one's family has a self-interested aspect to it. An individual's closest relatives—parents, siblings, and children—carry 50 percent of one's genes; nephews, nieces, and grandchildren share 25 percent; and first cousins contain 12.5 percent of one's genes. Behavior that benefits such relations to the detriment of oneself serves the self-interest of one's genes. Sacrificing oneself to ensure the well being of one's family makes it possible for *these* individuals with their genes, which in some measure are the same as the altruist's genes, to survive. Altruistic behavior directed towards one's kin is a genetically wired evolutionary phenomenon. At the cellular level, in bacteria, the "altruistic" self-destructive production of temperate phages by selected bacteria benefits the entire global community of the same genetic strains of bacteria and

helps to ensure their survival against a destructive predator chemical like penicillin. Humans and other primates also look after each other's welfare on a reciprocal basis, like a monkey cleaning a parasite off of another monkey's back. An individual does something nice for someone else with the expectation that the favor will be returned. In contrast to compassion, altruism, tempered as it is by kin selection and reciprocity, is qualitatively different. Although altruism and compassion share a common concern for the welfare of others, compassion arises from a deeper realm. It does not come, like altruism, from the everyday world of genetically programmed, self-directed individuals.

In Allen's film *Manhattan*, Ike brings up this hypothetical situation:

> Listen to this example I'm gonna give. If the four of us are walking home over the bridge and then there was a person drowning in the water, would we have the nerve, would one of us have the nerve to dive into the icy water and save the person from drowning? Because...that's a key question. You know, I, of course, can't swim, so I never have to face it.

What would make a person, one who can swim that is, dive into an icy river to save a total stranger—a total stranger, not a relative, and with no expectation that the favor will be returned? Compassion drives a person to do it, regardless of the risk to one's own welfare. In *The Power of Myth*, Joseph Campbell recalls an event that occurred on a wind-swept ridge in Hawaii, known as the Pali, where some people go to commit suicide:

> One day, two policemen were driving up the Pali road when they saw, just beyond the railing that keeps the cars from rolling over, a young man preparing to jump. The police car stopped, and the policeman on the right jumped out to grab the man but caught him just as he jumped, and he was himself being pulled over when the second cop arrived in time and pulled the two of them back.... Later, a newspaper reporter asked him, "Why didn't you let go? You would have been killed." And his reported answer was, "I couldn't let go. If I had let that young man go, I couldn't have lived another day of my life."

What happened to this policeman who was suddenly willing to sacrifice his life and his duty to his family and his job in an attempt to save this unrelated, unknown man? Campbell, an admirer of Schopenhauer, provides this explanation:

> Schopenhauer's answer is that such a psychological crisis represents the breakthrough of a metaphysical realization, which is that you and that other are one, that you are two aspects of the one life, and that your apparent separateness is but an effect of the way we experience forms under the conditions of space and time. Our true reality is in our identity and unity with all life. This is a metaphysical truth which may become spontaneously realized under circumstances of crisis. For it is, according to Schopenhauer, the truth of your life.

The policeman's action was not a form of altruism, with the action based, to some degree, on kin selection or reciprocity. It was motivated by compassion—that deep-rooted irrational impulse that arises directly out of the innermost reality of things as they are in themselves (or to state it more accurately, out of the thing-in-itself, since there is no multiplicity in the Noumenon).

Our myths and legends agree with Schopenhauer. Perhaps the most important mythological revelation about compassion is to be found in the legend of Parsifal. As told by the *12*th century German poet Wolfram von Eschenbach, Parsifal is a knightly servant of the Holy Grail. In its Christianized version, the Grail is alternatively an emerald from the devil's crown or the cup that Jesus used at his Last Supper. It is a wellspring of life-giving nourishment, of joy and celebration. In both its Christian and preChristian aspect, the Holy Grail is a mystical symbol of a magical at-one-ment. A group of knights guard the Grail in a remote castle where "space and time are one," as Richard Wagner puts it in his opera/music drama, *Parsifal* (first performed in 1882). The leader of the knights that guard the Grail is suffering from a festering wound in his groin, which he received in a moment of lust. The wound will not heal, and the leader lies on a litter in constant agony. He longs for the "*innocent fool enlightened by pity*" who, according to the prophecy of the Grail, can heal the wound and relieve his suffering. Parsifal is basically what one might call a simpleton, a weak-minded, naive knight who is unlearned in the affairs of life, who doesn't even know his own name—in short, a fool. His nickname is *Perfect Fool*. After a botched first visit to the castle, and after many travails, he undergoes a spiritual awakening. Made wise by pity, this "guileless fool," with considerable difficulty, finds his way back to the castle and *suffers with* the leader of

the Grail knights. With love, acceptance, and forgiveness, Parsifal redeems him and heals his wound.

The French name for Parsifal (*Perceval*) means, "pierce-through-the-heart." Compassion is an elemental force that, indeed, pierces one's heart. It is not derived from worldly knowledge, a heightened self-awareness, or a well-honed faculty of reason. The Parsifal legend confirms this basic truth. It says that the person who can most strongly feel compassion is one who is *not* encumbered by the trappings of culture, intellect, and a heightened self-awareness, namely, a fool. Parsifal is not a fool in the pejorative sense that the word is often used, but rather a weak-minded person who lacks worldly knowledge and sophistication. He is naive and sincere, and, thereby, not given to deception and pretense.

Danny, in *Broadway Danny Rose*, has similar qualities. Danny Rose is a *20*th century caring fool. Instead of celebrating the Holy Grail with a court of knights, he celebrates Thanksgiving with a group of luckless performers. Like the legendary Parsifal, Danny Rose is described by one of his colleagues a "living legend." Looking around his apartment, Tina accuses Danny of "living like a loser." He loses his successful clients to other managers, and he naively assumes that people are always being straight with him. When Tina tells Danny that her late husband was a juice man for the mob, Danny replies, "He made juice for the mob?" When she says some guys shot him in the eyes, Danny replies, shocked, "Really? He's blind?" We learn from the Parsifal legend, and from *Broadway Danny Rose* as well, that it is the simple-minded, innocent, sincere fool who can most easily feel compassion. The fool can more readily suspend his ego and submerge his identity than the rest of us. He is able, as Schopenhauer puts it, to "draw less distinction between himself and others than is usually done." Lacking the egoism of ordinary individuals (and the deceit of politicians who profess similar feelings), a "fool" can more completely identify with people who are suffering and share their pain, as if it were one's own.

As the Parsifal legend makes clear, compassion enlightened by pity is a powerful force (originating, as it does, from the Noumenon). Milan Kundera, in *The Unbearable Lightness of Being*, gives a moving description of this noumenally-derived force. Tomas,

the main character in the novel, is a sophisticated, womanizing neurosurgeon who thinks that he is immune to compassion. Then his wife, Tereza, fed up with his numerous extramarital affairs, leaves him. Shortly thereafter, sick at the thought of her sitting disconsolate, her hands trembling, feeling abandoned, Tomas realizes that she has infected him with compassion. Kundera writes:

> He was hit by a weight the likes of which he had never known...For there is nothing heavier than compassion. Not even one's own pain weighs so heavy as the pain one feels with someone, for someone, a pain intensified by the imagination and prolonged by a hundred echoes.

We have seen how Schopenhauer's philosophy is grounded in the view that this strong irrational force is a direct manifestation of the innermost reality of life. Now we need to understand how Schopenhauer's ethics considers compassion to lie at the root of what we consider to be morally right and good behavior. Another aspect of Schopenhauer's great insight into the philosophical importance of compassion is this: Compassion is the sole source of all truly moral actions. People in different societies hold widely varying views about what constitutes good and bad behavior and right or wrong conduct. Is polygamy (which exists, as we have seen, in most human societies that anthropologists have studied) or female infanticide (in the Kangra District of Northwest India) good or right? People who do such things must think so, but others look upon such practices as an anathema. What constitutes *morally* right or good behavior in such matters? Is abortion morally right or wrong? Can there be any objectively valid moral principles of right and wrong or good and bad?

Schopenhauer argues that trafficking in empty, essentially meaningless abstract ideas and concepts like "The Good," or "Justice," or "Perfection of Being" cannot establish the validity of moral principles. Furthermore, the justification for moral principles cannot be established by appealing to some higher authority, either religious or secular. How can one prove *which* religious or state codes of moral behavior are the most valid? We must appeal to the facts and testimony of experience if we wish to obtain an *objective proof* of anything, including codes of moral behavior. A sound system of Ethics, Schopenhauer tells us, and I think he is right, must employ an observational,

empirical approach. We need to examine carefully the psychological underpinnings that determine human actions to see what constitutes a moral right or a morally wrong action.

Schopenhauer approached the study of human behavior like a modern-day social psychologist, without any preconceptions about what one *ought* to do. He examined choices and decisions that people make, and the actions that they take. The two most important findings from his observation of human behavior are these: 1) human behavior is directed by three principal motives. These are *self-interest*, *malice*, and *compassion*. And 2) the keystone of morality lies within human nature itself, in compassion. Self-interest is the most prevalent motive of the three, by far. It drives all living things. Malice seems to be confined to our species and, fortunately, it is not very evident in most people. Compassion, while not all that common either, is nevertheless very important from a philosophical and moral standpoint.

People approve of actions as right or good from a moral standpoint when they involve some degree of compassion. Actions driven by malice unaccompanied by any self-interest are morally wrong or bad. In *Broadway Danny Rose* Tina says, "You gotta do what you gotta do, you know? Life is short. You don't get any medals for being a Boy Scout." Danny replies, "My father…would say maturity, a little tolerance, a willingness to give." And when Lou confesses that he has a mistress, Danny quotes his Aunt Rose, who said, "You can't ride two horses with one behind." Schopenhauer would argue that Tina's dog-eat-dog approach to life and the fact that Lou has committed adultery and has a mistress are neither morally right nor morally wrong. Actions taken to satisfy one's needs and wants, even if others happened to be injured as a result, are a natural consequence of the living state and are not by themselves "immoral" in an ethical sense. Since Tina and Lou are simply acting in accordance with the dictates of their own self-interest, their actions are not subject to moral approval or condemnation. And Aunt Rose's statement is not a moral judgement. She is simply giving wise advice. In our society maintaining a mistress while one is legally married to another woman involves a degree of deception and deceit that, among other things, can, in time, damage one's health (I speak from personal experience on this.). We regard choices, decisions, and actions approvingly as *moral* in so far as they rest on motives that are not based on self-

interest and are concerned only with the well being of others. Schopenhauer would agree that Danny's father, in advocating tolerance and a willingness to give, has a morally praiseworthy approach to life. Such behavior evidences a selfless concern for the welfare of others; it reflects a sense of compassion, and consequently it receives our moral approval.

Moral behavior is grounded in compassion. Conversely, all truly *immoral* acts are generated by malice—the wanton impulse to harm others and to see others suffer without any compensation to one's self. Schopenhauer writes:

> Nothing shocks our moral feelings so deeply as cruelty does. We can forgive every other crime, but not cruelty. The reason for this is that it is the very opposite of compassion. When we obtain information of a very cruel deed, as, for example... the case, just reported from Algiers, where, after a casual dispute and fight between a Spaniard and an Algerian, the latter, as the stronger, tore away the whole of the lower jawbone of the former, and carried it off as a trophy, leaving the other man still alive; when we hear of such things, we are seized with horror and exclaim: "How is it possible to do such a thing?"... The sense of that question is certainly only this: How it it possible to be so utterly bereft of compassion? Thus it is the greatest lack of compassion that stamps a deed with the deepest moral depravity and atrocity. Consequently, compassion is the real moral incentive.

Adherence to the tenets of an organized religion, such as the Ten Commandments in the Judeo-Christian tradition, does not necessarily constitute morally praiseworthy behavior, even though these Commandments embody elements of compassion. Most people are not singularly motivated by compassion to follow such rules. Self-serving considerations also compel a person to adhere to religious codes of conduct. These include a fear of punishment, hope of reward (either in this world or the next), and a desire for the security conferred by acceptance of authority. With some religions, like Roman Catholicism for example, a person makes a relatively modest investment—by adhering to the creed and code of that religion and participating in it religious observances—in what one hopes will eventually result in a big payoff, notably, everlasting life in heaven. *Conscience* is the internalization of such rules, both religious and secular. As Schopenhauer puts it, "Religious people of every faith frequently

understand by conscience nothing but the dogmas and commandments of their religion, and the self-scrutiny undertaken with reference to them." Noncompliance with one's conscience fosters guilt, another motivating factor that promotes socially and religiously acceptable behavior.

So is abortion, to take the matter head on, in light of what I discuss here, morally right or wrong? It is not morally right, certainly, but neither is it morally wrong, in most cases. It is a matter of (self-interested) choice. The unmarried teenage girl, with no means of support, sacrifices the life of her fetus so that she can complete her education and obtain a good job, and not have to raise a child in impoverished circumstances. Or, recognizing for whatever reason that she cannot raise a child herself, a woman does not want to bring one to term and put it out for adoption for fear of being haunted throughout her life with the irrevocable connection that she will have with this person. Or she fears that the child, once adopted, will fall into bad hands and be molested. On the other hand, a woman who develops a growing dislike for her husband and aborts their fetus in order to spite him commits a morally wrong act. Willfully sacrificing the life of her gestating child for that reason, which is grounded in malice rather that self-interest, is morally wrong.

The question of whether the growing fetus has a "right to life," contentious as it is, is not a moral issue. This question cannot be answered from the standpoint of morality.

A woman ovulates a maximum of 400 ova during her reproductive years. There is certainly no shortage of sperm available from multiple sources eager to fertilize them. Does each ovum that escapes from its ruptured Grafian follicle and make it to the uterus have a right to life?

There is one other important aspect of compassion, in addition to its metaphysical and ethical significance that I want to mention before moving on. It is this: The presence, or absence, of compassion plays a critical role in one's health.

At first glance, the all-pervasive motive of self-interest would appear to overshadow the less prevalent motive of compassion. But compassion, as we have seen, is the more important force. As the Grail knight, with his festering wound, discovered,

compassion also has a strong healing quality. Schopenhauer says that "compassion is to anger as water to fire"--that "compassion is the true antidote to anger." In Woody Allen's *Manhattan,* Mary breaks up with Ike soon after they have started living together, to go back with her old boyfriend. Ike is stunned and hurt. Mary encourages him to go ahead and get angry so that they can have it out and get it over with. He replies:

> Well, I don't get angry, okay? I mean, I have a tendency to internalize. I can't express anger. That's one of the problems I have. I grow a tumor instead.

With this concise statement on the etiology of cancer, Woody Allen demonstrates a better insight into the causes of this illness than do many physicians. Indeed, medical scientists have only recently discovered how mental states and emotions can determine the onset and outcome of disease. Witch doctors, shamans, and health care givers in a variety of cultures have known for centuries that a person's mental state has a profound effect on the body's susceptibility to disease. The Greek physician Galen noted more than 2000 years ago that melancholic women developed breast cancer more often than cheerful, contented women. But the belief that disease is a consequence of a spiritual or psychic imbalance fell into disrepute in the 19th century with the advent of germ-centered, cellular-based scientific medicine. Being unable to establish any biochemical or anatomical connection between such emotions as contentment, unconditional love, repressed anger, and despair with such diseases as pneumonia, cancer, or coronary artery disease, Western medical scientists discounted or ignored the importance of such emotions in these diseases. This is no longer the case.

Scientists now know that an intricate network of chemical and nerve pathways connect the brain—the hard-wired site of one's thoughts, feelings, and emotions—with the immune system. Brain cells secrete a variety of chemicals that carry messages directly to cells in the immune system. Signals are carried through a network of nerves that go directly from the brain into the thymus gland, the "boot camp" for the cellular soldiers in the defending immune system "army." These nerves are part of the *autonomic nervous system*. Other autonomic nerve fibers from the brain go to the bone marrow, where the soldiers in this army are produced, and to the spleen and lymph nodes, where

they are housed. Messages can also be sent indirectly by way of the endocrine system, especially via the adrenal glands, to cells in the immune system. A particular emotional state can provoke brain cells to send signals through either, or both, of these chemical and nerve pathways.

Such messages from the brain can cause the immune system to malfunction in two ways: it can over-react, to external agents, and even the body's own cells; or it can under-react. Signals from the brain that suppress the immune system (or bring about its exhaustion) can render a person susceptible to infections caused by germs that invade our bodies, such as viruses that cause the common cold or bacteria that can produce pneumonia. Our one trillion cell immune system exercises a constant surveillance over the other 99 trillion cells that make up our body; and it destroys ones that, from time to time, run amuck and have the potential for becoming cancerous. An under-reactive immune system renders a person more susceptible to cancer by not removing aberrant cells before they develop into dangerous tumors. When the brain sends signals to the immune system that causes it to over-react, in this case, to external agents, allergies like bronchial asthma can result. Such signals, exacerbated by altered emotional states, can also so disorient the immune system that it will turn on itself and destroy the body's own tissues. Such self-destructive actions are known as *autoimmune* diseases. Rheumatoid arthritis is such a disease.

The immune system also plays an important role in coronary artery disease, a subject dear to my heart. Cells in the immune system, the macrophages, are intimately involved in the formation of the atherosclerotic plaques in coronary artery disease. Fatty streaks are the first changes that occur in the coronary arterial wall in this disease. These streaks consist of foam cells—macrophages that have engorged themselves by ingesting oxidized cholesterol bound to low-density lipoproteins. These bloated macrophages secrete substances that damage the arterial wall and cause underlying smooth muscle cells to proliferate. The smooth muscle cells pile up on top of each other to form an obstructing plaque.[31] A better understanding of the role that the immune system plays in a great variety of diseases, including coronary artery disease, and the recognition of the

important influence of one's mental state on the functioning of this system has ushered in a new branch of scientific inquiry known as *pyschoneuroimmunology*.[32]

Repressed anger is perhaps the most important emotion that renders a person susceptible to disease. Compassion is the antidote to anger. Repressed anger breeds resentment and hostility. These emotions, when they fester and linger, destabilize the immune system. Instead of expressing one's true feelings, a person so affected "grows a tumor instead." Death rates are 4 to 7 times higher among people who harbor hostile attitudes, according to one study. Coronary heart disease and cancer are the two leading causes of death in our society. I am convinced that Type A behavior is an important risk factor for developing coronary disease. The Type A person engages in a continuous struggle to try and do too many things in too short a time. Failing to accomplish this, such people become irritated, aggravated, and impatient. These feelings breed *hostility.* It is this feature of the Type A personality—a free-floating hostility—that places such people at risk for developing coronary disease, not their sense of time urgency, or hyperaggressiveness, or insecurity of status, or need for control. Inwardly directed hostility wreaks havoc on one's coronary arteries.[33]

Unlike my patient George Crosby, I have patients in their 40s, 50s, and 60s with severe coronary disease who are like a grenade waiting to go off. They are angry at the world, annoyed with their spouse, irritated with their health care providers when everything isn't done exactly to their satisfaction, impatient, and demanding. Their free-floating hostility is almost palpable. During their surgery I get to see their coronary arteries in living color. Roughened hard yellow plaques, like boulders in a stream, block them. Sometimes a kind of yellow, slightly gritty toothpaste-like material oozes out from the artery when it is opened in preparation for stitching on a new bypass graft. Some unfortunate people are consigned to rust out and obliterate their coronary arteries at a young age because they are genetically prone to do so, no matter what they do—they wear the wrong pair of "genes"—but others, I am convinced, do so largely because of all the hostility that they harbor within them. Through a variety of physiologic mechanisms, which includes a pivotal role played by the immune system, some of that hostility gets directed inward and sets off an inflammatory response, like a kind of brush fire, that

burns out the arteries, leaving scarred debris that gradually builds up and pinches off the artery.

Individuals who are Type B are defined as those people who lack the Type A characteristics. They are more laid back and are more likely not to wear a watch. One study showed, however, that Type B individuals who have high hostility scores on the Minnesota Multiphasic Personality Index are more likely to have coronary artery disease than are low-hostility Type A individuals who are trying to do too many things in too short a time.[34]

Type C behavior is said to be a risk factor for cancer. Suppression of emotional responses, especially anger, is the hallmark of the Type C cancer-prone personality type. These people have a desire for social acceptance and are described as patient, compliant, and unassertive. They are "nice." The single common denominator in both the Type A and C personality types is *anger*. In the Type C person, the anger is vigorously suppressed, more so than in the Type A person. Such a large investment of psychic energy is necessary to keep it under wraps, and to support a nice, unassertive demeanor, that insufficient energy is left to maintain the immune system in good estate. As the immune system becomes depressed, weakened, and under-reactive, the stage is set for a wayward cancerous cell to escape undetected through the immune system's defenses and grow into a full-blown cancer.[35]

Compassionate loving-kindness, *for one's self*, as well as for others, extinguishes the fire of anger. It douses the negative emotions of resentment and hostility that smolder in one's psyche. Bernie Siegel, in his book *Love, Medicine, and Miracles: Lessons Learned About Self-Healing from a Surgeon's Experience with Exceptional Patients*, says, "All disease is ultimately related to a lack of love, or to love that is only conditional." This is probably true, up to a point, with the caveat that no amount of love can reverse an inborn genetic predisposition for disease, as a child suffering from hemophilia will attest. Dr. Siegel writes:

> I view the force behind creation as a loving, intelligent energy. For some, this is labeled God, for others it can be seen simply as a source of healing... Spirituality means the ability to find peace and happiness in an imperfect world, and to feel that one's own personality is imperfect but

> acceptable. From this peaceful state of mind come both creativity and the ability to love unselfishly, which go hand in hand. Acceptance, faith, forgiveness, peace and love are the traits that define spirituality for me. These characteristics *always* appear in those who achieve unexpected healing of serious illness.

