

Introduction: Why Any of This Matters

IF YOU ARE READING this book, and are aware that you are reading a book, it is a fair guess that you are a human. In which case one of the most important questions you could ever ask is, What does it mean to be a human? It may be one of the questions that prompted you to pick up the book. It is certainly a question the author—also a human person—is profoundly interested in.

Of course we are not alone in asking. Humans have been questioning our meaning and nature for as long as we have been recording our questions. For those of us living in the twenty-first century, however, the question may take on new significance in light of recent developments in neuroscience (for example locating the parts of the brain used even for such tasks as moral reasoning), results of modern computer science and artificial intelligence (such as the ability of computers to beat humans at games ranging from chess to *Jeopardy*), and recent portrayals of both humans and computers in popular film and television (from the Terminator franchise begun in 1984 to the Matrix franchise begun fifteen years later to the 2013 film *Her*). With these examples in mind, we might be somewhat more specific with our questions. What does it mean to have a human mind? Is the human mind, in all its complexity, just a very complex machine? Can the human mind be completely reduced to a computational model? Is the correct understanding of human persons that we are complex biochemical computers?

Until relatively recently in our human history, the majority of human persons throughout the world would have answered those last three questions with a resounding “No!” Most people in most cultures throughout history have believed—and have suggested in their art, literature, philosophy, and religion—that there is something more to the human person than the body, and that we are more than biochemical machines. Humans were understood to be spiritual as well as physical

beings: to have an immaterial soul as well as a material body. For the past two centuries, however, a growing number of prominent, influential, and respected thinkers have answered the