Dr. Siegel's spiritual viewpoint is similar to the philosophy of life that Uncle Sidney advocates in *Broadway Danny Rose*, one of *acceptance*, *forgiveness*, and *love.* The medical significance of compassion, I think, boils down to this: one must have acceptance, forgiveness, and love for one's self as well as for others in order to achieve the degree of inner peace and contentment necessary for maintaining good health.

All of us, to a varying degree, experience compassion. In some people, like the policeman in Hawaii, it comes seemingly from out of nowhere, suddenly, and with great force. In others, like George Crosby, it is quietly and simply manifested as a life-long state of being. And in a rare few, like St. Francis of Assisi and Mother Teresa, it manifests itself with an earth-shaking intensity.

Compassion is good for one's health. It is the basis on which we form moral judgements. And it has metaphysical significance. Our connection with the universality of all things lies within the core of our being, in compassion. But this important feature of the inner landscape of our psyches is usually overshadowed and obscured by the egocentric crust of our self-serving intellect. Individuals who have a relatively thin layer of this self-serving, intellectual crust, namely, the innocent, simple-minded *fools* of the world, are the ones who can best lead us on the path that can uncover the secrets that lie within each human soul. Fools like Parsifal and Broadway Danny Rose can best show us the way into the castle that holds the answers to the meaning of life and the nature of the universe. Schopenhauer recalls this passage from Diderot's *Jacques le Fataliste* that could well serve as an appropriate statement to place on a placard over the entrance to this metaphorical castle:

> I belong to no one, and I belong to all the world; you were in it before you entered it, and you will still be in it when you have gone out of it.

I am persuaded that Schopenhauer is right in saying that the natural justice and loving-kindness of compassion are the keys that unlock the door to the castle that contains the innermost realities of life. The loving-kindness of compassion is unconditional love in its broadest sense. In the finale of the musical rendition of Victor Hugo's *Les Miserables*, the company sings, "To love another person is to see the face of God." Does compassionate loving-kindness manifested as the Christian love of *agape*, or, for that matter, passionate sexual love enable us to indeed obtain a fleeting glimpse of the face of God? Do these emanations from the rock bottom reality of things come from God? Where does a *God* fit into the ultimate reality of things?

4

Searching for God

We follow the turn of the road and it leads us on.
Where? To actuality; ourselves, others and God.
Jack Kerouac
Travel Diary 1948-49

I was born a Presbyterian. My mother was born a Presbyterian, my father, a Lutheran. She grew up in a small town in eastern North Carolina called Faison, and her great-grandfather, Jacob Warden, was General Stonewall Jackson's chaplain in the Civil War. (Stonewall Jackson, himself, was a fire-breathing Presbyterian.) Other relatives in her family were Presbyterian ministers.

At eight months of age I was baptized into this Protestant sect of Christianity in the family church in Faison, surrounded by the names of deceased relatives memorialized on brass plates on its walls. At the age of twelve I served as an altar boy in the chapel at the Naval Hospital in Newport, Rhode Island, where my father was then stationed. For a time I considered becoming a Presbyterian minister like some of my forebears. I studied philosophy of religion in college and have maintained a life long interest in this subject. My inquiries into the role that God plays in the realities of life have led me down a number of different paths over the years. In addition to more conventional theological

and philosophical lines of inquiry, I have also included a study of the work of Woody Allen and religious aspects of the Beat Generation.

A central question concerning any inquiry about God is this: Is God a supernatural Being that we can relate to on a personal level? If so, is God a She or a He? Or is God, instead, a "Primal Hermaphrodite"? James Morrow uses this term for a conjoint She/He God in his fascinating science fiction/fantasy novel *Only Begotten Daughter*. Or is "God" a non-personal deity, and, if so, how can we describe it? Should we use words like an "Elemental Source of Energy," a "Cosmic Intelligence," an "All Encompassing Oneness," a "Unifying Cosmic Force" to describe this non-personal God?

Science has shown us that all life on this planet is composed of molecules that were spewed forth from a giant star that exploded in this region of the Milky Way Galaxy more than six billion years ago. We now know that all living things are derived from bacteria that existed on the planet more than three and a half billion years ago. We know that our sun will someday—about five billion years from now—run low on its hydrogen fuel and bulge out into a red giant about a hundred times its current size and swallow up the inner planets in the solar system, including ours. Given such knowledge about the cosmos and our place in it, how does God—She, He, She/He, or It—fit into this scheme of things?

Our species' biological and cultural history informs my views on this subject. More than 30,000 years ago people carefully buried their dead with jewelry placed around their head and food and hunting weapons around the body. They also placed other ornaments, flowers, and decorative objects at burial sites next to the dead. At a 30,000-year-old gravesite in the Czech Republic, for example, archeologists uncovered a skeleton where more than six hundred tubelike fossil mollusks are arranged around its skull. They have found skeletons of a similar age in France painted with a red pigment, and in Italy they have unearthed a painted skeleton that also had a bonnet constructed of shells and a crown of pierced reindeer teeth around its skull. These practices suggest that, early on, our forebears possessed either a respect for the departed or, more likely, a spiritual awareness that embraced the idea of a continued existence after death.[36]

Awareness of the fact that we are going to die gives rise to religious beliefs. How do we cope with the fact that our loved ones and we are going to die? One way is to embrace a religion that promises our loved ones and us a continued existence after death. Schopenhauer puts it this way:

> We find that the interest inspired by...religious systems has its strongest and essential point absolutely in the dogma of some future existence after death. Although [they] seem to make the existence of their gods the main point, and to defend this most strenuously, at bottom this is only because they have tied up their teaching on immortality therewith, and regard the one as inseparable from the other.[37]

I think he is right. When my sister died, leaving behind her husband, a Presbyterian minister, and two young daughters, age four and six, the only way that my mother was able to endure this loss and go on with life was to hold dear her religious belief that we have a future existence after death. Believing this, my mother, now 80 years old, while appreciating the value of life and living it to the fullest with a large measure of compassion, finds great comfort in knowing in her heart that when she dies she will be reunited with her deceased daughter.

The first Deity that our ancestors worshiped was a Mother Goddess. This should not be too surprising when you think about it. Humans capable of reflective thought had to confront the remarkable and mysterious fact that a woman can create within her body a fully formed, miniature human being. Our curious ancestors sought explanations for what the cultural historian Erich Neumann has termed *the blood transformation mysteries* of puberty, pregnancy, and lactation. Our ancestors could readily observe, as a result of the public manner in which they all lived, that a woman inexplicably sheds blood from her vagina in synchrony with the phases of the moon! They saw that this periodic bleeding starts at puberty and then suddenly stops during pregnancy. They apparently believed that the fetus is built up from retained menstrual blood. Then, following birth, our inquiring ancestors were presented with the remarkable fact that the mother produces milk from her body, instead of menstrual blood, which is used to nourish her newborn infant. Archaeologists and cultural historians have discovered that our early ancestors responded to these stunning mysteries by venerating and worshiping a Mother Goddess.

The Mother Goddess was believed to be the creator and ruler of the world. She was thought to wield supernatural control over the mysterious forces of birth and death. Our early ancestors believed that She embodied a dual nature, manifesting the polar extremes of good and evil. In her creative and nurturing aspect the Goddess was the *Giver of life*; in her terrifying, destructive aspect She was the agent of death and disease and the *Destroyer of life*. Our forebears worshiped the Great Mother Goddess as the source of the cyclical patterns in nature. They believed that she maintained the equilibrium of seasonal recurrence. She renewed vegetation and promoted the growth of crops and the propagation of animals. It is She who gives us all to each other as food. E.O. James, in his book *The Cult of the Mother Goddess*, writes:

> Behind her lay the mystery of birth and generation in the abstract, at first in the human and animal world with which Paleolitic Man was mainly concerned in his struggle for existence and survival; then, when food-gathering gave place to food-production, in the vegetable kingdom where Mother-earth became the womb in which the crops were sown, and from which they were brought forth in due season.

Statuettes and bas-relief carvings of the Goddess, known as Venus figures, have been found in caves and excavations throughout Europe. One 18-inch high bas-relief sculpture of a woman holding a bison horn, the Venus of Laussel, is more than 21,000 years old. It was found on a sheltered wall of limestone in the Dordogne Valley in France. This faceless Venus has pendulous breasts, a protuberant stomach, and exaggerated hips; and prehistoric religion specialists believe that the curved bison horn she is holding symbolizes both the crescent moon and the Universal Vulva, the source of all life. The horn is incised with thirteen marks, corresponding to the 13 lunar months in a year.

Two symbols intimately connected with Goddess worship are the *moon* and the *snake*. The snake is a symbol of eternal life, gliding as it does in and out of holes in the earth and being "reborn" by shedding its skin. The moon sheds its shadow each month and is also "reborn." Likewise, blood issues forth from a woman's vagina each month, and then it magically "heals" itself, all in synchrony with the phases with the moon. Indeed, studies have shown that women living near the equator have a marked tendency

to menstruate at the beginning of the new moon and then to ovulate during the full moon. And, uncannily, a woman's pregnancy, from her last menstruation until the birth of her child, spans exactly 10 twenty-nine-and-a-half day lunar months. *Moon, menstruation, measurement,* and *month,* in most languages, are derived from a common word root. Some cultural historians contend that humanity first began to miniaturize its world into a symbolic form, which led to iconography and then to writing and mathematics, by counting "moons" on a lunar calendar stick.

The worship of the Mother Goddess reached its peak in the Neolithic period (10,000-3,500 BC) in the Middle East, just before male gods began to take over.

The advent of agriculture and animal husbandry in the Neolithic period led to the adoption of male deities. E. O. James explains:

> With the establishment of husbandry and the domestication of flocks and herds, the function of the male in the process of generation became more apparent and vital as the physiological facts concerning paternity were more clearly understood and recognized. Then the Mother-goddess was assigned a male partner, either in the capacity of her son and lover, or of brother and husband. Nevertheless, although he was the begetter of life he occupied a subordinate position to her, being in fact a secondary figure in the cultus.

Experts on prehistoric religion have learned a great deal about the religion of the Mother Goddess from James Mellaart's excavation, in the 1960s, of Çatal Hüyük. This 32 acre-sized town, in what is now central Turkey, thrived for a thousand year period from 6,500 BC to 5,600 BC It had a population of about 6,000 people and was a center for the worship of the Mother Goddess. More than forty rooms containing ornamented shrines to the Goddess have been unearthed at this site. Their walls are decorated with color murals, and the rooms contain statuettes of the Goddess (made of stone, clay, and terra cotta). In these statues the Goddess is variously depicted as a sexually alluring young woman, as a mother giving birth, and accompanied by a vulture, as a withered old woman. Sexuality and spirituality are united in Her. In his discussion of these findings, William Irwin Thompson makes this interesting point:

> The three images of the goddess--maiden, matron, and old crone--present us with the three archetypal relationships of the female to the male: she is huge and calls us from her womb; she is

> beautiful and calls us to her bed; she is old and ugly and calls us to the tomb. Womb and tomb rhyme in the unconscious as well as in the English language.[38]

At the height of the Neolithic period the Mother Goddess came to be known as Inanna, in Sumer; as Ishtar, in Babylon; as Asherah, in Canaan; as Isis, in Egypt; as Rhea, in Crete; as Kali, in India; and as Gaia, in Greece. The growing complexity of human society, however, led to the demise of the universal religion of the Great Mother Goddess. Cultural historians point to the fact that as trade increased people began to acquire increasingly larger amounts of personal property and wealth that they needed to protect. Male hunters with their spears and bows and arrows now found a new occupation—protecting both their women and their wealth. As a result, warfare became an integral component of the human condition. The development of metallurgy in the following Bronze age radically changed the techniques of warfare, and the holistic, magical authority of the Mother Goddess finally succumbed to masculine military power. Kali became the spouse and underlying power, or *shatki*, of Shiva, one of the two main gods in the Hindu religion. Gaia's descendents in Greece—Hera, Athena, Artemis, and Aphrodite, among others—became subordinate to Zeus, the male Sky God. In Canaan the religion of the Mother Goddess was replaced by the patriarchal religion of the nomadic Hebrews. Asherah became, for a time, until she was completely suppressed, the consort of the Hebrew male God Yahweh. In Kuntillet 'Ajrud, according to inscriptions that have been excavated at this desert oasis halfway between Beersheba and Elath, travelers stopping there in 700 BC--long after the Goddess had been supposedly overthrown—deposited offerings both to Yahweh and to "his consort Asherah".

The feminist scholars Monica Sjöö and Barbara Mor point out that the primary theme of the Old Testament is the constant fight that God's "chosen people" waged against matriarchal religion and custom. In their book, *The Great Cosmic Mother: Rediscovering the Religion of the Earth,* they write:

> The settled people of the Old Testament, like everyone else in the Near East, practiced Goddess worship. The Old Testament is the record of the conquest and massacre of these Neolithic people [the Canaanites] by the nomadic Hebrews, followers of a Sky God [Yahweh], who then set up their biblical God in the place of the ancient Goddess.[39]

In the Old Testament, God commands Moses to go forth and destroy the stone idols on Mount Sinai. According to the authors of *The Great Cosmic Mother*, Mount Sinai, which means "Mountain of the Moon," was a Canaanite shrine to the Mother Goddess. The idols that Moses destroyed, they tell us, "all had breasts."[40]

Today more than 1.4 billion people have affirmed their faith in Christianity, 700 million in Islam, 600 million in Hinduism, 270 million in Buddhism, and approximately 13 million in Judaism. But despite the emergence of the great patriarchal religions of Judaism and Hinduism, which were then followed by Buddhism, Christianity, and Islam, Mother worship remains a universal religious theme in all human cultures. It is undeniably an irrepressible, basic consequence of human consciousness. Within Christianity some worship the Virgin Mary, who is celebrated both as the mother of the church (Mater Ecclesia) and the mother of God (Madonna). She fills a deep-seated need human need for a Mother Goddess in a culture where the established religions are dominated by male Gods. In Mexico, for example, she is Our Lady of Guadeloupe; in Poland, the Virgin of Czestochowa. Apparitions of her have been seen at her Shrine in a grotto at Massabielle near Lourdes; at Santa Anatasia, near Naples, she is worshiped by the Cult of the Madonna of the Arch.

From a more secular standpoint, instead of Venus figurines and bas-relief carvings of the Great Goddess that adorned rooms in Neolithic times, a calendar photograph of a reclining, naked Marilyn Monroe may be displayed. Since she died in 1962 more than forty biographies have been written already about this "ultimate sex goddess," including one by feminist Gloria Steinem. Videotapes of her films continued to be viewed by millions of people. I do not think it is too farfetched to say that Marilyn Monroe has taken on, to some degree, at least, the role of a modern-day Venus of Laussel. One of her biographers characterized her as, "pouting, suggestive, submissive, subversive, erotic, available, forbidden, sometimes naked, sometimes overdressed, and always blond." Like the ancient Goddess, she embodied a basic duality that continues to generate a feeling of profound awe in her admirers. Those who knew her well described

Marilyn as an alert, intelligent, warm, compassionate person. In Goddess fashion she wrote this poem:

> I stood beneath your limbs
> and you flowered and finally clung to me
> and when the wind struck with ... the earth
> and sand — you clung to me.[41]

As our Paleolithic and Neolithic ancestors did before us, people in various parts of the United States are once again participating in covens and ritual groups to celebrate and worship the Great Mother Goddess. According to *The Womanspirit Sourcebook*, women in western Connecticut, for example, have been gathering in a secluded meadow every month on the full moon since 1980 to perform the Sweat Lodge ceremony, a Native American religious ceremony where the participant affirms the guiding power of the Earth Mother. In Pittsburgh, a group of women have formed an organization named Motherhearth, whose stated purpose is to revive Goddess mysteries, rituals, and healing. In Madison, Wisconsin, the Re-formed Congregation of the Goddess has been established "to provide the benefits and recognition of organized religion to its members." And the Wise Woman Center in Woodstock, New York, like other similar organizations across the country, exists "to draw together the threads of our lost heritage as healing women of power and knowledge, where the Goddess is alive and green Witches grow."[42]

Our deep-seated feeling that there is a higher spiritual plane, or power, is a basic facet of conscious human life. It impels us to worship a Supreme Being, one that has both paternal and maternal attributes. Nevertheless, even though humankind possess the *idea* of God, it does not necessarily mean that there really *is* a God or Goddess that watches over us and who can grant us everlasting life.

I became interested in questions about God when I was an altar boy. Motivated by a desire to help people, I thought that going into the ministry would be a fulfilling thing to do. And I would be able to write sermons, which even then appealed to me. The Chaplain at the Newport Naval Hospital at the time that I assisted was inspiring and served as a good role model. But medicine won out. At the age of fifteen I watched my

father remove a patient's esophagus and bring the stomach up into the neck in its place. I stood there for ten hours looking over the ether screen watching the procedure, and despite sore feet and a full bladder I was hooked. The importance of religion in the lives of many of my patients and their families, however, has continued to interest me. When a family tells me that they and the entire congregation of their church are praying for a successful outcome with their loved one's surgery, I am very happy and grateful to accept His help. But the question remains, what evidence can we point to which indicates that God really does exist?

Having seen how our species has developed a sense of the sacred and the concept of a female and then male deity from a cultural historical perspective, we now come to a crossroads in a search for God. We can travel in a number of different directions to try and determine if God really does exist. There are at least six different routes that I can think of. These include *scientific proof, faith, mysticism, art, theology,* and *philosophy*. Woody Allen, in his unique and insightful way, provides us with some helpful signposts along several of these routes. I refer especially to his films *Love and Death* and *Hannah and her Sisters*; his one act play *God*; and "Mr. Big," a short story that appeared in *Getting Even,* his first published collection of short stories and comedic essays.[43]

"Mr. Big," can be viewed as a parable on the search for God. It is worth reviewing here. In this story, a woman who claims to be a philosophy student hires a detective named Kaiser Lupowitz to find God. The detective first goes to a rabbi and asks him if God exists. The rabbi replies:

> *Rabbi*: Of course there's a you-know-what, but I'm not even allowed to say His name or He'll strike me dead, which I could never understand why someone is so touchy about having his name said.
>
> *Detective*: You ever see Him?
>
> *Rabbi*: Me? Are you kidding? I'm lucky I get to see my grandchildren.
>
> *Detective*: Then how do you know He exists?
>
> *Rabbi*: How do I know? What kind of question is that? Could I get a suit like this for fourteen dollars if there was no one up there? Here, feel a gabardine--how can you doubt?

The detective then looks up a street-smart "forger, bank robber, strong-arm man, and avowed atheist" named Chicago Phil, who says:

> The guy never existed, Kaiser. This is the straight dope. It's a big hype. There's no Mr. Big. It's a syndicate. Mostly Sicilian. It's international. But there is no actual head. Except maybe the Pope.

The detective next wants to question the Pope, and a meeting is arranged with His Holiness at an Italian restaurant in New Jersey. Detective Lupowitz asks the Pontiff if God exists:

> *Pope*: Sure He exists, Lupowitz, but I'm the only one that communicates with him. He speaks only through me.
>
> *Detective*: Why you, pal?
>
> *Pope*: Because I got the red suit.
>
> *Detective*: This get-up?
>
> *Pope*: Don't knock it. Every morning I rise, put on this red suit, and suddenly I'm a big cheese. It's all in the suit. I mean, face it, if I went around in slacks and a sports jacket, I couldn't get arrested religion-wise.
>
> *Detective*: Then it's a hype. There's no God.
>
> *Pope*: I don't know. But what's the difference? The money's good.

The Pope also tells the detective that the detective's client is actually a physics professor at Bryn Mawr and not a philosophy student as Lupowitz was led to believe. But he learns that his Bryn Mawr client has a jazz musician boyfriend who does study philosophy. An informer describes the boyfriend as follows:

> [An] Empiricist, as I remember. Bad guy. Completely rejected Hegel or any dialectical methodology... He used to be a drummer with a jazz trio. Then he got hooked on Logical

> Positivism. When that didn't work, he tried Pragmatism. Last I heard he stole a lot of money to take a course in *Schopenhauer* at Columbia. [Italics mine]

Lupowitz, the detective, then learns from the Homicide department that a person fitting the description of God has been brought to the morgue. He goes there and confirms that the recently received dead body is indeed Him.

Putting all the pieces of the puzzle together, Lupowitz confronts his client. He accuses *her* of murdering God. He explains it this way:

> At the midwinter Hop you get stuck on a jazz musician who's heavily into philosophy. A couple of nights in the hay and it feels like love. But it doesn't work out because something comes between you. God. Y'see sugar, he believed, or wanted to, but you, with your pretty little scientific mind, had to have absolute certainty.

This Bryn Mawr physics professor killed God in order to win her jazz musician lover's complete devotion. Found out, this attractive woman scientist, who is so sexy that she could "cause a cardiac arrest in a yak," as Allen puts it, implores the detective not to turn her in. Instead, she entreats him to run away with her. She seductively removes her dressing gown, and Lupowitz notes that, "I was standing there suddenly with a naked Venus." As she fondles him with one hand she picks up a pistol with the other and tries to shot him. The detective beats her to the draw and shoots her dead with his own gun.

In his efforts to find God, the detective in "Mr. Big" cannot uncover any substantive empirical evidence that God exists, other than the fact that the rabbi got a bargain on his gabardine suit. Instead, he discovers—at the morgue—that God is dead. Lupowitz, however, does find out who murdered God. It is a voluptuous woman scientist!

Since there is no objectively verifiable evidence which can prove that God exists, the jazz musician lover in "Mr. Big" turns to philosophy—and Schopenhauer in particular—for help. But Schopenhauer tells us, as do other philosophers and theologians, that "religions admittedly appeal not to conviction with arguments, but to faith with revelations." The jazz musician wants to believe in God, but without any

supportive empirical evidence, and since he also cannot marshal any logical proof that God exists, he must rely solely on faith.

The Bible defines *faith,* in the Epistle to the Hebrews (11:1), as follows: "It gives substance to our hopes, and makes us certain of realities we do not see." Religious faith is not concerned so much with what can be *known*, but with what should or may be *believed*. It is a confident belief in the truth of a given idea that does not rest on empirical evidence or logical proof. The television evangelist Jim Bakker put it well when he said, at his trial for tax evasion, that "faith is the supplier of things hoped for and the evidence of things not seen." It is a powerful and tenacious emotion. William James, in his pioneering work on the psychology of religion, *The Varieties of Religious Experience*, uses the term "faith-state" to denote this feeling. He argues that it arises from a sense of uneasiness "that there is *something wrong about us as we naturally stand* [his italics]," and when under its spell one has the feeling "that *we are saved from the wrongness* by making proper connection with the higher powers." James writes:

> This emotion overcomes temperamental melancholy and imparts endurance to the Subject, or a zest, or a meaning, or an enchantment and glory to the common objects of life....It is a biological as well as a psychological condition, and Tolstoy is absolutely accurate in classifying faith among the forces *by which men live*. The total absence of it, anhedonia, means collapse.[44]

Schopenhauer makes the point that, "faith is like love; it cannot be forced." In the Bible people acquire faith through revelations and by witnessing miracles. In trying to muster the requisite faith to be able to believe in God, Boris, in Allen's film *Love and Death*, laments: "If I could just see a miracle, just one miracle. If I could see a burning bush, or the seas part, or my Uncle Sasha pick up a check." Faith is also acquired and sustained through voluntary submission to the authority of an organized religion, with its doctrines and codes of conduct and rituals, all directed by a priestly hierarchy to keep a religion's followers in right relations with the believed transcendental order. These rituals include, in particular, baptism and communion. Other sacraments provide points of ecclesiastical control over the believers.

Once acquired and cemented in one's mind by the glue of faith, a person's religious beliefs and practices cannot be easily suppressed. In Poland, for example, during and after the Second World War Hitler and Stalin both tried to destroy the Polish Catholic Church. A third of the clergy were murdered and its schools and seminaries were closed. Nevertheless, by the 1960s, according to the historian Paul Johnson, the Catholic priesthood was back to its pre-war strength, and there were 50 percent more monastic foundations, priories, and convents than before the war. Despite the disassembling efforts of Hitler and Stalin, more than 90 percent of the Polish population continued to practice Catholicism and to be buried according to Catholic rites. And when Pope John Paul II, formerly Cardinal-Archbishop Karol Wojtyla of Cracow, the first non-Italian pope since 1522, returned to Poland for a visit in the late 1970s, the largest single gathering of human beings on the planet ever, 3.5 million people, congregated at Czestochowa to see him and receive his blessing.[45]

Faith in a given religion, and the faith-state itself, is not derived solely from a self-interested desire for immortality. As William James points out, it also arises from an inherent love of life and a desire for "a larger, richer, more satisfying life." In Allen's film *Hannah and her Sisters*, Mickey decides that he wants to convert to Catholicism. His reason for doing so, he tells Father Flynn, is that, "I gotta have something to believe in, otherwise life is just meaningless." They have the following conversation:

> *Father Flynn* : But why did you make the decision to choose the Catholic faith?
>
> *Mickey* : Well, you know--first of all, because it's a very beautiful religion. It's very well structured. Now I'm talking now, incidentally, about the against-school-prayer, pro-abortion, anti-nuclear wing.
>
> *Father Flynn* : So at the moment you don't believe in God.
>
> *Mickey* : No and I want to. You know, I'm willing to do anything. I'll, you know, I'll dye Easter eggs if it works. I need some evidence. I gotta have some proof. You know, if I can't believe in God, then I don't think life is worth living.
>
> *Father Flynn* : It means making a very big leap.

Belief in a transcendental personal God requires a leap of faith. Not only is there no empirical, scientific evidence or logical proof to support such a belief, but Schopenhauer, and other philosophers, point out that the concept of God as it has come down to us in the Judeo-Christian tradition is logically incoherent. On the one hand, God is omnipresent and omniscient and yet He is nevertheless supposed to have a particular, personal identity. He is eternal and permanent and unchanging and yet He supposedly has a temporal manifestation and reacts to events in the world. And then there is the problem of evil and the need for theodicy—the doctrine that explains and vindicates the existence of evil in a world supposedly ruled by an omnipotent, benevolent God. As Konstantin Kolenda, a philosopher at Rice University puts it, "How does the infinite reach of God's power fail to prevent evil, [and] why does the perfect reality of God require the existence of an imperfect world?"[46] Woody Allen juxtaposes these incongruities with telling effect in his work. Boris, for example, in *Love and Death* recalls this vision: "I was walking through the woods thinking about Christ. If he was a carpenter, I wondered what he charged for bookshelves." In Allen's short story, "Notes from the Overfed," the fat person narrator is asked, "Do you believe in God? And if so, what do you think he weighs?" He replies that he does not believe in God. Shocked, the questioner says, "There is a God, despite what you think, and He is everywhere." The fat man ponders this statement overnight and then comes upon this insight: "If God is everywhere, then He is in food, I had concluded… Therefore, the more I ate the godlier I would become."

In "Mr. Big" a physics professor kills God. Science, epitomized by modern physics, has killed the father God that humankind needed and loved. It is hard to summon the requisite faith to believe in God when we now know that we are derived from microscopic single-cell bacteria that existed on this planet three and a half billion years ago; and that our sun, in an inconspicuous part of an undistinguished galaxy, is going to burn out in about five billion years. In Allen's film *September*, a physicist who worked on the atomic bomb project is asked, "Is there anything more terrifying than the destruction of the world?" He replies that, yes, there is something more terrifying:

> The knowledge that it doesn't matter one way or the other. It's all random, created aimlessly out of nothing and eventually vanishing forever. I'm not talking about the world. I'm talking about the universe. All space, all time just a temporary convulsion. *Haphazard, morally neutral,* and *unimaginably violent.*

Where, indeed, does a theistic God, one who both creates and rules over the universe, fit into this scheme of things? It is very hard for a knowledgeable person at the end of the 20th century to summon the requisite faith to believe in such a God and to accept the scriptural doctrines of a theistic religion. Schopenhauer puts it this way:

> Religions are like glow-worms in that they need darkness in order to shine. A certain degree of general ignorance is the condition of all religions, is the only element in which they can live. On the other hand, as soon as astronomy, natural science, geology, history, knowledge of countries and peoples spread their light everywhere and finally even philosophy is allowed to have a word, every faith founded on miracles and revelation is bound to disappear, whereupon philosophy takes its place.[47]

Schopenhauer, of course, being quite egocentric himself, felt that it would be *his* philosophy that would take religion's place. And to some degree he was right because the quasireligious movements of the Beat Generation and the New Age Movement, which have replaced traditional religious beliefs for some people in our culture during the last half of the 20th century, are a direct outgrowth of his philosophy. These movements are derived from Schopenhauer's contention that human beings can *intuitively* appreciate, albeit in a necessarily ill-defined and non-rational way, the true nature of the world at its deepest level.

Schopenhauer scoffed at the possibility that there might be a transcendent, supreme Being that watches over us and reacts to events in the world. Regarding such religions, particularly Judaism, Christianity, and Islam, he writes:

> Perhaps even the time, so often prophesied, will soon come when in Europe mankind bids farewell to religion, like a child who has outgrown his nurse and whose further instruction now devolves to

> a private tutor. For there is no doubt that religious doctrines based merely on authority, miracles, and revelation are an expedient that is appropriate to the childhood of mankind.[48]

Schopenhauer considered himself to be that tutor. God, for him, is not a transcendent personal deity, a Yahweh, or Great Mother, or a Primal Hermaphrodite. According to him, *God* is another word for the Noumenon, for the universal oneness of ultimate reality. He writes, "To call the world *God* is not to explain it, but only to enrich the language with a superfluous synonym for the word *world*." Schopenhauer goes on to point out that it is misleading to use this term in an impersonal, pantheistic sense to describe the noumenal world because the word *God* has inescapable anthropomorphic connotations. This word, he says, is not only superfluous, but it is also an inappropriate synonym for the word world.

But can we be *entirely* sure that there is in fact no personal God who is concerned with human affairs and gives meaning to our lives? In Allen's *Love and Death*, Boris and Sonia have this conversation:

> *Boris*: What if there is no God? What if we're just a bunch of absurd people who are running around with no rhyme or reason?
>
> *Sonia*: But if there is no God, well then life has no meaning. Why go on living. Why not just commit suicide?
>
> *Boris*: Well, let's not get hysterical. I could be wrong. I'd hate to blow my brains out and then read in the paper that they've found something.

It is interesting to note that Allen makes the agent of God's destruction in "Mr. Big" not only a scientist but also a voluptuous Venus. She kills God in order to win her lover's complete loyalty. Our ancestors worshiped a female God until very recently. Human beings have worshiped a male God for only the last four or five thousand years in our modern species' 100,000 year history. In "Mr. Big" it is the Goddess in a modern guise as a sexy Bryn Mawr physics professor, who with the help of the weapons of modern science slays the patriarchal God, variously known in the world's great religions as Jahweh, Christ, Allah, and Vishnu. She wants to re-establish the undivided devotion

of her student-of-Schopenhauer jazz musician by getting rid of this usurper. And then she hires a detective to confirm that God—the male version that is—is in fact dead. But in "Mr. Big" not only the male God but the Mother Goddess herself winds up getting killed.

This parable of the human search for God also points out that a priestly hierarchy can relatively easily manipulate believers of an organized religion. Authorities of an organized religion seek to obtain the devotee's loyalty and submission through such trappings as the Pope's red outfit and the confessional. Religious leaders, like all other types of human beings, can be hypocritical and self-serving. Television evangelists are especially adept at exploiting their followers. Leaders of an organized religion can disguise a strong motive of self-interest with earnest piety and thereby find easy pickings among their gullible and trusting followers. The Reverend Ike, a TV evangelist, for example, claimed that God returns His blessings in direct proportion to the amount of money that a person sends to his television ministry.[49]

In Allen's short story "Nefarious Times We Live In," we are introduced to the Reverend Chow Bok Ding, "a moon-faced charismatic who combined the teachings of Lao-tze with the wisdom of Robert Vesco." His "ardent proselytizers" explain that the Reverend has two modest goals. One is to instill in all his followers the values of prayer, fasting, and brotherhood, and the other is to lead them in a religious war against the NATO countries. We also learn that the Reverend was sued by a fifteen year old Maharishi over the question of which of them was actually God and therefore entitled to free passes to Loew's Orpheum.[50] As Allen shows us so well, our religious leaders, irrespective of whatever mystical revelations they may have, are nevertheless human beings, and they are also guided, to varying degrees, by the all pervasive motive of self-interest—and its consequent deception and pretense.

Schopenhauer describes the vulnerability of the faithful believer to manipulation by religious authority figures as follows:

> The fundamental secret and cunning of all priests, at all times and throughout the world, whether they be Brahmins or Mohammedans, Buddhists or Christians, are that they have rightly recognized and understood the great strength and ineradicability of man's metaphysical need. They now

> pretend to possess the means to satisfy this by saying that the word of the great riddle has in some extraordinary way reached them direct. Once men have been talked into this idea, the priests can guide and control them at will.[51]

In this regard, Judge Robert Potter, in sentencing the TV evangelist Jim Bakker to prison for fraud said, "Those of us who do have a religion are sick of being saps for money-grubbing preachers and priests."[52] One of the most chilling examples of the control that preachers and priests can exert occurred in Guyana in 1978, where the Reverend Jim Jones ordered the mass suicide of an entire village of his followers. He ordered more than 900 people, many of them children, to queue up and drink, in turn, a cyanide-tainted punch that was dispensed by assistants from a large vat. Many of them stood in line sobbing as they waited their turn and watched their family members and friends rapidly succumb to the fatal effects of the cyanide.

One thing is clear. Humanity has a compelling *metaphysical need,* as Schopenhauer terms it. It is manifested by a yearning for a Supreme Being. We have a strong, deep-seated need to believe that we are connected to a higher spiritual plane that lies beyond our day-to-day mortal world. This higher spiritual plane, humans need to believe, is connected to a deeper level of reality—a level of reality that goes much deeper than the one we live in in our individualistic, self-serving world.

The concept of a Mother Goddess was the first manifestation of the human yearning for a deeper, more meaningful level of reality.

More recently, humankind has worshiped a father God; and it led to the formation of the great religions of Judaism, Christianity, Islam, Hinduism, and Buddhism. These religions teach us, however, that the search for God is best carried out within the unconscious inner core of our being. They tell us that the search for God must be conducted within the inner world of the human soul. Christianity tells us, "The Kingdom of God is within you;" or as St. Paul puts it, "It is not I that lives, it is Christ that liveth in me." Islam teaches, "He who knows himself, knows his Lord." Hinduism says, "Atman [individual consciousness] and Brahman [universal consciousness] are one." And Buddhism teaches, "Look within, thou art the Buddha."

This approach of looking inward into the innermost core of our own being, into our unconscious inner core, has been a special feature of American intellectual thought over the last two centuries. It began in the 1700s when the Calvinist theologian and philosopher Jonathan Edwards expounded his concept of *aesthetic spirituality*. He believed that "a Divine and Supernatural Light [is] immediately imparted to the soul by the Spirit of God."[53] In the 1800s Ralph Waldo Emerson taught that the "the Divine principle lurks within," and he argued that the deeper levels of the unconscious are inherently spiritual, "wherein, as a firmament, the natures of Justice, Truth, Love, Freedom arise and shine."[54]

The idea of an unconscious mind was formulated by Europeans, at least—Australian aboriginals, Africans, native Americans, and Haitian voodoo priests probably knew about it sooner—in 1774 when Franz Anton Mesmer discovered "animal magnetism," better known today as hypnotism. He and his student the Marquis de Puysegur induced a sonambulic, or "mesmerized," state of consciousness in their subjects to treat various illnesses. They untapped a rich stratum of mental life that exists beneath the threshold of ordinary consciousness. Mesmerists, as they were then called, held well-attended public demonstrations of this trance-like state, and hypnotism evoked a great deal of interest in both Europe and America. Schopenhauer followed the developing science of animal magnetism closely.[55] He believed that its "marvels" could help make known to us the innermost reality that lies beyond the framework of space-time-causality. In Europe, this discovery culminated in Freud's view of the unconscious as consisting principally of libidinous and pleasure-oriented drives. A normal person censors and dissembles these drives by a variety of psychological defense mechanisms. These include the now well-known defense mechanisms of repression, rationalization, projection and sublimation. In America, influenced by the teachings of Emerson, Mesmerists came upon the idea that the farther reaches of the unconscious mind encompasses not only sexually based instinctual processes, but also metaphysical and spiritual realities. They saw the deeper levels of the unconscious as an inherently spiritual, transpersonal realm. They looked upon the unconscious mind as a conduit for mystical union with a transcendent spiritual order.[56] William James explored this aspect

of the unconscious in his seminal work, *The Varieties of Religious Experience,* published in 1902. Humanistic psychology and Transpersonal psychology are two recent manifestations of this American view of the unconscious, with its religious connotations.

In addition to hypnosis, the unconscious mind can be explored through a number of different avenues. These include drawings, dreams, myths, and mystical experiences. Drawings can reveal much about the unconscious life of the mind, as Bernie Siegel, the Yale surgeon, shows so well in his widely read book *Love, Medicine, and Miracles*. Dreams, plumbed by psychoanalysts, provide important insights into the unconscious mind; and myths are what the mythologist Joseph Campbell terms "the world's dreams." But a number of thoughtful observers of the human condition tell us that mystical experiences unlock the innermost door to the unconscious core of our being.

A mystical experience can be defined as a fleeting, non-rational, self-surrendering state of mind where one experiences an ecstatic sense of communion with Ultimate Reality. Those who experience it say that this intense spiritual experience provides insights into a much deeper level of truth than that obtained by rational thought and conceptual analysis. Jean Lanier, a spiritual counselor and gestalt therapist, gives this description of a mystical experience:

> Flashes: St. Teresa, St. John of the Cross… Feelings of oneness, feelings of flight, feelings of groundedness, seeing into, seeing beyond, ineffable, inexpressible, indescribable. The One. The Three in One. The All in One...
>
> ...Something in me burst into light--and this is the part that is indescribable (for was it in words, was it a feeling, was it a Voice?)--and I *knew* that *God is Love*. I cannot put into words the sense of exaltation, or peace. Neither can I put into words the feeling of lightness, of clarity, of purity that invaded me.[57]

A mystical experience is *ineffable*. This means that words, based as they are on symbolic, rational concepts and metaphors, cannot convey the full meaning and impact of this experience. Mystics use paradoxical and self-contradictory phrases like "whispering silence" and "grounded flight" when they try to describe this experience. A mystical experience also has what William James terms a *noetic quality*—a sense that one has

gained an insight into depths of truth that cannot be plumbed by the discursive intellect. The "knowledge" obtained is intuitive and direct, and it carries with it a certain sense of authority. It is not the standard subject/object, dualistic, conceptual kind of knowing that we generally think of as "knowledge." The mystic eschews this kind of intellectual knowledge and instead gains a "holy fool's" heart-wisdom that lies beyond the reach of rational thought. The mystic cultivates an altered state of consciousness where the confines of time and space are overcome. As Francis Vaughn describes it, "Time disappears into the eternity of the present instant, and one is nowhere and everywhere simultaneously."[58] Other terms that have been used to describe this state are *Rapture, Revelation, Satori, Enlightenment, Peak Experience, Samadhi, the experience of Being, Cosmic Consciousness,* and *Transcendental Consciousness.* William James writes that mysticism is "the mothersea and fountainhead of all religions." Moses, for example, came to lead Isreal out of bondage after he encountered the Holy in a burning bush, and St. Francis of Assisi gave up his worldly possessions and began his unique career as "God's fool" following an intense mystical experience. Julien Green describes St. Francis' experience in *God's Fool: The Life and Times of Francis of Assisi* this way:

> Francis felt that mad joy of the convert who sees the world vanish before his eyes. Where was he? Had he been able to talk, he would not have found the words to say—human language no longer made sense. All notions of time and space faded away. He had no more awareness of his own identity. He was simply lost, swallowed up in indescribable happiness.

By all accounts it is a captivating, powerful, and exhilarating experience that can lead to a reordering of life's priorities. Arthur Koestler nicely describes the close connection of this spontaneous, self-transcending spiritual state with established religions, as follows:

> Because the experience is inarticulate, has no sensory shape, color, or words, it lends itself to transcription in many forms, including visions of the cross, or of the goddess Kali; they are like dreams of a person born blind... Thus a genuine mystic experience may mediate a *bona fide* conversion to practically any creed, Christianity, Buddhism, or Fire-Worship.[59]

It turns out that such experiences are not all that rare. Investigators have found that about one-third of the adult American population have had at least one intense spiritual experience where they have felt themselves in the presence of a spiritual force that lifted them outside of themselves. Approximately half of these people have had such an experience on more than one occasion. Mystical experiences most commonly occur when a person is listening to music. Other frequently reported triggers are prayer, observing the beauty of nature, quiet reflection or meditation, and attending a church service. One well-designed study showed, however, that only about one in a hundred people who have had an intense spiritual experience actually have had what they term a "genuine" mystical experience. Such an experience is said to include the following: a sense of the ineffable; a feeling of oneness with God, nature, or the universe; a changed perception of time and surroundings; and a feeling of "knowing" coupled with a reordering of life's priorities.[60]

I have had several "intense spiritual experiences" in my life. Mine have occurred when listening to music, particularly the operas of Wagner, and observing the beauty of nature. One such experience, which I still remember vividly, occurred on a glorious spring day in a park in Boston when I was a third year medical student, lying on a blanket after a picnic lunch with my girlfriend resting next to me. But I personally have never had what these investigators would describe as a life-reordering "genuine" mystical experience.

Mystics tell us, like Schopenhauer, that the Noumenon is one and undifferentiated, that the thing-in-itself is an integrated and unified whole. And they recognize that each human being is "at one" with each other and the world in some very deep and ultimate way. They tell us that the boundaries of the self are ephemeral and illusive, that achieving a unitive state, an at-one-ment, or atonement, is the most desirable of all conditions, even though it entails the dissolution of the self.

The intense spiritual experience that most us can have and have had with sex is closely allied with the mystical experience that only a very few people have had. In Woody Allen's play *God*, when Doris is told that there is no God, she says:

> But without God, the universe is meaningless. Life is meaningless. We're meaningless. [Deadly pause]. *I have a sudden and overpowering urge to get laid.* [Italics mine]

Her sexual impulses reassure her that her informer is wrong. God does indeed exist. She knows intuitively that by getting laid she can refute the statement that there is no God. She has an inner sense that tells her she can find God through sex, the God of Universal Oneness, that is.

One of Richard Wagner's biographers, Michael Tanner, is of the opinion that the opera *Tristan and Isolde* "is one of the two greatest religious works of our culture," the other one being Bach's *St. Matthew Passion*. The intense yearning that Tristan and Isolde have for each other has a religious character to it. Their "rhapsodic striving" for union, for an all-embracing oneness is propelled by sexual love. Their loss of self-identity in an ultimate merging with the other has a redemptive quality to it. Their desire for unity takes them to the Noumenon, to the God of Universal Oneness.

Schopenhauer identified four pathways that can lead us to the Noumenon. These are sex, compassion, mysticism, and music. As one might by now expect, these four facets of the human condition are interconnected. Behavioral scientists tell us that listening to music most often triggers a mystical experience. Mystics tell us that "All is One" and "God is Love." Lovers wrapped together in the passion of sexual intercourse can have the powerful feeling come over them that they are two halves of the same person. They can experience an intense blissful exhilarating sense of oneness. For them, also, God is Love, experienced through sexual love. And compassion—unconditional love in its broadest sense—comes from the same place.

One direction that a person can take to find God is to embrace the gospels, scriptures, and doctrines of an organized religion with a "big leap" of faith. Another way, which Schopenhauer described, is to plumb the inner core of our being through intuitive perception. In the second half of the *20*th century, this self-assessing, and ultimately self-transcending approach brought about in American culture the quasi-religious movements of the Beat Generation and the New Age movement.

Following the Holocaust and other atrocities committed during the Second World War, group of disaffected Americans initiated a social and literary movement known as

the Beat Generation. They were the first generation in our society who became subject to peacetime military conscription. They were also the first generation of young Americans who had to confront the stark possibility that two powerful nation-states, which might someday be at war with each other, possessed enough weapons of mass destruction (nuclear bombs) to possibly destroy the world. This movement, which presaged the hippie movement of the 1960s and the "Me Decade" of the 1970s, was begun by a small group of writers and their friends in New York. They expressed their alienation from mainstream American society by seeking enlightenment and a new sense of values through sex, drugs, modern jazz, and forays into Eastern mysticism.

The two main spokesmen for this Cultural Revolution were classmates at Columbia University in the 1940s. They became friends there before one dropped out and the other was suspended. These two spokesmen were Jack Kerouac, a ruggedly handsome, athletic French-Canadian novelist from Lowell, Massachusetts, and Allen Ginsberg, a flamboyant, visionary Jewish poet from Paterson, New Jersey. (Other notable writers of the Beat generation include William Burroughs, Lawrence Ferlingetti, Geogory Corso, Michael McClure, Gary Synder, and Diane DiPrima.)

In the 1950s the center of the Beat movement shifted to San Francisco, and it came under nationwide scrutiny following the publication of Ginsberg's *Howl and other Poems* in 1956 and Kerouac's novel *On the Road* in 1957.[61]

To place some perspective on the importance of this movement, a rare book catalogue in 1998 offered a copy of *On the Road,* a First Edition in fine condition, for $5,500.00. When it was published in 1957 the same hard cover first edition retailed for $3.95. The bookseller describes this book as follows: "This novel may well lay claim to being the most influential of the post-war. Its portrayal of rebellion against convention affected a generation and changed popular culture, and through that, altered politics and about everything else. Call it credit or call it blame, depending on your view. In any case it represents the trunk of a family tree leading to Bob Dylan, the Beattles, drugs, Vietnam War protest, long hair, the sexual revolution, Woodstock, *Easy Rider, Bonnie and Clyde,* dress-down days, and a President who claimed he didn't inhale."

The central figure and guiding light of this movement was, not Kerouac or Ginsberg, but Neal Cassady, an energetic, sensual, fast-talking, bisexual, compassionate con man from Denver, Colorado. In Ginsberg's poem "Howl," Neal Cassady, as N.C., is the "secret hero of these poems," the celebrated "cocksman and Adonis of Denver" whose ultimate purpose in "ecstatic and insatiate" copulation is to achieve spiritual enlightenment. In the poem, it was Cassady, with his irrepressible energy and spontaneity, "who talked continuously seventy hours from park to pad to bar to Bellevue to museum to Brooklyn Bridge." In Kerouac's *On the Road*, Cassady is Dean Moriarty, the main character in the novel, who's "got the secret we're all bursting to find." This photograph shows Neal Cassady, on the left, with Jack Kerouac in their early days together. Kerouac called him a "new American saint," who introduced him to the religion of *IT*, a self-transcending attainment of synchronization with the Infinite Present and the Eternal Now. Dean [Cassady] says, "You can't make it with geometry and geometrical systems of thinking. It's all *this*." For the Beats, the *this* is found through such activities as digging the riffs of the bop saxophonist, orgasms, drug-induced mystical states of consciousness, and a compassionate, ecstatic affirmation of existence which is expressed by the repeated Beat refrain of "YES."

Neal Cassady grew up in the slums of Denver. He dropped out of school after the eighth grade, hung around pool halls and stole cars, and by the time he met Kerouac and Ginsberg in New York, at the age of 20, he had spent more than a year in jail. But as a teenager he also spent afternoons in the public library reading Schopenhauer and Proust. A leading attorney in Denver befriended him and helped to guide him in these pursuits. Cassady particularly liked Schopenhauer, his biographer William Plummer writes, because he was "the philosopher who portrayed man as a creature of will and desire rather than intellect."[62] Gregory Stephenson, in his analysis of the literary legend of this figure, makes this observation about Cassady, as Kerouac portrays him in *On the Road*:

> He is energy, both positive and negative. He can be benevolent, libidinous, sage, or baleful. Always he operates beyond the boundaries of rational consciousness. In the manner of a mystic, he can communicate directly with such other surrational persons as the idiot girl with her visions, the ecstatic spastic in the Denver bar, the wild, sweating bop musicians, and the fellahin of Mexico

> whose spoken language he does not know. Dean is as protean, as powerful, and as unknowable as the human subconscious mind with which he may be identified as a votary, a prophet, and as an embodiment of its energies and mysteries.[63]

The term *beat* originated with Herbert Huncke, a petty thief, drug addict, hustler, and street philosopher who hung around New York's Times Square. He introduced the term to Kerouac who used it first in his first novel *The Town and the City.* Someone who is beat, as Huncke views the term, has become beaten-down and relegated to the margins of society—like hookers, junkies, hobos, drag queens, and poor blacks in the South. A university student becomes beat when she identifies with society's castoffs and rejects traditional values that put a premium on such things as a career, marriage, status and possessions. For Kerouac, *beat* also has a beatific element, a blessedness that arises from the illumination about the true realities of life that one gains being in this state. For Kerouac and his group, being beat has religious significance.

Jack Kerouac once said, "The Beat Generation is basically a religious generation." He said "we are in the vanguard of the new religion." He called the Beats a "seeking generation" that is on a spiritual quest. When asked, "What are you looking for?," he replied, "God. I want God to show me His face." Neal Cassady was the high priest, or shaman, of this quasireligious movement. Kerouac saw Cassady as a visionary and potentially redemptive figure, a "HOLY GOOF." (As the bus driver for Ken Kesey's legendary Merry Pranksters, Cassady was also a central figure in the hippie movement, where he was given the name "Speed Limit"). Allen Ginsberg described him as "the ultimate psycho-spiritual sexocock jeweo fulfillment." At its very roots, the Beat Generation searched to find *IT*, the (impersonal) God that is Ultimate Reality.

Jack Kerouac, the leading exponent of the movement, died at the age of 47 from the ravages of chronic alcoholism (he bled to death from ruptured esophageal varices, a complication of alcohol-induced liver cirrhosis). And Neal Cassady collapsed and died at the age of 42, from acute alcohol and amphetamine intoxication while walking along some railroad tracks in Mexico. He had set out to count the number of railroad ties along a 15-mile stretch of track between two towns, and his last words were said to have been, "64,928."

I was 17 years old when *On the Road* was published. I played the saxophone in a high school jazz group. My sympathies sided with the Beats, although I was sufficiently part of the "establishment" to steer a course to college and medical school. But my interests in this movement remain, and I have acquired an extensive collection of Beat literature, including the original manuscript of one of Kerouac's novels and a letter that Neal Cassady and his wife Carolyn wrote to Jack.

The New Age movement is the most recent secular attempt in American culture to find God. It bears some resemblance to the New Thought movement that thrived in American culture in last two decades of the 19th century. The two leading exponents of this earlier movement were Warren Felt Evans, who expounded the doctrine that we can "come into direct and immediate communication with God" through our unconscious mind, and Ralph Waldo Trine, who in 1897 wrote:

> In just the degree that we come into a conscious realization of our oneness with in the Infinite Life, do we make ourselves channels through which the Infinite Intelligence and Power can work. In just the degree in which you realize your oneness with the Infinite Spirit, you will exchange dis-ease for ease, inharmony for harmony, suffering and pain for abounding health and strength.[64]

The New Age movement, like the New Thought movement a century before it (and Schopenhauer's philosophy before that), is based on the premise that there is a transpersonal realm to our unconscious minds. This realm encompasses a spiritual dimension to reality that cannot be plumbed by rational thought and the objective experimental methods of science. New Age exponents argue, like Schopenhauer, that one can appreciate ultimate reality only through non-rational intuitive perception and mystical experiences. This movement achieved a widespread popularity following the publication of Marilyn Ferguson's book *The Aquarian Conspiracy* in 1980, which promotes a world view of holistic, ecological interconnectedness.

A wide range of pseudoscientific beliefs and attitudes carry the New Age banner, such as trance channeling, reincarnation, out-of-body experiences, healing with crystals, various meditation techniques, UFO abductions, altered states of consciousness, precognition (awareness of events of the future), and psychokinesis (the power of the

mind to move objects).[65] But the basic paradigm of this movement is that everything is one vast interconnected process. Or, more simply, all is one. The New Age God is a pantheistic cosmic oneness, which is also termed Ultimate Reality, Higher Self, Cosmic Christ, and Ultimate Unifying Principle. It is an amalgam of the Eastern mysticism of Hinduism and Buddhism, American psychological thought "from Edwards to Emerson to James" on the spiritual nature of the unconscious, and of a potpourri of more recently developed ideas. These include Abraham Maslow's "self-actualization," the Maharishi Mahesh Yogi's "transcendental meditation," and M. Scott Peck's "the unconscious is God." Like the Beat Generation before it, the New Age movement is basically a religious movement. Converts seek to "actualize" their divine nature and achieve union with God by employing various consciousness-altering techniques. The religion writer Russell Chandler lists some of the "psychotechnologies" that can trigger such a transformative experience as follows:

> Meditation, Yoga, chanting, mood-altering music, mind-expanding drugs, esoteric systems of religious mysticism and knowledge, guided imagery, balancing and aligning "energies," hypnosis, body disciplines, fasting, martial arts, mechanical devices that measure and alter bodily processes, and mental programs ranging from contemporary psychotherapies to radical seminars designed to obliterate former values and inculcate the New Age mind-set.[66]

New Age converts, in essence, are seeking new forms of religious experience. And like the devotees of established theistic religions, they are also prone to manipulation by self-serving leaders and shamans of this quasireligious movement. One such leader, J. Z. Knight of Yelm, Washington, became famous among New Age followers in the 1980s for allegedly being able to channel messages from Ramtha, a 35,000 year old warrior from the lost continent of Atlantis. The message from Ramtha, she said, was, "God is within." According to one TV report, she earned up to $200,000 in a single appearance channeling Ramtha.

An important reality of life is that our species' religious impulse, which gives rise to our sense of the sacred, is a strong force. Primitive hunter-gatherer bands and technologically modern societies alike must reckon with it. As Gordon Alport puts it, "Religion, like sex, is an almost universal interest of the human race." [67]

In his search for God, the detective in "Mr. Big" says, "What if Kierkegaard's right?...If you can never really *know*. Only have faith." With regards to a personal God, one would be hard put to say that Kierkegaard is wrong. But we *can* intuitively, at least, "know" that there is a God of Universal Oneness that lies at the root of everything. Intuitively derived knowledge is not "scientific," that is, it is not rationally coherent nor is it consensually verifiable. Intuitive knowledge is what one observer terms a "*sur*rational" form of knowledge, a "direct perception," as Schopenhauer puts it. It is independent of any reasoning process. It is a blind, "holy fool's" form of knowing. But one should not dismiss it, as the critic Brendan Gill, who writes for *The New Yorker*, prefers to do, by branding it a "no man's land of nonreason."[68] Each one of us can intuitively apprehend the God of Universal Oneness both through sex and compassion. Mystics can gain a further appreciation of this deeper world through their intense spiritual experiences. And they tell us that *God is Love*, which is in keeping with Schopenhauer's views on the importance of *compassion* in such matters

This account of the rock bottom reality of things, however, does not fully satisfy our metaphysical needs and assuage our fear of death. A compassionate Universal Oneness is one thing, but this kind of "God" will not satisfy our desire for a continued individual existence after death. It stands in silent indifference to our transient, personal existence. We have a deep-seated need to form a covenant with a supernatural Being who can grant us immortality, one who can enable our essence, our soul, our spirit—or whatever one might prefer to call it—to somehow live on after the physical death of our bodies. Stonewall Jackson believed that death in battle defending his beloved Confederacy would be rewarded with everlasting life in heaven. In an attempt to escape the oblivion of death we worship a God (or a Goddess) in specially built sanctuaries, in a sacramental manner. This metaphysical need is a very important component of our psychological makeup, as G. Stanley Hall pointed out early in the 20th century. He writes:

> As Freudians find sex, so our analysis finds religion at the root of all. Religion is a passion of the soul comparable in universality and intensity with sex... As the root impulse of sex is to propagate another generation, so the root impulse of religion is to prolong the life of the individual by getting

> his soul born into another world. Both are forms of Schopenhauer's will to life, which is the Brund-Trieb of all life.

Belief in a supernatural Being arises, in part, from a numinous reaction to the fear of death. Even though we feel a deep-seated need for a divine providence, we nevertheless cannot know for certain if there really is a *personal* God or Goddess that we can relate to. In the search for God, it requires a leap of faith to claim the existence of a *personal* God. In any event, I will continue to happily accept the prayers of a patient's loved ones, prayer groups, and church congregation for a successful outcome with surgery. And in the uncommon instances when the patient does not survive, I will always be grateful to the chaplains, reverends, priests, and rabbis who provide solace and minister to the grieving family.

5

The Metaphysics of Music

There are no wrong notes.
Thelonious Monk

One of my most memorable nights at the theater was a new production by the Seattle Opera of Sergei Prokofiev's *War and Peace*, an opera based on the novel by Tolstoy. General director Speight Jenkins mounted this widely acclaimed production in 1990 during the Goodwill Games with the former Soviet Union that took place in Seattle that year.

What happened at the nine performances of this work, which Manuella Hoelterhoff of *The Wall Street Journal* described as one the most "poetic and powerful" productions that she had seen in a long time, was remarkable. Many people who went to see this four-hour-long work were not regular operagoers. They went, some with trepidation, primarily because it was part of an arts festival that was connected with the Goodwill Games.

When the curtain went up the audience knew right away that they were in for a treat. It was the most expensive single production Seattle Opera had ever done, and the sets and costumes showed why. They were splendid. The ball in Scene Two was stunning. The music was poignant and lyrical. Julian Patrick in the role of Napoleon sat imperiously in his red tunic on an elevated platform at his headquarters, eating his dinner and drinking his vintage wine while he received reports from his generals. People who

did not particularly relish the prospect of sitting through a long, rarely performed twentieth century Russian opera with a large cast of characters got caught up in it. There was very little audience coughing. No one fell asleep. One lost track of the passage of time, and many in the audience were surprised to find, when it was over, that more than four hours had elapsed.

Although set in the time of Napolean's invasion of Russia in 1812, the audience soon realized that this opera was something more than just a story about some long ago war in Russia. One got the feeling not that it was about events that affected specific people at a particular point in time but was rather a work about all of us, at all times. The audience was transported from the confines of one's individual self into a larger community. I suspect that there were few people who were able to get through the performance of this fully realized opera without shedding tears. When in the final scene the massed chorus of two hundred and twenty pressed down a stage raked towards the audience, with arms outstretched and fists clinched, singing "We've faced death for the Fatherland, and we've saved it with our blood.... Day of joy, arise our country, thou art delivered," an audience of 3,000 and the performers, if only for a few moments, merged, with their separate identities forgotten. At that moment of transcendence we all became a *genuine* community, audience and performers alike. As the Kremlin's bells rang (the Russian conductor had made a tape recording of the actual bells in the Kremlin) and the chorus was singing its final affirmation of deliverance, the entire audience rose in unison to its feet and let out a collective roar. This is what art, at its best and most profound, can do to and for human beings.

The jazz pianist Bill Evans was asked, "What is it all about, this music that mankind makes? What is it for?" He answered:

> I don't want to express just my feelings. All my feelings aren't interesting to everybody. My creed for art in general is that it should enrich the soul; it should teach spiritually by showing a person a portion of himself that he would not discover otherwise... That's the real mission of art. The artist has to find something within himself that's universal, and which he can put into terms that are communicable to other people. The magic of it is that art can communicate this to a person without his realizing it. Enrichment, that's the function of music.[69]

According to Bryan Magee, and other scholars, there are three principal features of an aesthetic experience: 1) seeing the *universal in the particular*; 2) having a sense of *time standing still*; and 3) a feeling, if only for a moment, of *being taken out of oneself and of no longer being a separate entity*.

When contemplating great art the spectator is able to see individual things in all the fullness of their universal significance. Kant used the term "aesthetic universality" to describe this feature of the aesthetic experience, which he distinguished from the "objective validity" which belongs to our analytical scientific judgements.

Our sense of time is a species-specific biological software application that we use to view the world. According to Kant and Schopenhauer, time—past, present, and future—as we perceive it, is not part of the basic reality of things. When we contemplate a powerful work of art, one that goes deep into the heart of things, it should therefore not surprise us that we have a feeling of time standing still. I have this feeling when I contemplate a painting by Van Gogh. His work has a tenseless, ethereal permanence that seems to exist outside the boundaries of time. Three thousand people experienced this sense of time standing still together at that wonderful performance of *War and Peace* I heard in Seattle in 1990.

The music critic Andrew Porter describes the profound effect that inspired productions of great operas can have on the spectator. He attended the new production of Gluck's *Orpheus and Eurydice* mounted by Seattle Opera in 1988. In his review, which appeared in *The New Yorker* magazine, he wrote:

> They [inspired productions of great operas] touch the heart of a listener's being; reveal music's power to sound every string of a psyche; make the theatre what it should be, a place of, at once, ecstasy, entertainment, and moral and political enlightenment; and join the spectators with all those who through twenty-five centuries have discovered in contemporary stage enactments of the ancient myths new ways of understanding the world they live in.[70]

Operas based on historical events like Prokofiev's *War and Peace* and Handel's *Julius Caesar* can do the same thing. I will always remember the New York City Opera's production of this rarely performed Handel opera in the late 1960s, starring

Beverly Sills and Norman Treigle at the height of their powers. When they sang their duet, she on one side of the stage slowly walking up a set of stairs and he on the opposite side of the stage walking up a matching set of stairs, I felt like I was being pulled out of myself into the middle of their glorious enveloping sound and that I was at that moment no longer a distinct and separate individual. As I sat in the back row of the orchestra, uninterrupted by emergencies, the singing of these two great artists in this magnificent new production touched my heart.

Among the arts, Schopenhauer thinks that music is the most important. That is certainly the case for me personally. This judgment is not original with him. The Pythagoreans in the Greece of the sixth century BC and thinkers in ancient China and Egypt also considered music to be the most universal art form.

Music is intrinsically non-representational. The visual arts—architecture, sculpture, drawing, painting, collage, and photography—and the mixed media arts that have a visual component—song, dance, mime, drama, films, and opera—communicate insights into the beauty and universality of such phenomena as mass, extension, light, space, color, texture, balance, poise, and movement. The verbal arts—poetry and literature—articulate insights into the universal aspects of human character, our thoughts and feelings, and into human destiny. All of these aspects of the human condition are derived from perceptions of life and things in the material world. But according to Schopenhauer, the auditory art of music communicates insights directly from the Noumenon, the basic reality that underpins everything. Music gives us a keyhole glimpse into heaven, to paraphrase one writer on the subject. The age-old belief that music comes from another world is in essence correct. Music is a unique art form that we experience without the intermediacy of verbal or visual ideas.

In contrast to the more representational visual and verbal arts, the intuitive sense that music communicates comes to us via a language of unseen airborne vibrations. The conductor Willem Mengelberg puts it this way:

> The art of musical composition is the most abstract of all the arts. She is less bound than any of her sisters to tangible reality. In contrast with the plastic arts or with poetry, music originates

> neither from the material nor from the intellectually comprehensible; but is generated in the mystery of sound.[71]

The *New Grove Dictionary of Music and Musicians* is twenty volumes long and contains reams of detailed musical analysis, but as the music critic Bernard Holland puts it, "the words we weave around [music] offer our logic-bound minds a rational firmness of footing in a basically irrational art." Judgements as to the worth, beauty, and universality of a work of art, including music, rest ultimately on nonrational, intuitive criteria

Music is transmitted to our eardrums by vibrations of the gas molecules—nitrogen and oxygen, and a tiny amount of carbon dioxide—in the atmosphere. The airborne sound waves that hit the eardrum are mechanically transmitted through a chain of small bones into the inner ear where they are transformed into electrical signals. These signals are then carried by the auditory nerves straight to the root of the brain, to the brainstem, and from there up through the center of the brain directly to the highest levels of the cerebral cortex. Vision takes a more circuitous route. Electrical signals from the eyes travel first through the optic nerves to the back of the cerebral cortex and then down to the main nerve processing stations in the center of the brain. From there the signals go back up to the cerebral cortex. As Schopenhauer wryly points out, although we often see double with our two eyes, we never *hear* double with our two ears. Does the anatomic centrality of our sense of hearing give empirical justification to the intuitively held belief that music is the most important art form?

In vertebrate evolution from fish to amphibians to reptiles and then to mammals, hearing was the last sense receptor to fully evolve. While all amphibians, birds and reptiles have "ears" with which they can detect sounds, the development of this sense organ lagged considerably behind that of sight, taste, and smell. Our mammalian ancestors lived for many millions of years in fear of their predators, the dinosaurs. One important consequence of living among such fearsome predators was that these early mammals evolved a finely tuned hearing apparatus. Their acute, stereoscopic sense of hearing enabled them to gauge the location of their predators in the dark from the sounds that they made and thus safely forage for food at night. And now purely by chance, of

course, more than a hundred million years later, our highly developed mammalian sense of hearing, coupled to the big brain that our species has acquired, enables us to appreciate music.

Investigators have determined that the unborn child's sense of hearing is essentially fully developed by the third trimester of pregnancy. After the twenty-fourth week the fetus responds to an auditory stimulus in such measurable ways as kicking its legs, raising its heart rate, and blinking its eyes (this can be observed through the use of high-resolution ultrasound imaging). Before birth we float in the warm, dark security of our mother's womb tethered to an umbilical cord. Ultrasound imaging shows that the unborn child will actually grasp the umbilical cord and hold it with its hands.[72]

As all scuba divers can attest, sound conducts well in water, and this intrauterine environment is a relatively noisy place. We hear our mother's heart beating loudly in synchrony with the rhythmic whooshing sound of the blood flowing through her arteries, and we hear her respirations. The vibrations of her voice are also readily conducted through this watery "cradle."[73] Consequently, as the violinist Yehudi Menuhin so nicely puts it:

> [The baby] carries a sharp memory of that warmth, comfort and safety he knew in the aquatic womb. The mother's heartbeat remains deep within long after we emerge into the light of day, imprinted on us like our identity. We feel its loss and must replace it with other sounds.[74]

We replace the loss of the reassuring intrauterine sound of our mother's heart beat, with its constant repetition and promise of continuity, with the vibrating sound of our own voice—and with music. Presented with a choice, as studies have shown, a person will instinctively set a metronome ticking at a rate between 50 and 80 beats a minute, which lies within the standard range of the human resting heart beat.

The psychiatrist John Diamond surmises that "our first appreciation of music comes through the sounds of the mother, especially her voice and her lullaby." A mother talks to her baby in a special songlike voice, and Diamond contends that the genesis of music lies in the mother's communication with her baby. According to this observer—and others—the human appreciation of music starts in the mother's womb, with the

beating of her heart and the lilting vibrations of her voice. Soon after birth the infant hears the rhythmic and melodic sounds of her lullaby. These comforting and soothing cradlesongs that a mother sings to her newborn infant are found in the folk music of all cultures. Diamond writes:

> There is no sound more loving, more comforting, more divine, than the sound of the special voice that the mother uses for her baby. It is pure love...and out of it arises the basic and greatest of all songs, the lullaby... Music is part of the mother's world. It is the great therapy. Music invokes the divine love of the mother. It is her breath, her pulse, her spirit.[75]

Studies have shown that the newborn infant can indeed distinguish his or her mother's voice from that of other people. In one ingenious experiment, newborn infants were given a nonnutritive nipple that, by sucking it in different ways, enabled them to elicit either the voice of their mother, or that of another woman, reading a story. The newborn infants consistently would suck the nipple in such a way so that it would activate the voice of their mother rather than the stranger's voice.[76]

The language of music has three basic elements: *rhythm*, *melody*, and *harmony*. Rhythm is not unique to music, of course. It is also a basic element in various athletic activities, like running, and in a host of natural phenomena. Both the accented back beat of a rock drummer and the revolutions of planets around the sun are events that maintain a certain rhythm.

Irrespective of whether it is with sounds, arms and legs, or various natural phenomena, rhythm can be best defined as an ordered recurrence of events in time. Four rhythmic planetary events govern the patterns of existence for all earthly life: the 24-hour period during which the earth completes one rotation on its axis (it is slowing down, however; 500 million years ago when our ancestors left the oceans and invaded the land the earth's day was only 20.5 hours long); the diurnal ebb and flow of tides (due to the complex gravitational effects of both the moon and the sun on the planet's oceans); the 29.5-day lunar month, which is the time it takes the moon to make one complete revolution around the earth; and our 365.25-day year, during which the earth completes a single revolution around the sun. (The annual cycle of the four seasons is due to the fact

that the earth's axis is tilted in the solar orbit.) In addition to these near term planetary rhythms, our solar system as a whole is also subject to a series of cosmic rhythms. It bobs up and down through the plane of our galaxy one full cycle every 26 million years, and it makes a single revolution around the center of the galaxy approximately once every 250 million years. Likewise, the throb of life is governed by a number of biological rhythms. Along with the internal pacemakers that regulate our breathing and heart rate (and other "biological clocks" of varying duration), we are notably subject to circadian rhythms, which operate on a 24-hour cycle. These internally operated 24-hour clocks control fluctuations in body temperature, hormone secretion, and our need for sleep. (Although entrained by the cycle of daylight and dark, the circadian oscillations of the body actually can have a frequency that ranges from between 20 to 28 hours in duration.) The language of music embodies and reflects these natural pulsations of life and the cosmos in its rhythmic beat.

The rhythmic organization of a piece of music includes its *tempo* (number of beats per minute), *meter* (where two to twelve or more beats are grouped together into bars, or measures), and within meter *syncopation*, both of the melodic line and its percussive components. Rhythmic expression in music is especially prominent in jazz.

I used to be a jazz musician, playing the alto and baritone saxophone and the flute. We had a group in college, at Dartmouth, called "The Modern Men." We played a style of jazz termed "hard bop," best typified by Horace Silver and by Art Blakey's Jazz Messengers. On weekends we played for fraternity and sorority parties at a number of colleges in the region. Our group achieved such notoriety that we played in two intercollegiate jazz festivals—the first one at Notre Dame, where the jazz luminary Stan Kenton was the judge. Renamed "The Al Houser Quintet," we were one of five groups selected for the Second Annual Intercollegiate Jazz Festival at Georgetown in 1961, billed as "A National Competition Among College Jazz Groups," where Dizzy Gillespie was the judge.

Al Houser and I went to high school together in Bethesda, MD. We had a jazz group there and played for functions in the Washington D.C. area, including a ten week summer gig at a rundown resort at Orkney Springs in the mountains of Virginia, where

we played jazzed up versions of "Tea for Two" for its elderly patrons. We attended Dartmouth College from 1958-1962.

The highlight of our group's musical life was when we were asked to play at a party given for Louis Armstrong in 1961. He had come to town with his All Stars to give a concert. After the concert a party was held for him at one of the local restaurants. As we finished our first set, Armstrong, one of the greatest artists in the history of jazz, if not the greatest, came up to us, put his arm around our leader, Al Houser, and said, with his usual big grin, "You boys are like little lost sheep playing that kind of music." (Armstrong had an admitted dislike for the direction that jazz had taken into the melodically and rhythmically complex realm of bop and hard bop.)

The winner of the 1961 Georgetown festival received an invitation to play for President and Mrs. Kennedy in the White House, a recording contract with Columbia Records, and a State Department-funded tour of South America. Unfortunately, our group didn't win. The Paul Winter Sextet from Northwestern University won, and this Festival launched that group onto a long-term, successful professional career. Although tempted to pursue a career in jazz, I stuck with my original goal of becoming a physician.

I had the good fortune to hear the bop pianist Thelonious Monk play at the Five Spot in 1958. After a prolonged forced absence from the New York jazz scene (because of the loss of his cabaret card) he made a triumphal return to this rundown nightclub in the Bowery. Monk's historic engagement at the Five Spot turned jazz on its ear. This introverted quirky unorthodox musician played music in an entirely new way, like no one else, and musicians from all over, including me, made a pilgrimage to the Five Spot to hear him.

Thelonious Monk probes the depths of rhythm, melodically expressed, to a level that is perhaps unequalled in music. One writer describes him as jazz's "mysterious shaman."[77] With a jagged, spare style, he is given to playing behind the beat, and he sometimes seems to disregard bar lines altogether. His work is infused throughout with a wry sense of rhythmic anticipation and delay, and he juxtaposes uncanny rhythmic accents with unexpected moments of silence. One is taken aback at how he seems to go right to the essence of melody and rhythm, in what turns out to be a very simple fashion.

Listen to his recording of "Bag's Groove" with Miles Davis recorded in 1954 on the Prestige label. It is available on CD and is in *The Smithsonian Collection of Classic Jazz (Revised)*. He pares rhythm down to a rock bottom, universal level. One commentator describes Monk's solo on "Bag's Groove" as "one of the purest moments of beauty in the history of jazz."[78]

Readers who are not familiar with Thelonious Monk's music should rent the video *Straight No Chaser*, an excellent documentary about Monk's life and music. It contains rare archival footage, including film of him playing during that famous engagement at the Five Spot. I recommend that you listen to his Blue Note and Riverside recordings, all available on CD. See also the excellent Thelonious Monk Website, at www.achilles.net/~howardm/tsmonk.html.

I did not pursue a career in music. Perhaps if our group had won the Georgetown Jazz festival and played for Jacqueline Kennedy in the White House and made that State Department Tour of South America, like the group that won, I would have. But *rhythm*, a key element in jazz, also plays a crucial role in my work as a heart surgeon. We monitor the rhythm of the patient's heart on several TV monitors positioned around the operating room. When we stop the heart to effect the necessary repairs, the electrocardiogram displayed on the monitor becomes a straight line. When the repairs are completed we place sterile paddles on the heart and administer an electrical current to jolt it back into its normal rhythm. Sometimes the heart's rhythm becomes erratic, or too slow, and we have to use a pacemaker, like a metronome in music, to keep the heart beating in a regular fashion. Rhythm is an integral aspect of life and music probes its metaphysical aspects.

Melody is a temporal succession of tones. One of the supreme masters of improvised melodic invention is the jazz saxophonist Charlie Parker. He probes melody to a depth that is unequaled in the history of music.

According to Schopenhauer, melody discloses "all the deepest secrets of human willing and feeling." He likens melody to the vicissitudes of human nature, with its constant oscillations between happiness, suffering, and boredom. *Happiness* is realized in the "transition from desire to satisfaction, and from this to a fresh desire, such transition going forward rapidly." *Boredom* is "the empty longing for a new desire," and

suffering results from "the non-appearance of satisfaction." Meandering through a wide range of harmonic and dissonant intervals, melody expresses the essence of human desire and its satisfaction—"by ultimately finding again a harmonious interval, and still more the keynote." Languor and boredom are expressed in melody by the "sustained keynote, the effect of which would soon be intolerable; very monotonous and meaningless melodies approximate to this." Schopenhauer also notes that "rapid melodies without great deviation are cheerful… [and] slow melodies that strike painful discords and wind back to the keynote only through many bars are sad."[79]

Richard Wagner's opera *Tristan und Isolde* provides a striking illustration of this Schopenhauerian view of melody. Wagner (1813-1883) discovered Schopenhauer in 1854. In subsequent years he kept a copy of *The World as Will and Representation* with him and read it repeatedly, and he urged all his friends to read and study Schopenhauer as well. He meant *Tristan* to be a poetic and musical exposition of Schopenhauer's philosophy, particularly the part that deals with sexual love. The poem—libretto—for *Tristan* was published in 1858 (the opera was first performed in 1865—after six months of daily rehearsals). Wagner sent a copy of the poem to Schopenhauer but received no response. This opera has an "unending" melody that goes on for more than *four hours* before it finds its way back to the keynote and finally resolves itself (predating analyses in this vein by Heinrich Schenker). This work reaches down to a level of yearning and longing and passion that is very profound.

The German language has a word for this, *Sehnen*—to long for, to yearn for, to crave for, to wish for. It connotes, as is so well illustrated in Wagner's works, a desire for the attainment of the unattainable. It is a yearning of such sustained degree that it leaves one in a constant state of frustration. There no comparable word for this state in the English language, at least none that I can think of.

In music one obtains harmony by sounding two or more different pitches—or tones—simultaneously. For the sound to be harmonious, however, the tones must have frequencies of vibration have a pleasingly proportionate relationship to each other. The principle harmonic intervals in Western music are the octave, where one note vibrates twice as fast as the other (at a 2:1 ratio); a fifth (3:2 ratio), the fourth (4:3), the major and

minor third (5:4 and 6:5), and the major and minor sixth (5:3 and 8:5). The further away one gets from small number ratios the greater the discord and dissonance of the sound. The relatively dissonant interval of the second (such as a C and a D played simultaneously on the piano) has a ratio of 9:8.

The Pythagoreans knew about these numerical relationships in music more than 2,500 years ago, and they believed that these intervals and harmonies mirrored the geometry of the heavens. They believed that a "music of the spheres" governs the motion of the planets, and that all things in nature have a harmonious relationship with each other that can be expressed numerically. Also, Chinese philosophers at the time of Confucius regarded the four numbers 1, 2, 3, and 4—the numbers that in various combinations define the ratios of the octave, fifth and fourth—as the immanent source of all perfection.

Schopenhauer likens four-part harmony, with its four principal voices of soprano, alto, tenor, and base to nature divided into human beings, animals, plants, and inorganic matter. The ground-base corresponds to the inorganic mass of the planet, and the higher voices correspond to plant, animal, and human life respectively. Just as a base note has natural harmonic overtones that are proportionate outgrowths of this note, so is plant, animal, and human life constituted and derived from inorganic elements that make up the planet. Typically, the highest voice leads this quartet of harmonically related voices and sings the temporally successive notes of melody, progressing, as Schopenhauer puts it, "with unrestrained freedom, in the uninterrupted significant connection of *one* thought from beginning to end." In this schema, therefore, the highest (soprano) voice reflects the intellectual and intuitive endeavors of human beings, the highest form of life.

Composers employ a mixture of rhythmic, melodic, and harmonic elements in their compositions. They also employ a fourth element, tone color. The composer, for example, will write a particular melody for a violin or a clarinet, or perhaps for the trumpet. The relative complexity of one of these musical elements is usually counterbalanced by the relative simplicity of one of the other elements. For example, complex and dissonant harmonies tend to be associated with simple rhythms, and complex rhythms with relatively simple harmonies.

The great conductor Wilhelm Furtwängler (1886-1954) describes the interrelationships between melody, rhythm, and harmony, and their counterbalancing simplicities this way:

> Bach's horizontal melodic line and polyphony appear to be complicated, his harmony relatively complicated, and his rhythm perfectly simple. Beethoven's melodic line and harmony are very much simpler, but his rhythm and therefore the whole structure of his compositions is very much more complex. Wagner, Strauss, Debussy, Stravinsky—each is complex in a different way, that is to say, the relative complexity of one element of composition is counterbalanced by the relative simplicity of another, an inevitable consequence of the fact that man's faculties of apperception are limited.[80]

Nevertheless, over the last four hundred years all of the elements of music in Western culture have increased substantially in their complexity.

Over the last fifty years composers and performers have increasingly focused on technical perfection. Less emphasis has been placed on the "spiritual" aspects of the art in music.[81] This development is partly the result of recordings. Thomas Edison first recorded recognizable sounds on a hand-cranked cylinder phonograph in 1877.

Recordings were first made on shellac-covered flat discs in 1888. In contrast to Edison's cylinders, which could only be duplicated on a one-to-one basis, a stamper process could reproduce flat discs more easily. Throughout the first quarter of the twentieth century music was recorded acoustically, whereby sounds were gathered by a large cone-shaped horn and transmitted as physical impulses to a cutting stylus. The stylus engraved complex grooves onto a master shellac disc that was rotated at 78 revolutions per minute electrically. The development of the electric microphone in 1925, along with other electrical refinements in the recording process, made possible electrically amplified and transmitted analogue recordings. Recordings were still limited to the four minute playing time of the 78 rpm shellac-covered disk, but large and complex orchestral sounds could now be reproduced with much greater fidelity. Long playing records were introduced fifty years ago, in 1948. This innovation was made possible by recording music onto newly developed magnetic tape and by the refinement of techniques

for pressing discs on synthetic vinyl. Stereophonic vinyl recordings became commercially available in 1958. Digital recording techniques were developed in the late 1970s, and digitally encoded, laser-read compact discs were introduced in early 1980s. A number of collectors and audiophiles, myself included, consider the period from 1958 to mid-1960s to have been the golden age of recorded music. This period spans the advent of stereo to the phasing out of vacuum tubes, with their natural warm sound, in lieu of transistorized solid state circuitry. (To a number of audiophiles like me, the advent of digital recordings was a further step backward.)

Blemishes and mistakes are revealed for all to hear on a recording, and an increasingly sophisticated audience holds performers to the high level of technical proficiency that is readily found on commercially released recordings of a given work.

A number of observers have expressed concern about the swing of the pendulum towards the technical aspects of music and away from its spiritual aspects. As Furtwängler puts it, "In the former we may be titans and heroes, but in the latter we are surely nowadays nothing more than children."

A *simple fool* can best lead us into the noumenal realm of compassion. "*God's fool*," the mystic, also shows us a way to enter the castle of underlying reality—the Noumenon. Music is another avenue into this realm. And here too, with music, we find that *simplicity*—the hallmark of a fool—is an essential component of music at its most profound and insightful level.

According to Furtwängler, our best composers write music that has two essential qualities: 1) "even in the grip of the loftiest and most sublime ideas an artist [the composer] never loses a foothold on his native earth," and 2) "the nobility of the divine spark manifests itself at the humblest and most popular level."

Universality in art embraces timeless concerns and a genuine fellowship of humanity. It may come as a bit of a surprise to learn that striving for such wholeness is borne out of simplicity.

In a lecture on the composer Anton Bruckner (1824-1896), given in Vienna in 1939, Furtwängler presents this view of the creative process:

> If we look at the historical evidence, we see that such a universality was far more prevalent in early naive periods than in later ones. The more evolution advances, and the more self-conscious the artistic ideas and techniques, the rarer it becomes. And now gradually the paradoxical situation arises that it is no longer the artist who comes from and represents the masses who can make a simple and universal statement, no longer the "simple soul" submitting to contemporary taste. In periods that have lost their innocence—and that applies above all to our own period—only the hardiest spirit can penetrate beyond the riot of received and inculcated ideas. Complex works have become a current cliche. Only the very great do not become bogged down in the cliche, only they fight their way through to simplicity.

Furtwängler considered Anton Bruckner to be *Music's Fool* of symphonic composition, and rightly so. The self-doubting, naive Bruckner, who lived like a monk in the sophisticated atmosphere of late nineteenth century Vienna, composed nine symphonies. The last six of them are of unsurpassed depth. These symphonies, particularly the fifth and the eighth, bespeak the fruits of a lifelong search for wholeness of being. In his lecture on Bruckner, Furtwängler says:

> There is not one note in his music, ranging over the whole gamut of human sensation, which is not genuinely and directly connected with timeless concerns. He has proved to us that even modern Man can aspire to universality in the higher sense, that the striving for simplicity is still possible, as too are purity, grandeur and strength of expression.[82]

A good example in the realm of popular music of how simplicity embraces universality can be seen in the music of the Beatles. Their tunes, lyrics, and musical style, with their smooth blend of ensemble singing, have a natural and seemingly effortless charm. It has an inspired and refined simplicity. Another example where true art can be found in popular music is in the reggae music of the Jamaican singer, guitarist, and songwriter Bob Marley. His music has a universal and timeless simplicity. It is simultaneously consoling-uplifting-relaxing-energizing-and sensuous. Listen to his song, "Three Little Birds," where he sings, in a relaxed syncopated cadence, "Don't worry 'bout a thing, 'cause every little thing gonna be all right." Listen to only this one song by Bob Marley and you will understand why 100,000 people showed up to attend a

performance he gave in Milan in 1979 during his record-breaking European tour (two years before he died, at the age of 36, from lung cancer).

Over the last two centuries in Western music, with the advent of large-scale symphonic works, a new type of performer has risen to prominence—the conductor. A conductor interprets the composer's intentions from the written score and communicates this interpretation to the players of the orchestra, and through them, to the listener. How the conductor does this remains, despite all attempts to analyze it, basically unfathomable and mysterious. The conductor's role in the presentation of symphonic and operatic music is an art unto itself.

To my mind Wilhelm Furtwängler is probably the greatest conductor of this century. He was a tall, gangly, visionary who has been described as "an ambassador from another world...[with] a message to impart."[83] Conductor of both the prestigious Berlin Philharmonic and Vienna Philharmonic Orchestras from the 1920s to the 1950s, he was an awkward man who lived his everyday life in a relative fog. Furtwängler was a *musical mystic*, for whom music was an otherworldly calling.

Furtwängler led the Berlin Philharmonic Orchestra from 1922, when he was 36 years old, until his death, from pneumonia—and despair over his growing deafness—in 1954. (Herbert Von Karajan succeeded him.) He conducted the New York Philharmonic in successive appearances in 1925-26-27 to great acclaim and was offered a permanent position, but declined. He stayed in Germany after the Nazis came to power in 1933 and continued to conduct the Berlin Philharmonic, shorn of its Jewish musicians, during the war years, from 1939-1945, a decision which has been widely condemned. After the war the Allied authorities occupying Germany absolved him of any Nazi sympathies and allowed him, in 1947, to return to his post with the Berlin Philharmonic and resume his conducting career.

The play "Taking Sides" about Furtwängler's decision to stay in Nazi Germany had long runs in both London and New York. The play was written by the South African Jewish playwright Ronald Harwood. Daniel Massey played Furtwängler to great acclaim in both productions. The London production was directed by Harold Pinter and

the New York one by David Jones. I saw the play with my wife, Linda, and son, Daniel, in both cities.

Although Furtwängler never became a Nazi party member and gave extensive financial and other help to the Jewish members of his orchestra, I believe that he made a serious mistake in not leaving Germany when the Nazis took over. He can be criticized for staying and allowing his art, however great, to be associated with the totalitarian thugs of that regime. But the thugs are gone and the art remains. This brings up a point that also applies to Woody Allen. An artistic work of high quality will remain after the artist has passed from the public eye. What that artist did in his or her personal life should not influence our contemplation of the work itself.

In contrast to his contemporary Arturo Toscanini, who evoked a kind of "demonic perfectionism" and gave fast-paced and tense performances that delivered what one critic describes as a "visceral impact," Furtwängler's performances had a "hushed mystery" about them. Combined with an unbridled and loving spontaneity, his performances were spiritually uplifting and went straight to one's heart. People I have talked with who had the good fortune to hear him live (I was fourteen when he died and never had that opportunity) all say it was an experience they will never forget. One former patient of mine said that as a young woman living in Berlin she would sometimes camp out in line all night to get a ticket to one of his concerts. Yehudi Menuhin, a violinist who performed as a young man with Furtwängler, puts it this way:

> In listening to his music it is the impression of a vast pulsating space which is most overwhelming. Compared with this infinity so many other conceptions seem willful, arbitrary, narrow and repetitive. For Furtwängler music was a world, a cosmos, which encompassed all others. He was really complete and himself only when immersed in this ethereal medium of pure energy and pure light. He almost suffocated when submersed within the day-to-day world, as would we if we were plunged into the ocean.[84]

His beat was purposefully vague, and by blurring the edges and seemingly erasing bar lines he let the music naturally cohere in long arcs of sound. Rather than impose his will on the players, like many conductors who wield a commanding and precise beat, he

releases a spiritually uplifting power in the music that seems to live and breathe on its own, even in the relatively poor-fidelity recordings of his work that we have. He draws the performance out of the players themselves rather than autocratically imposing it on them. In a profound and mysterious way he probes the inner meaning of a work, and his flexible interpretations of the printed score—particularly those of Beethoven, Schubert, Brahms, Wagner, and Bruckner—can have an almost mystical effect on the listener. As one observer has put it, audiences of the day, who were accustomed to hearing great conductors, came to Furtwängler for "revelation and truth." David Cairns reflects this view of Furtwängler's art in this description of a recording of his 1952 Berlin performance of Brahm's First Symphony:

> The music breathes and moves like a living thing; the work is alive, almost frighteningly so. The grandeur and poignancy of the first movement, the impassioned, uniquely flexible Andante, the orchestral tumult at the great return of the horns' bell-like theme (where Furtwängler, by the use of a very dense, vibrant string sound, achieves an effect of towering cloudlike textures), and the surging double-bass phrases, that herald the thunderous coda—these things seem to come from another world, or rather they come out of the work itself, heard on a level of re-creation unknown before in my experience.[85]

Furtwängler and other great conductors like Willem Mengelberg, Pierre Monteux, and Dimitri Mitropoulos take us to another world. They show us that the music of the great composers is like a living organism. Its life energy is built from melody, rhythm, harmony, and tone color; and their music can exert a powerful, spiritually uplifting hold on us. Such music nourishes us with a sense of harmony and well being which goes deeper than language can express.

Music can exert a strong effect on behavior. In myth, when Orpheus sang and played the lyre his music was so marvelous that all creatures would follow him, and even trees and stones were said to come to hear his music. The powerful effect that music can have on human beings, however, is not always positive and life affirming.

Music can have a destructive influence on human behavior as well as a positive healing effect. In Woody Allen's *Hannah and her Sisters*, for example, Mickey recalls a date that he had with Hannah's sister, Holly, when they went to hear a punk rock band at

a local club. The smoke-filled club is populated with people sporting pink hair and spiked mohawks, and over the loud band, with a microphone screeching feedback, they have this exchange:

> *Mickey*: I, I, my ears are experiencing a meltdown! I can't hear anything.
>
> *Holly*: Look, can't you feel the energy? It's tangible energy! The room's alive with positive vibrations!
>
> *Mickey*: Holly, I'm frightened! I'm— After they sing they're gonna take hostages!

When the Rolling Stones played "Sympathy for the Devil" at their rock concerts people would go wild. At one of their concerts, in Altamont, a young man was fatally stabbed in the neck by the side of the stage and his assailants then proceeded to stomp on his face while the music played on.

Heavy metal rock music advocates violence and rebellion, and in its most extreme form it espouses, among other things, satanism, necrophilia, and suicide. The "shock-rock," heavy metal group Venom, for example, makes this statement on one of its album covers: "We are possessed by all that is evil, the death of you, God, we demand. We spit at the virgin you worship, and sit at Lord Satan's right hand."

These demonic, life-negating aspects of music are yet another manifestation of its power. Music emanates from a deep source that, by virtue of its basic and undifferentiated nature, can be manifested in the material world of individual living things in either a positive or a negative way. The mystical, primal power of music can have both beneficial and destructive effects.

Music can make us feel relaxed, romantic, patriotic, and happy, or it can make us feel angry, sad, and self-destructive. Advertisers use it to persuade us to buy things, and totalitarian leaders like Hitler have employed it as an important agent for controlling thought and behavior. The historian Paul Johnson, in his book *Modern Times*, notes how Adolf Hilter was the first person—politician or performer—to employ amplified music and lighting at nighttime mass rallies, like a savvy, modern rock star. Arnold Perris, in his book *Music as Propaganda: Art to Persuade, Art to Control*, quotes Hellmut

Lehmann-Haupt, who said that Hitler "does not think of art as a luxury or a pastime, a pleasant embellishment of life... He knows that there is hardly a better way of getting hold of a person—his inner life, the subconscious, his hidden personality—than through art."

People who wish to live healthy, productive, and relatively tranquil lives, like a George Crosby, would do well to steer clear of heavy metal rock music, with its "hidden death wish," as one author describes it. It is certainly a sad commentary on the history of rock music that four of its superstars—Janis Joplin, Jimi Hendrix, Jim Morrison (lead singer with the Doors), and Brian Jones (guitarist with the Rolling Stones)—all died at the age of 27 from drug-related causes. Jones died in 1969. He drowned in his swimming pool while apparently "stoned" on a variety of drugs, including amphetamines and alcohol. Joplin and Hendrix both died in 1970 from drug overdoses. Janis Joplin gave exuberant, demonic, trance-like performances, where, like a shaman, she seemed to be completely possessed by the power of the music. And Jimi Hendrix, the first rock star to set his guitar on fire (with lighter fluid) during a concert, once wrote:

> Before our heads go under we take a last look
> At the killing noise
> Of the out of style, of the out of style,
> The out of style.

Joplin and Hendrix died within three weeks of each other, and on hearing of their deaths, Jim Morrison allegedly told a friend, "You're drinking with Number Three." He died nine months later.[86]

Not all hard rock music, of course, promotes satanism and self-destruction. Much of it is simply rebellious and liberating, particularly in a sexual context, and it attacks the twin evils of pretense and deceit that infest "the establishment." As John Rockwell, a highly respected music critic now happily back with *The New York Times,* puts it, "the human need for aggressive, liberating music is eternal." Rock only happens to be one of the latest manifestations of that need.[87]

The waltz was Rock's counterpart in the *19*th Century. A hundred years ago the waltz was the aggressive and liberating music of the day. One commentator at the time had this to say about the waltzes of Johann Strauss: "African and hot-blooded, crazy with life. Restless, unbeautiful, passionate... he does it with waltzes, which are the modern exorcism... capturing our senses in a sweet trance... lust let loose... Typically African is the way he conducts his dances; his own limbs no longer belong to him when the thunderstorm of his waltz is let loose...the melody waves champagne-glasses in his face and the devil is abroad... A dangerous power has been given into the hands of this dark man; he may regard it as his good fortune that to music one may think all kinds of thoughts, that no censorship can have anything to do with waltzes, that music stimulates our emotions directly, and not through the channel of thought."[88]

Richard Wagner explores the bipolar nature of the elemental force that music so directly reflects in his opera *Die Meistersinger*. This opera is about a singing contest in a sixteenth century German town where the winner is entitled to marry the beautiful daughter of the town's wealthiest burgher. A mysterious, dashing suitor happens to show up who endeavors to compose a song that will win the contest and the maiden. This work is basically a study about the nature of artistic creativity. Wagner tells us that artistic creativity is fueled by a force he terms *Wahn*—an ambivalent, primal force that has both creative *and* destructive facets. This primal force is the source of artistic inspiration and creativity, but it is also the source of madness, delusion, and folly. *Wahn*, as it is objectified in the phenomenal world, contains a mad streak that "runs through human nature like some tragic flaw in bright metal." Wagner tells us that this irrational, potentially destructive mad streak that we have within us can be channeled, with an appropriate degree of self-discipline and study, into creative works of art. But people who become caught up in its grip, while they may create insightful and wonderful works of art, can also be destroyed by it in the process.[89]

Unfortunately, some of our greatest artists, as a result of being so well tuned in to this bipolar creative/demonic force, have met with untimely deaths. This is true of artists in all of the visual, verbal, musical, and mixed media arts, but it is nowhere more painfully evident than in the world of jazz. Self-destructive behavior has led to the

deaths, at a relatively young age, of a number of the greatest artists in this medium, such as Bix Beiderbecke (age 28), Charlie Parker (34); Bud Powell (42), Serge Chaloff (33), Billie Holiday (44), John Coltrane (40), and Bill Evans (51). And many other artists who have been caught up in the beneficial and destructive effects of Wahn have not died young but have otherwise led disruptive and troubled lives.

Things in the material world, from atoms to violin strings, have what Cole terms a spectrum of "sympathetic vibrations." She explains it this way:

From a scientific perspective, airborne musical vibrations mirror the vibrations of atoms that make up all the matter in the universe. As the science writer K. C. Cole points out, "planets and atoms and almost everything else in between vibrate at one or more natural frequencies." Quantum physics shows us that matter has wavelike characteristics. Waves wiggle at specific frequencies. Since matter vibrates at a given frequency it has a musical-like character. Every atom has a specific and unique vibrational state. In contrast to the vibrations of the notes on a piano, however, which range from 27 up to 4096 cycles per second, the electromagnetic waves that atoms emit vibrate at 10^{14} to 10^{15} cycles per second.

> It is part of the natural complementarity of matter that it has both wave and particle characteristics. Since matter has wave properties, it has frequencies, too. Each particle wave, for that matter, has a specific frequency, and that frequency corresponds to a specific energy. Energy (according to $E = mc^2$) equals mass. So in a very fundamental sense, the way something "vibrates" seems to determine what it is. And when the physicists at, say, the Stanford Linear Accelerator Center tune their beams of electrons and positrons so they collide with a burst of energy that vibrates at exactly 7.5×10^{23} cycles per second, then presto! They have created a particle (or really pairs of particles) in much the same way as you can create a tone by blowing with precisely the right energy over the top of a Coke bottle.[90]

All matter in the universe is in essence a "symphony of submicroscopic chiming bells," as one writer puts it. Werner Heisenberg, author of the famous uncertainty principle in quantum physics, said that *the universe is made out of music, not matter*. And long before the discovery of quantum physics Schopenhauer said that we could just as well call the world embodied music as embodied Will (Noumenon). Audible sound is

an earthly reflection of the vibratory activity that forms the basis of all things in the universe.

Music, more so than physics, takes us to a metaphysical dimension where we can sense the innermost reality of the world. In my opinion, music that best gives us an intuitive glimpse of this realm is the following (in no particular order):

- Thelonious Monk's Blue Note and Riverside Recordings (the complete recordings from both labels remain in print on compact disc)
- Charlie Parker's Savoy and Dial studio recordings (also available on CD)
- These recordings by Wilhelm Furtwängler (all available on CD):
  - His wartime recordings with the Berlin Philharmonic, 1942-1944, various composers (issued in a ten CD box set by Deutsche Gramophone)
  - All his recordings of the Bruckner symphonies
  - His 1942 and 1951 recordings of Beethoven's *Ninth Symphony*
  - His 1952 studio recording of Wagner's *Tristan und Isolde*
- Willem Mengelberg's 1940 Phillips recording of Bach's *St. Matthew's Passion*
- The Beethoven piano sonatas, particularly as interpreted by Artur Schnabel and Richard Goode
- The late Beethoven string quartets
- Wagner's *Parsifal,* conducted by James Levine, Reginald Goodall, or Hans Knappertbusch

Put twenty music lovers in a room and you will get twenty different lists like this. But you can't go wrong, if you don't have strong preferences of your own, starting with these recordings. There is much else worth listening to of this nature, of course. One can't go wrong listening to all the symphonies of Beethoven, Brahms, and Mahler done by different conductors, and to the Cantatas of Bach. And listening to Bill Evans and Billie Holiday from time to time is balm for the soul. Thinking about all of these wonderful recordings brings to mind this statement that Beethoven reputedly made about music:

> Those who understand it must be freed by it from all the miseries which the others drag about with themselves. ... I am right in saying that music is the one incorporeal entrance into the higher world of knowledge which comprehends mankind but which mankind cannot comprehend.[91]

One of the great composers is Ludwig van Beethoven. Plagued by growing deafness, and with many struggles, he wrote music straight from the heart, irrespective of how it might be received by his patrons.[92] His music plumbs the furthest depths of the realities of life. The nineteenth century American conductor Theodore Thomas wrote this about him:

> The man who does not understand Beethoven and has not been under his spell has not half lived his life. The master works of instrumental music are the language of the soul and express more than those of any other art.[93]

The conductor Sergiu Celibidache once said: "The question is, what is behind thinking? The answer is reality. But thinking has no access to reality."[94] Schopenhauer points out that the composer "reveals the innermost nature of the world, and expresses the profoundest wisdom in a language that his reasoning faculty does not understand." He likens this mysterious process to a man who gives information about things in a hypnotic trance that he has no access to when he is awake.[95] In Allen's *Manhattan* Mary proudly recalls the names of the satellites of Saturn to Ike at a planetarium:

> *Mary*: Facts. Yeah, I've got a million facts on my fingertips.
>
> *Ike*: That's right. And they don't mean a thing, right? Because nothing worth knowing can be understood with the mind, you know. Everything really valuable has to enter you through a different opening, if you'll forgive the disgusting imagery.
>
> *Mary*: I really don't agree at all. I mean, where would we be without rational thought? Come on.
>
> *Ike*: No, no, you--you rely too much on your brain. It's a -- the brain is the most overrated organ, I think.

Sex, which Ike, of course, is alluding to here—and music—both provide us with a deeper, intuitive sense of reality. Sex and music are not constrained by the *left* brain—the logical, intellectual, analytical, and technique-oriented side of the brain that can list the satellites of Saturn. The *right* brain—the intuitive, artistic, creative, and inspiration-oriented side of the brain—gives us a deeper sense about things, which our feelings with sex and music can tap into.

Richard Wagner, in his monumental *Der Ring des Nibelungen*, sought through music and a reworking of Scandinavian and German myths to find answers to the universal questions about the forces that rule the world and the nature and meaning of life. The Ring consists of four operas, *Das Rheingold*, *Die Walküre, Siegfried*, and *Die Götterdämmerung* that are designed to be performed on successive nights. In these operas, Wagner grapples, first, with the love of power, in *Das Rheingold*; then the power of love, in *Die Walküre*; conscious individuation and the myth of the hero, in *Siegfried*; and finally, in *Die Götterdämmerung*, with redemption and the emergence of a new form of consciousness, one which is grounded on compassion. In this epic masterpiece of more than fourteen hours of music, gods and dwarfs and giants vie for possession of a golden ring that gives its bearer power over the world. Both the god Wotan tearing a branch off the world ash tree to make a spear, on which the treaties and rules of the world are inscribed, and the dwarf Alberich stealing the gold from the Rhinemaidens to make the all-powerful ring symbolize the wresting of consciousness from nature.

This whole work is basically a tragedy about the fatally flawed nature of human consciousness and rational thought. After discovering Schopenhauer in September or October of 1854, Wagner, who worked on *Der Ring des Nibelungen* on and off from 1848 to 1874, changed his focus from a somewhat political view of the world's evolution to a more philosophical meaning. He fervently acknowledged, in a letter to Liszt in December 1854, that Schopenhauer "has entered my lonely life like a gift from heaven." Wagner wrestled with the ending of the cycle and wound up going through six versions of the text. Myth and words ultimately failed him. His final insight into the nature and meaning of life is given to us, not in words, but in music.

From an analytical, scientific perspective, Einstein's demonstration that matter and energy are equivalent gives us an important insight into the nature of physical reality. But Wagner's immolation theme, as it brings to a conclusion the many hours of music in the *Ring*, tells us intuitively, in a heart-felt way, in a way that language and mathematical equations cannot, what life is all about.[96] As Beethoven himself puts it, "music is a higher revelation than all wisdom and philosophy."

Analysis is the principal method of science, but intuition also plays an important role in this discipline. Intuition is the principal method of art, but analysis also plays an important role in art. Analysis breaks down the properties of an object into separate elements that are common both to it and to other objects that are already known. It employs reasoned discourse and mathematical theorems, measurements and calculations, and the findings that one obtains are subject to independent verification. As the twentieth century philosopher Henri Bergson puts it, analytical knowledge "implies that we move round the object," and the knowledge that we obtain "depends on the point of view at which we are placed and on the symbols by which we express ourselves."[97] Scientists have now amassed a vast body of such knowledge. But despite its initial promise, science has not been able to provide us with answers to important questions about the realities of life. Woody Allen puts the point this way in "My Speech to the Graduates:"[98]

> [Science] has failed us. True, it has conquered many diseases, broken the genetic code, and even placed human beings on the moon, and yet when a man of eighty is left in a room with two eighteen-year-old cocktail waitresses nothing happens. Because the real problems never change. After all, can the human soul be glimpsed through a microscope?

Analytical knowledge is rooted in the principles of what Schopenhauer calls "sufficient reason."[99] These principles include our innate concepts of cause and effect and our logically derived mathematical laws. Analytical knowledge provides us with a useful model of reality that can make accurate predictions of events in the material world. It can be used in a predictive, utilitarian, and purposeful way. Such knowledge has provided us with a model of reality that has given us transistors, microprocessors, and lasers.

Intuition addresses such manifestations of the human condition as compassion, beauty, and sexual desire. Bergson points out that intuition is the means by which we get to the heart of a matter. We know that something is *beautiful*—such as a particular woman, or melody, or scene in nature—only by intuition. We can, of course, analyze why we consider a woman, or a given melody, to be beautiful, but the actual judgement as to what is or is not beautiful is made intuitively. Intuitive "knowledge" does not rely on language or logic or cognitive schemes. It is not amenable to objective verification. It deals with the nonrational subjective dimensions of emotions and feelings. Consider pity. As J. Huizinga so well puts it, "*One drop of pity is enough to lift our doing beyond intellectual distinctions*."[100]

Bryan Magee, in his book *The Philosophy of Schopenhauer,* describes the intuitive creative process this way:

> The artists who create these works that make such a difference to our lives are people who perceive things differently from the rest of us, either seeing what we do not see or commanding a sustained vision where we, unaided, catch only glimpses. As Schopenhauer once put it, the man of talent is like a marksman who hits a target others cannot hit, but the man of genius is like a marksman who hits a target others cannot see.

Schopenhauer terms this sense of things, this kind of "knowledge," intuitive perception. What we must recognize that the mysteries of innermost reality are revealed only by intuition, ill defined as this sense may be, not by analysis.

Our lives are fraught with struggles, illusion, deception, and pretense—and the inevitability of death. Great art, especially music, lifts us out of ourselves, if only momentarily, out of the material world of space and time. It elevates us out of the confines of our own self-interested willing to a vantage point where we see things in a broader perspective. From this vantage point we can intuitively sense that we have an inseparable, vibratory bond with a unifying substratum of energy that underpins everything in the universe. Music helps us to appreciate that there is a deeper level of connectedness and universality that binds us not only to the rest of humanity but to all things in the world.

Music, of course, also serves more practical, less philosophical purposes. Beginning with the mother's lullaby, music fosters and cements loving relationships between people. Art in general gives us considerable pleasure. Some of the greatest pleasure that I have derived from music is to hear my daughter, Elizabeth, play a Bach three part invention on the piano with her young woman's perspective, or to hear my son, Daniel, play a recently memorized medley of tunes from the James Bond films with an innocent exuberance that only an eleven-year-old can muster. Without music, and the arts in general, life would be much less interesting and less rewarding.

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.[101] 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.[102]

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 it 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.[103]

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 tetrodotoxin, 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-worshiping village to behave themselves. From a medical standpoint, those Haitian Voodoo bokors certainly know what they are doing.[104]

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.[105]

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.[106]

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 lives 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.[107]

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 *20*th 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 *20*th 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.[108]

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 ghettoes, 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.*[109]

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.[110]

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.[111]

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 *17*th 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 back 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.[112]

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-poohings, all therapeutic shifts against the black void. To make you forget it really isn't, nor you anywhere.[113]

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?[114]

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 it 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.[115]

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.

Postscript

In Richard Wagner's opera *Tristan and Isolde*, the lovers seek to escape the self-serving world of "day" and merge together as one unified being in the world of "night," the realm of permanent reality. They seek, together as one, a godlike, eternal union, where their separate selves are erased. The path to their sublime goal is sexual love.

George Crosby, in his simple way, was well connected to this realm of underlying reality, living each day in the eternal present with compassion.

Mystics know it, and music lovers can also tap into this realm. I gained a searing glimpse of it one day in 1984 listening to Wagner's *Tristan and Isolde* in the arms of my wife, Linda.

Sex, compassion, mysticism, and music tell us, when we are open to intuitively sense it, that there is a deeper level of reality that underlies our individual, self-interested concerns. In particular, this study of life has taught me to better appreciate the importance of compassion. It enables us to sense the true, inner nature of things. Compassion provides us with a key to the castle of ultimate reality. And, as I was at first surprised to learn, it is the simple and guileless *fool*, in the guise of a medieval Parsifal or a *20*th century Broadway Danny Rose, who can most readily experience compassion. A fool, with a thin layer of ego and little intellect, can feel compassion much more readily than well-educated, intelligent people. Compassion is also the bedrock of a moral life. And it keeps us healthy.

In carrying out this project I was struck by how close a biological connection we humans have with other living things. Just how tight this connection is was not well appreciated when I attended medical school more than thirty-five years ago. It turns out that a human being—all 100 trillion cells of one—can be viewed, in essence, as a highly evolved bacterial community with a multibillion-year history. We are, in a sense, "walking communities of bacteria," as the microbiologist Lynn Margulis and science writer (her son) Dorion Sagan put it. Before some of them combined to form a more

complex eukaryotic cell, bacteria were part of a stable and enduring living system that has blanketed the planet and survived for billions of years. Left alone, as we have seen, bacteria, having no nucleus, simply clone themselves. Our bacteria derived eukaryotic cells are evolutionarily designed to reproduce themselves through sex. And, as we have also seen, the biologic price of sex, and individuation, is death.

The biological connectedness of life, along with the fact that the composition of all matter in the universe at the subatomic level consists uniformly of the same leptons and quarks, fits well with what Schopenhauer considers to be the metaphysical underpinning of the world—that all things are interconnected in an all-encompassing oneness.

I predict that Schopenhauer will once again come back into favor in the next century and be more widely read than he has been in this one. His work will reassume the importance that it had latter part of the *19*th century. Instead of late *20*th century deconstruction, I expect that in the next century more efforts, like this one, will be made towards reconstruction and a more integrated worldview.

Schopenhauer pierces the fog of our species' propensity for hypocrisy and deceit like a laser. Vanity and the importance of wealth and fame wither under his glare. Integrity, not much valued in late *20*th century public discourse, may once again become a valued human asset, spurred on by a renewed appreciation of his work. Also, as people consider more carefully his work, the philosophical and moral importance of compassion will be better appreciated. Sex will be placed in clearer perspective, with its true nature and significance better understood. The importance of the arts, particularly music, will be better appreciated, and supported. God's fool, the mystic, will be accorded more respect in the next century than such visionaries have received in the one now ending. Their sense of underlying reality will come to be more accepted that it is now in our self-seeking, materialistic culture. Will all this happen? I hope so.

I believe that Schopenhauer's insights on life and the nature of human existence will prove to be of great help to human beings in the next millennium, and that Woody Allen's major movies will remain in print.

If there is anything that you might wish to say to me about this book, or if you have any insights that you might like to share, please contact me. My email address is dwm@u.washington.edu, or donaldm@swedishheart.org. You can obtain a printed copy of this book, in hardcover or paperback, directly from the publisher, at www.xlibris.com. It can also be purchased through Amazon.com (www.amazon.com). The photograph of George Crosby that I refer to in the chapter on compassion, along with photographs of Wilhelm Furtwängler, Jack Kerouac, and Thelonious Monk, with links to websites about them and other individuals and subjects that I have discussed in this book, can be found on my website donaldmiller.com (www.donaldmiller.com).

I hope the material presented here has enriched your view of the nature of life.

Donald Miller
August 1999

Bibliography

On Purchasing Books over the Internet

Go to any large bookstore, like Barnes and Noble, and you will not find much on the selves to do with Schopenhauer, or Woody Allen either, for that matter. The best way to purchase books by and about them is to buy them over the Internet. My two most favorite online bookstores are Amazon.com (www.amazon.com) for books published in the US, and (www.amazon.co.uk) for books published in the UK and Europe. My oldest son, James, who works for Microsoft, says that it is no more risky to send your credit card number through cyberspace over the Internet that it is to give it to a gas station attendant or a waiter in a restaurant. Most of the books by and about Schopenhauer and Allen listed below can be purchased online either through Amazon.com or from the Internet Bookshop. Books that are out-of-print can be found and purchased through the highly recommend MX Bookfinder (www.mxbf.com).

The online publisher, www.xlibris.com, which has published this book, is the way, I think, that books will be more and more published in the *21st century.*

Books by and about Schopenhauer

Books by Schopenhauer

On the Fourfold Root of the Principle of Sufficient Reason: A Philosophical Essay (published in 1813, second, enlarged edition, 1847). Translated from the German by E. F. J. Payne (Open Court, La Salle, Illinois, Fourth printing 1992). E. F. J. Payne, according to Bryan Magee (I do not know the German very well, unfortunately, and so I defer to him), is the best translator of Schopenhauer's works.

On Visions and Colors, (1816; revised and published again in 1854). Translated by E. F. J. Payne (Berg Oxford, 1994)

The World as Will and Representation, Volume I (appeared in 1818, but dated 1819) and Volume II (1844). Translated by E. F. J. Payne (Dover paperback, New York, 1969 and 1966 respectively)

On the Will in Nature: *A Discussion of the Corroborations from the Empirical Sciences That the Author's Philosophy Has Received Since Its First Appearance* (1836, second and revised edition, 1854) Translated by E. F. J. Payne, Edited, with an Introduction by David E. Cartwright (Berg, Oxford., 1992).

On the Freedom of the Will (1839) Translated, with an introduction by Konstantin Kolenda (Basil Blackwell, Oxford, (1985)

On the Basis of Morality (1840, published again with *On the Freedom of the Will* under the title *The Two Fundamental Problems of Ethics* in 1841) Translated by E. F. J. Payne (Hackett Publishing, 1996)

Parega and Paralipomena: Short Philosophical Essays, (1851). Translated by E. F. J. Payne (Clarendon Press, Oxford, 1974),). A two volume collection of his essays. Selected essays are available in various paperback editions, which usually include portions of his superb 184 page essay, "Aphorisms on the Wisdom of Life." (see below)

Manuscript Remains; vol. 1 Early Manuscripts, 1804-18. Ed. A. Hübscher, Translated by E. F. J Payne.

Manuscript Remains; vol. 2 Critical Debates, 1809-18. Ed. A. Hübscher, Translated by E. F. J Payne.

Manuscript Remains; vol. 3 Berlin Manuscripts, 1818-30. Ed. A. Hübscher, Translated by E. F. J Payne.

Manuscript Remains; vol. 4 Manuscript Books, 1830-52 and Last Manuscripts. Ed. A. Hübscher, Translated by E. F. J Payne. (vols. 1-4 published by Berg, Oxford, 1988, 1988, 1989, and 1990 respectively)

Excerpts from the above:

Essays and Aphorisms, Selected and translated with an introduction by R. J. Hollingdale (Penguin Books, 1973)

Pessimists Handbook: A Collection of Popular Essays (1976)

Philosophical Writings Ed. By Wolfgang Schirmacher, English translation by Virginia Cutrufelli (Continuum Publishing Co., New York, 1994)

Religion: A Dialogue and Other Essays (1973)

Studies in Pessimism: A Series of Essays (1970)

Will to Live : Selected Writings of Arthur Schopenhauer (Fredrick Ungar, New York, 1967)

Wisdom of Life and Counsels and Maxims (Great Books in Philosophy) (Prometheus Books, 1995)

Books in English about Schopenhauer

Artie, Barau, *Philosophy of Schopenhauer* (Intellectual Book Corner, UK, 1997)

Atwell, John E., *Schopenhauer on the Character of the World: The Metaphysics of Will* (University of California Press, Berkley, 1995)

Bridgewater, Patrick, *Arthur Schopenhauer's English Schooling* (Routledge, New York, 1988)

Dale, Jacquette (Ed.), *Schopenhaue,: Philosophy, and the Arts (Cambridge Studies in Philosophy and the Arts* (1996)

Daner, Dorothea, *Schopenhauer as Transmitter of Buddhist Ideas* (1969)

Copelston, Frederick, *Arthur Schopenhauer: Philosopher of Pessimism* (1975)

Fox, Michael (Ed.), *Schopenhauer: His Philosophical Achievement* (Barnes & Noble Books, New Jersy, 1980)

Gardiner, Patrick; *Schopenhauer* (1997)

Gonzales, Robert A., *Approach to the Sacred in the Thought of Schopenhauer* (1992)

Hamlyn, D. W., *Schopenhauer (The Arguments of the Philosophers,* Edited by Ted Honderich) (Routledgte & Kegtan paperback, Boston, 1985)

Hübscher, Arthur, *Philosophy of Schopenhauer in Its Intellectual Context: Thinker Against the Tide (Studies in German Thought and History, Vol. 11)* Translated by Joachim T. Baer and David E. Cartwright (Edwin Mellen Press, Lewiston, N.Y., 1989)

Jacquette, Dale, (Ed.), *Schopenhauer, Philosophy, and the Arts* (Cambridge University Press, New York, 1996)

Janeway, Christopher, *Schopenhauer* (Oxford University Press paperback, New York, 1996)

Janeway, Christopher; *Self and World in Schopenhauer's Philosophy* (Clarendon Press, Oxford, 1989)

Kishan, B. V., *Schopenhauer's Conception of Salvation* (Andhra University Press, Waltair, Visakhapatnam, 1978)

Luft, Eric Von Der (Ed.), *Schopenhauer: New Essays in Honor of His 200th Birthday (Studies In German Thought and History, Vol. 10)* (Edwin Mellen Press, Lewiston, N.Y., 1988)

Magee, Bryan, *The Philosophy of Schopenhauer* (Oxford University Press, New York, 1983). Available in paperback. The most comprehensive and clear exposition of Schopenhauer's philosophy yet to appear in English. Highly recommended.

Magee, Bryan, *The Great Philosophers: An Introduction to Western Philosophy* (Oxford University Press paperback, New York, 1988). Contains an excellent chapter on Schopenhauer (in a dialogue with Frederick Copelston. Based on the acclaimed BBC television series, "The Great Philosophers" put together, hosted, and narrated by Bryan Magee. (It never aired in the US).

Magee, Bryan, *Misunderstanding Schopenhauer* (University of London, Institute of Germanic Studies, London, 1990) The 1989 Bithell Memorial Lecture. Excellent. Can be ordered online from the UK's Internet Bookshop.

Magee, Bryan, *Confessions of a Philosopher* (Weidenfeld & Nicolson, London, 1997) Two chapters (57 pages) of this interesting 500 page memoir are devoted to his discovery of Schopenhauer and to his philosophy.

Magee, Bryan, *Story of Philosophy* (Dorling Kindersley Publishing, 1998)

McGill, V. J., *Schopenhauer: Pessimist and Pagan* (Haskell House, New York, 1971)

Safranski, Rudiger, *Schopenhauer and the Wild Years of Philosophy* Translated by Ewald Osers (Harvard University Press, Cambridge, 1991)

Simmel Georg, *Schopenhauer and Nietzsche* Translated from the German by Helmut Loiskandl, Deena Weinstein, and Michael Weinstein (University of Illinois Press, Chicago, 1991)

Tanner, Michael, *Schopenhauer* (Pheonix, to be published November, 1998)

Young, J., *Willing and Unwilling: Study in the Philosophy of Arthur Schopenhauer* (1987)

Weiner, David Avrakam, *Genius and Talent: Schopenhauer's Influence on Wittgenstein's Early Philosophy* (Fairleigh Dickinson University Press, Rutherford, 1992)

Recommended Reading

Reading Schopenhauer: If you have not read any of Schopenhauer's works, start with *Essays and Aphorisms,* which contains his particularly important essay "On the Wisdom of Life," and then read Volume II of *The World as Will and Representation* (in E. F. J. Payne's translation). It is more approachable than Volume I. Volume II is basically a more engaging commentary on the material that was first presented more than twenty years earlier in Volume I, with more carefully chosen examples and additional years of reflection. I also recommend that you read his complete collection of essays (the two volume *Parega and Paralipomena*) and especially his relatively short book *On the Basis of Morality*.

The following are some reviews of Schopenhauer's books that readers have posted on Amazon.com:

On *The World as Will and Representation, vol. 2*

> "A brilliant assessment of life's situations. Philosophy of life..Very insightful. Very useful advice on dealing with trials and tribulations of life. Pessimistic but truthful assessment of institutions. My dad highly recommended this book and he was right. My dad advised me not to waste my time reading Volume I because it was too lengthy, it contained unimportant information, and was not a prerequisite for Vol. II."

On *Essays and Aphorisms*

> "Best introduction to Schopenhauer's thought. This book is a delight! Schopenhauer is one of those philosophers who knows how to write. If you enjoy wit and pithy aphorisms you will love this book."

On *A Pessimist's Handbook*

> "In the cynical 1990's, a work like "A Pessimist's Handbook", a synthesis of Arthur Schopenhauer's philosophy, would seem to be an ideal handbook for life. But this work provides as much food for thought today as it did in the 19th century. It seems to compel us to appreciate the freedoms this life has to offer, and for all of us the liberty to pursue our strengths. All else is transient and temporary. It rages against materialism and vanity, finding it a waste of our precious lives better spent in more fitting pursuits."

Reading about Schopenhauer: Bryan Magee's *Philosophy of Schopenhauer,* read concurrently with Volume II of the *World as Will and Representation* is, I think, the way to go. A lot of writing on Schopenhauer by professional philosophers is disappointing. The big picture gets lost in the artillery smoke of language and logic-based critical analysis (e.g., Gardiner's book on Schopenhauer). You also can't go wrong reading Magee's other books on Schopenhauer and on philosophy in general.

Books by and about Woody Allen

Books by Woody Allen

Don't Drink the Water (Random House, New York, 1967)
Getting Even (Random House, New York, 1971)
Without Feathers (Random House, New York, 1975)
God: A Comedy in One Act (Samuel French, New York, 1975)
Death: A Comedy in One Act (Samuel French, New York, 1975)
Play It Again Sam Edited by Richard J. Anobile (Grosset & Dunlap, New York, 1997)
Side Effects (Random House, New York, 1980)
The Floating Light Bulb (Random House, New York, 1982)
Four Films of Woody Allen (Random House, New York, 1982) Screenplays for *AnnieHall, Interiors, Manhattan, Stardust Memories*
Hannah and Her Sisters (Random House, New York, 1987)
Three Films of Woody Allen (Random House, New York, 1987) Screenplays for *Zelig, Broadway Danny Rose,* and *The Purple Rose of Cairo)*
Complete Prose (Random House, New York, 1991) Contains *Without Feathers, Getting Even,* and *Side Effects*

Books about Woody Allen (in chronological order)

Adler, Bill and Feinman,Jeffrey, *Woody Allen, Clown Prince of American Humor* (Pinnacle Books, New York, 1975)
Lax, Eric, *On Being Funny: Woody Allen and his Comedy* (Hamish Hamilton, London, Elm Tree Books, 1976)
Bendazzi, Giannalberto, *Woody Allen* (Castoro, Bologna, 1976)
Guthrie, Lee, *Woody Allen, A Biography* (Drake, London and New York, 1978)

Lebrun, Michel, *Woody Allen* (Pac, 1979)

Palmer, Miles, *Woody Allen, an illustrated biography* (Proteus, New York, 1980)

Hirsch, Foster, *Love, Death and the Meaning of Life* (McGraw-Hill, New York, 1981)

McKnight, Gerald, *Woody Allen: Joking Aside* (Hoaward & Wyndham, New York, 1982)

Jacobs, Diane, *…but we need the eggs: The Magic of Woody Allen* (St. Martins Press, New York, 1982)

McKnight, Gerald, *Woody Allen, Joking Aside* (Star Books, 1983)

Burton, Dee, *I Dream of Woody: Woody Allen as adored, repelled, lusted after, adulated, exposed and shared in the dreams of his fans* (William Morrow, New York, 1984)

Benayoun, Robert, *The Films of Woody Allen* (Harmony Books, New York, 1985)

Flashner, Graham, *Fun with Woody: The Complete Woody Allen Quiz Book* (Henry Holt, New York, 1987)

Navacelle, Thierry de, *Woody Allen on Location* (William Morrow, New York, 1987)

Wild, David, *The Movies of Woody Allen: A Short, Neurotic Quiz Book* (Putnam, New York, 1987)

Brode, Douglas, *Woody Allen: his films & career (Updated Edition)* (Citadel Press, Seacaucus, NJ, 1987)

Bendazzi, Giannalberto, *The Films of Woody Allen* (Ravette, 1987)

Sinyard, Neil, *The Filmsof Woody Allen* (Exeter Books, New York, 1987)

Pogel, Nancy, *Woody Allen (Twayne's Filmmakers Series)* (Twayne Publishers, Boston, 1987)

McCann, Graham, *Woody Allen: New Yorker* (Polity Press, Cambridge, UK, 1990)

Lax, Eric, *Woody Allen: A Biography* (Alfred A. Knopf, New York, 1991)

Alman, Mark, *A Woody Allen Encyclopaedia* (Pioneer Books, 1991)

Yacowar, Maurice, *Loser Take All: The Comic Art of Woody Allen* (Ungar,1979; new and expanded, Roundhouse, 1991)

Wernblad, Annette, *Brooklyn is Not Expanding: Woody Allen's Comic Universe* (Associated University Presses, Cranbury, NJ, 1992)

Spignesi, Stephen J., *The Woody Allen Companion* (Andrews and McMeel, Kansas City, 1992)

Björkman, Stig, *Woody Allen on Woody Allen: In Conversation with Stig Björkman* (Grove Press, New York, 1993)

Carroll, Tim, *Woody and his Women* (Little, Brown, London, 1993)

Sunshine, Linda (Ed.), *The Illustrated Woody Allen Reader*, (Alfred A.Knopf, New York, 1993)

Girgus, Sam, *The Films of Woody Allen* (Cambridge University Press, New York, 1993)

Champlin, Charles and Tseng, Derrick, *Woody Allen at Work: The Photographs of Brian Hamill* (Harry N. Abrams, New York, 1995)

Blake, Richard A., *Woody Allen: Profane and Sacred* (Scarecrow Press, Lanham, Maryland, 1995)

Fox, Julian, *Woody: Movies from Manhattan, A Biography* (Overlook Press, Woodstock, New York, 1996)

Woody Allen Filmography

Acting, screenplay, and direction

Take the Money and Run, 1969
Bananas, 1971
Everything You Always Wanted to Know About Sex (* but were afraid to ask)*, 1972
Sleeper, 1973
Love and Death, 1975
Annie Hall, 1977
Manhattan, 1979
Stardust Memories, 1980
A Midsummer-Night's Sex Comedy, 1982
Zelig, 1983
Broadway Danny Rose, 1984
Hannah and Her Sisters, 1985
Oedipus Wrecks (short film in omnibus *New York Stories*), 1989
Crimes and Misdemeanors, 1989
Husbands and Wives, 1992
Manhattan Murder Mystery, 1993
Bullets Over Broadway, 1994
Don't Drink the Water, 1994 (made for television only)
Mighty Aphrodite, 1995
Everyone Says I Love You, 1996
Deconstructing Harry, 1997

Screenplay and direction

Interiors, 1978
Purple Rose of Cairo, 1985
September, 1987
Radio Days, 1987
Another Woman, 1988
Alice, 1991

Screenplay and acting

What's New, Pussycat?, 1965
Casino Royal, 1967
Play It Again, Sam, 1972

Acting only

The Front, 1976
Scenes from a Mall, 1992

Other

What's Up, Tiger Lily, 1966 (Screenplay, dialogue, additional direction—borrowed and copied from the Japanese film *Kizino Kizi* by Senkichi Taniguchi, with some original scenes)
Don't Drink the Water, 1969 (based on the play by Woody Allen; screenplay by R. S. Allen and Harvey Bullock)

Standup comedy albums and plays by Woody Allen

Woody Allen, volumes 1 and 2 (Colpix CP 488, 1964-65)
The Third Woody Allen Album (Capitol ST 2986)
Woody Allen: The Nightclub Years, 1964-1968 (United Artists UA 9968)
Play It Again Sam, staged in 1969
Don't Drink the Water, 1969
The Floating Lightbulb, 1981
One-act plays, not staged:

Death Knocks
Death
God
The Query

Index

Endnotes

Chapter 1

[1] A lot of information has been published on mass extinctions. A very good introduction to this subject is: J. D. MacDougall, *A Short History of Planet Earth: Mountains, Mammals, Fire, and Ice* (John Wiley & Sons, 1996). See also "Extinctions: A Paleontological Perspective," by David Jablonski, in *Science*, vol. 253, pages 754-777, 1991; and this very nicely written article by James Trefil, "Stop to consider the stones that fall from the sky," *Smithsonian 20 (No. 6)*: 81-93, (September) 1989. The June 1989 issue of the *National Geographic* (vol. 175, no. 6, pages 662-700) also has a very well done article on 12 mass extinctions (5 of them immense) that have occurred since the fossil record of animals began about 800 million years ago. *Science News* (vol. 141) has a nice, concise two-part article about the Chicxulub crater by Richard Monastersky: "Closing in on the Killer: The Caribbean gains favor as the scene of an ancient global catastrophe" (January 25, 1992 issue, pages 56-58), and "Counting the Dead: Did the dinosaurs and their contemporaries die out with a bang or a whimper?" (February 1, 1992 issue, pages 72-75).

[2] Richard Dawkins, *The Selfish Gene* (New York: The Oxford University Press, 1976) pg. 214
For an up-to-date view of human cultural evolution, see Jared Diamond, *Guns, Germs, and Steel: The Fates of Human Societies* (Norton, New York, 1997)

[3] From *On the Basis of Morality,* page 153.

[4] See Ronald Seigel, *Intoxication: Life in Pursuit of Artificial Paradise* ,(E.P. Dutton, 1989) and Martin Booth, *Opium: A History* (Dunne Books, 1998)

[5] See "Boredom's Uses" by Joseph Brodsky, *Dartmouth Alumni Magazine* October, 1989, page 30.

[6] See William Lutz, *Doublespeak* (New York: Harper and Row, 1989).

[7] Allan Janik and Stephen Toulmin, *Wittgenstein's Vienna* (New York: Simon Schuster, 1973), page 269.

[8] See Carolly Erickson, *The Medieval Vision: Essays in History and Perception* (Oxford University Press, New York, 1976) for a lucid discussion of this subject.

[9] Originally given to me by my brother, Rody, for an excellent review article on the history of the self, see Roy Baumeister, "How the Self Became a Problem: A Psychological Review of Historical Research." *Journal of Personality and Social Psychology 52*: 163-176, 1987. See also his highly recommended book *Identity* (Oxford University Press, New York, 1986).

---

[10] A good place to start on the subject of aggressive behavior in humans is John Klama, *Aggression: The Myth of the Beast Within* (New York: John and Wiley and Sons, 1988).

[11] See John Bowlby, *A Secure Base* (Basic Books, New York, 1986) and Lloyd Silverman's article, "Two Unconscious Fantasies as Mediators of Successful Psychotherapy," in *Psychotherapy: Theory, Research and Practice, 16*: 215-230 (No. 2 Summer) 1979.

[12] Otto Rank, *The Trauma of Birth*, (1924, tr. anon. 1929).

Chapter 2

[13] See Lynn Margulis and Dorion Sagan, *Origins of Sex: Three billion Years of Genetic Recombination* (Yale University Press, New Haven, 1986) for a detailed, scientific account of this subject.

[14] From S. L. Washburn and Ruth Moore, *Ape Into Man: A Study of Human Evolution* (Little Brown and Company, Boston, 1974).

[15] See Elaine Morgan, *The Aquatic Ape: A Theory of Human Evolution* (Stein and Day/Publishers, New York, 1982).

[16] See Nancy Burley, "The Evolution of Concealed Ovulation," *American Naturalist 114*: 835-838, 1979.

[17] For a fascinating and informative account of this subject, see William Calvin, *The River that Flows Uphill: A Journey from the Big Bang to the Big Brain* (MacMillan Publishing Company, New York, 1986). See also Lee Berger's article in the *National Geographic*, August 1998 issue, titled "The Dawn of Humans: Redrawing Our Family Tree?"

[18] See Carl G. Jung, *Man and his Symbols* (Doubleday and Co., New York, 1964) and Pierre Grimal, *The Dictionary of Classical Mythology* (Basil Blackwell Publisher, Oxford, 1986).

[19] See the well-researched and beautifully illustrated book by Roger Lewin, *In the Age of Mankind* (Smithsonian Books, Washington, D.C., 1988) for a detailed discussion of this subject.

[20] For an excellent discussion of the relationship between consciousness, mythology, and Jungian psychology, see the relevant sections in Robert Donnington's *Wagner's Ring and Its Symbols: The Music and the Myth* (Faber and Faber, Boston, 1984).

[21] See William H. Masters, Virginia D. Johnson, Robert C. Kolodny, *Sex and Human Loving* (Little, Brown, Boston, 1986) and Robert J. Sternberg and Michael L. Barnes, Editors, *The Psychology of Love* (Yale University Press, New Haven, 1988).

[22] See "Mating for Life? It's Not for the Birds or the Bees," by Natalie Angier in the Science section of *The New York Times,* August 21, 1990.

Chapter 3

[23] From *On the Basis of Morality*, page 213.

[24] From *On the Basis of Morality*, page, 177.

[25] From *On the Basis of Morality*, page 206.

[26] From *On the Basis of Morality*, page 170.

[27] See Timothy Ferris, *Coming of Age in the Milky Way* (William Morrow and Company, New York, 1988) page 383.

[28] The smallest and by far the most prevalent of the 90 different kinds of atoms that are found in the universe is hydrogen. It contains one proton in its nucleus and one electron in its outer electron shell. The atoms that make up a human being are predominately carbon, oxygen, nitrogen, and hydrogen. Approximately 65% of our body weight consists of molecules of water, which consist of two hydrogen atoms joined together with one oxygen atom through their shared electrons. The proteins in our bodies (which are the main molecular constituents of the cells of all living things) contain approximately 54% carbon, 23% oxygen, 16% nitrogen, and 7% hydrogen. Small percentages of the inorganic elements of sodium, potassium, calcium, magnesium, chlorine, sulfur, and phosphorus are present in our bodies in ionic form; and our tissues also contain trace elements such as cobalt, copper, and zinc.

[29] See Timothy Ferris' book cited above for a very readable general introduction to this subject. See also Stephen W. Hawking, *A Brief History of Time: From the Big Bang to Black Holes* (Bantom Books, New York, 1988); Heinz R. Pagels, *Perfect Symmetry: The Search for the Beginning of Time* (Simon and Schuster, New York, 1985); James Trefil, *The Dark Side of the Universe: A Scientist Explores the Mysteries of the Cosmos* (Charles Scribner's Sons, New York, 1988); and Steven Weinberg, *The First Three Minutes: A Modern View of the Origin of the Universe* (Updated Edition) (Basic Books, New York, 1988).

[30] See Sorin Sonea, "The Global Organism: A New View of Bacteria", *The Sciences*, July/August 1988, page 38.

[31] The findings that I have briefly mentioned on the role of macrophages in the etiology of coronary artery disease comes from Dr. Michael Brown's laboratory at the University of Texas SW Medical

Center in Dallas, and were first reported in the Tuesday, October 25, 1988 issue of the *The New York Times.*

[32] The field of psychoneuroimmunology was inaugurated by Robert Ader with the publication of *Psychoneuroimmunology*, in 1981, by Academic Press, Inc. See, more recently, Berczi, Istvan and Szelenyi, Judith (Eds.), *Advances in Psychoneuroimmunology* (New York, Plenum, 1994) and Paul, R. Martin, *The Healing Mind: The Vital Link Between Brain and Behavior, Immunity and Disease* (Dunne Books, 1998)

[33] See Meyer Friedman, *Type A Behavior: Its Diagnosis and Treatment* (Plenum, New York, 1996)

[34] For the correlation of hostility with coronary disease in Type A and B individuals see Julius, M, etal, "Anger-coping types, blood pressure, and all-cause mortality: A follow-up in Tecumseh, Michigan (1971-1983)," *American Journal of Epidemiology 124*: 220-233, 1986.

[35] For literature on the Type C personality pattern see Baltrusch, H.J. F., etal, "Cancer from the biobehavioral perspective: the type C pattern," *Activ. Nerv. Sup. (Praha), 30*: 18-20, 1988; and Temoshok, Lydia, "Personality, coping style, emotion and cancer: towards an integrative model," *Cancer Surveys 6*: 545-567, 1987.

Chapter 4

[36] See Hays, H.R. *In the Beginnings: Early Man and his Gods* (G. P Putnam's Sons, New York, 1963), and especially William Irwin Thompson's *The Time Falling Bodies Take to Light: Mythology, Sexuality and the Origins of Culture* (St. Martin's Press, New York, 1981).

[37] From *The World as Will and Representation* vol. 2, page 161.

[38] From William Irwin Thompson, *The Time Falling Bodies Take to Light: Mythology, Sexuality and the Origins of Culture* (St. Martins Press, New York, 1981), page 103.
See also Elise Boulding, *The Underside of History: A View of Women through Time* (Westview Press, Boulder, Colorado, 1976).

[39] From Monica Sjöö and Barbara Mor, *The Great Cosmic Mother: Rediscovering the Religion of the Earth* (Harper and Row, San Francisco, 1987). This is one of the more provocative studies in the field of Goddess worship.

[40] See also Alexander Marshack, *The Roots of Civilization* (McGraw-Hill, New York, 1972); James Mellaart, *Çatal Hüyük* (Thames & Hudson, London, 1967); Hershel Shanks, ed., *Ancient Israel: A Short History from Abraham to the Roman Destruction of the Temple*, (Biblical

Archaeology Society, Washington, D.C., 1988), page 118; and James Preston *Mother Worship: Theme and Variation* (University of North Carolina Press, Chapel Hill, 1982).

[41] See Graham McCann, *Marilyn Monroe* (Rutgers University Press, New Brunswick, 1988).

[42] These examples are taken from Patrice Wynne's *The Womanspirit Sourcebook* (Harper and Row, San Fransico, 1988) pages 186-205. See also Margot Adler, *Drawing Down the Moon: Witches, Druids, Goddess-Worshippers, and Other Pagans in America Today* (Beacon Press, Boston, 1986).

[43] The one act play *God* is in his book *Without Feathers*

[44] From William James, *The Variety of Religious Experience* (Mentor Books, New York, 1958; originally published in 1902), page 381.

[45] Paul Johnson, *Modern Times: The World from the Twenties to the Eighties* (Harper and Row, New York, 1983), page 699.

[46] See Konstantin Kolenda, "Thinking the Unthinkable: Logical Conflicts in the Traditional Concept of God." *Journal for the Scientific Study of Religion 8*, 72-78, 1969.

[47] From his essay "On Religion" in *Parerga and Paralipomena: Short Philosophical Essays,* page 345.

[48] *Parerga and Paralipomena: Short Philosophical Essays*, page 347.

[49] See Robert W. Crapps, *An Introduction to Psychology of Religion* (Mercer University Press, Macon, Georgia, 1986), page 317.

[50] "Nefarious times we live in" is in his book *Side Effects.*

[51] From "On Religion," in *Parerga and Paralipomena: Short Philosophical Essays,* page 362.

[52] This statement by Judge Robert Potter was selected as the "Quotation of the Day" in the October 25, 1989 issue of *The New York Times*.

[53] See Perry Miller's essay "From Edwards to Emerson" in his *Errand Into the Wilderness* (Belknapp Press, Cambridge, 1975).

[54] Ralph Waldo Emerson, *The Complete Works of Ralph Waldo Emerson*, 12 vols. (AMS Press, New York, 1968), vol. 1, page 27.

[55] See Schopenhauer's "Essay on Spirit Seeing" in *Parerga and Paralipomena*, vol. 1

---

[56] Robert C. Fuller gives a concise and lucid discussion of this subject in his book, *Americans and the Unconscious* (: Oxford University Press, New York, 1986).

[57] Jean Lanier, "From Having a Mystical Experience to Becoming a Mystic--Reprint and Epilogue," *ReVISION: The Journal of Consciousness and Change, 12 (no. 1)*: 41-44, (Summer) 1989

[58] See Frances Vaughan's article "True and False Mystical Experiences: Some Distinguishing Characteristics" in *ReVISION: The Journal of Consciousness and Change, 12 (no. 1)*: 5. (Summer) 1989.

[59] From Arthur Koestler, *The Lotus and the Robot* (Hutchinson Co Lt, London, 1960), page 353.

[60] See A. M. Greeley, *Ecstasy: A way of knowing.* (Englewood Cliffs, N.J.: Prentice-Hall, 1974 and L. Eugene Thomas and Pamela E. Cooper, "Incidence and Psychological Correlates of Intense Spiritual Experiences," *The Journal of Transpersonal Psychology, 12, (no. 1):* 75-85, 1980.

[61] John Clellon Holmes wrote an excellent analysis of this subject titled "The Philosophy of the Beats," which first appeared in *Esquire* in 1958 and was reprinted in the June 1983 issue (pages 158-167). The three best biographies of Jack Kerouac are by Tom Clark, *Jack Kerouac.* (Harcourt Brace Jovanovich, San Diego, 1984); Gerald Nicosia, *Memory Babe: A Critical Biography of Jack Kerouac.* (Grove Press, New York, 1983); and Warren French, *Jack Kerouac: Novelist of the Beat Generation.* (Twayne Publishers, Boston, 1986). Barry Miles has written an interesting, but flawed, biography of Allen Ginsberg, titled *Ginsberg: A Biography* (Simon and Schuster, New York, 1989).

[62] William Plummer, *The Holy Goof: A Biography of Neal Cassady* (Prentice- Hall, Englewood Cliffs, N.J., 1981), page 24.

[63] Gregory Stephenson, *The Daybreak Boys: Essays on the Literature of the Beat Generation* (Southern Illinois University Press, Carbondale, Illinois, 1990).

[64] Ralph Waldo Trine, *In Tune with the Infinite* (Crowell, New York, 1897).

[65] Paul Kurtz, "The New Age in Perspective" *The Skeptical Inquirer, 13:* 365-374, Summer 1989.

[66] See Russell Chandler, *Understanding the New Age* (Word Publishing, Dallas, 1988).

[67] Gordon W. Allport, *The Individual and His Religion* (Macmillan, New York, 1950).

[68] Brendan Gill used this phrase to respond to criticism about his scathing article on Joseph Campbell that appeared in the *New York Review of Books*, September 28, 1989. The letters to the editor about this article and his response to them appeared in the November 9, 1989 issue.

Chapter 5

[69] From Martin William's article titled "Homage to Bill Evans," in *Bill Evans: The Complete Riverside Recordings* (R018).

[70] This review appeared in the February 15, 1988 issue of *The New Yorker*.

[71] From his speech on the occasion of receiving the Honorary Degree of Music from Columbia University on January 9, 1923, titled "The Essence and Effect on Music."

[72] See Birnholz, J. C. and Benacerraf, B. B., "The Development of Human Fetal Hearing." *Science 222*: 516-518, 1983.

[73] See Walker, D., etal., "Intrauterine Noise: A Component of the Fetal Environment." *American Journal of Obstretics and Gynecology 109*: 91, 1971.

[74] From Yehudi Menuhin and Curtis W. Davis, *The Music of Man* (Methuen, New York, 1979) Page 3.

[75] From John Diamond, *The Life Energy in Music*. (Archaeus Press, Post Office Drawer 37, Valley Cottage, NY 10989) page 25

[76] See DeCasper, A. J. and Fifer, W. P., "Of human bonding: Newborns Prefer their Mother's Voice." *Science 208*: 1174-1176, 1980.

[77] From Gerald Early, *Tuxedo Junction: Essays on American Culture* (New York: Ecco Press, 1989), paage 265. This author also describes Charlie Parker as jazz's "existential hero," John Coltrane as its "patron saint," Art Blakey as its "raconteur," and Miles Davis as its "brooding, arrogant *artiste.*"

[78] From *The Smithsonian collection of Classic Jazz (Revised),* Selected and annotated by Martin Williams (:The Smithsonian Collection of Recordings, Washington DC, 1987). "Cross-Cross" and "Bag's Groove" are included in this collection.

[79] See *The World as Will and Representation* vol. 1, pages 262 and 259.

[80] From Wilhelm Furtwängler, *Concerning Music* (Westport, Connecticut: Greenwood Press, 1953) page 26.

[81] See *Concerning Music*, page 56. See also David Horowitz, *Understanding Toscanini: How he Became an American Culture-God and Helped Create a New Audience for Old Music* (Alfred A. Knopf, Inc., New York, 1987) for an in-depth discussion of this concern.

[82] These quotes on Anton Bruckner are from a lecture by Wilhelm Furtwanger on him which appeared in *Music and Musicians* Volume 23, pages 26-30, September, 1974.

For a more detailed discussion of the concept of simplicity see the excellent article titled "The Aesthetic Equation" by Hans Christian von Baeyer, in the January/February 1990 issue of *The Sciences*.

[83] This was said by the artist Kokoschka. See David Cairn's article on Furtwängler in *The New Grove Dictionary of Music and Musicians* (MacMillan Publishers Ltd., London, 1980), and also his article titled "A Supreme Musician," in the Dec 1979 issue of *Hifi News and Record Reviews* (England).

[84] In *Furtwängler Recalled*, Edited by Daniel Gillis (Meredith Press, New York, 1965) page 40. This quote is from a memorial broadcast given by Yehudi Menuhin on December 7, 1954.

[85] This review by David Cairns appeared in the Sunday *Times of London*, Jan 9, 1977.

[86] See John G. Fuller, *Are the Kids All Right?: The Rock Generation and its Hidden Death Wish!* (New York: Times Books, 1981). See also Robert Duncan, *Only the Good Die Young: The Rock'n'Roll Book of the Dead* (New York: Crown Publishers, 1986) and David Henderson, *Jimi Hendrix: Voodoo Child of the Aquarian Age.* (New York: Doubleday, 1978).
Some musical psychologists theorize that the self-destructive effects of rock music are due to two major causes: its near-deafening volume and its "stopped anapestic beat." This kind of music is amplified to such high decibel levels that those who perform it and those who listen to it can, with repeated exposure, damage their hearing. Rock rhythm emphasizes the back beat--the second and fourth beat in each four beat measure. But as with Voodoo music, the emphasis on the backbeat is greatly enchanced by the anapestic rhythmic cadence of da-da-Da, with the two short syllables falling on the first (and third) beat and the long syllable on the second (and fourth) beat. In songs like the Rolling Stone's "Sympathy for the Devil" that have a relatively fast tempo the da-da-Da cadence falls on the first, second, and third beat respectively, with the fourth beat of the measure being essentially "stopped." The natural rhythmic flow of the music is thus being continually disrupted (in contrast to the comforting, continuous Da-da rhythm of the maternal heartbeat). As with voodoo rituals, the driving anapestic rock rhythm can in some instances induce an almost trance-like, hypnotic state in the listener. John Diamond has shown that the stopped anapestic rhythm weakens one's muscles and, in effect, reverses "body morality," so that what is good is bad and what is bad seems good. One can easily demonstrate this muscle-weakening effect by applying firm downward pressure to a person's outstretched arm while he or she listenes to the different rhythms that can be selected on a synthesizer. When the rock rhythm is selected the (deltoid) muscle that holds out one's arm immediately goes weak and it takes relatively little force to push the arm down. The other rhythms on a synthesizer, such as a samba, swing, waltz, and foxtrot, do not have this effect, and a person can continue to frimly hold his or her arm outstretched even when a relatively strong downward presure is applied. See John Diamond, *Your Body Doesn't Lie* (Alfred A. Knopf, New York, 1973), and John Fuller's *Are the Kids All Right?: The Rock Generation and its Hidden Death Wish!* pages 130-135.

[87] From John Rockwell's article "Why Rock Remains the Enemy," in the January 21, 1990 issue of *The New York Times*.

[88] See Allan Janik and Stephen Toulmin, *Wittgenstein's Vienna* (New York: Simon and Schuster, 1973) page 34, about the Waltz.

[89] See Robert Donington, "Wagner and Die Meistersinger," *Opera News*, Vol. 40. no. 21 (17April 1976), page 19.

[90] K.C. Cole, *Sympathetic Vibrations: Reflections on Physics as a Way of Life* (New York: Bantam Books, 1985) page 265.

[91] See J. W. N. Sullivan, *Beethoven: His Spiritual Development* (New York: Mentor Books 1927/1949).

[92] Some of Beethoven's highest energy and most metaphysical works are the Piano Sonatas Opus 106 (*Hammerclavier*), 109, 110, and 111; the Diabelli Variations and Bagatelles of Opus 119 and 126; the String Quartets 127, 130, 132, and 135, and the Grosse Fuge (Opus 133); the Ninth symphony; and the *Missa Solemnis.* (See John Diamond's *The Life Energy in Music*, pages. 124-132.)

[93] From Joseph Horowitz, *Understanding Toscanini* (New York: Alfred A. Knopf) Pg. 136.

[94] From an article about Celibidache in April 20, 1989 issue of *The New York Times.*

[95] *The World as Will and Representation*, Vol I, Pg. 260.

[96] Except possibly for Bryan Magee's relatively short *Aspects of Wagner*, arguably the best one volume study of Richard Wagner is Barry Millington's *Wagner* (Vintage Books, New York, 1987).

[97] Henri Bergson, *An Introduction to Metaphysics***,** translated by T. E. Hulme (G. P Putman's Sons, New York, 1912).

[98] "My Speech to the Graduates" is in Woody Allen's book *Side Effects* (Random House, New York, 1980).

[99] The first book Schopenhauer wrote is titled *On the Fourfold Root of the Principle of Sufficient Reason.*

[100] From J. Huizinga, *Homo Luden* (Beacon Press, Boston, 1950), page 171. (This is a wonderful book.)

Chapter 6

[101] 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.)

[102] 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.

[103] For more about the origin of mortuaries and the determination of death, see Arnold, J.D., etal. "Public Attitudes and the Diagnosis of Death," *Journal of the American Medical Association 206*: 1949-1952, 1968.

[104] 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.

[105] William R. Clark, *Sex & the Origins of Death* (Oxford University Press, New York, 1996)

[106] From *Sex & the Origins of Death*, page 83 (1998 paperback edition)

[107] 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)

[108] 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)

[109] From *The World as Will and Representation, vol. 2*, page 466.

[110] 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.

[111] 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

[112] 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*

[113] 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)

[114] Quote on Mahler from: Bruno Walter, *Gustav Mahler* (Alfred A. Knopf, New York, 1958), pages 146-7.

[115] 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.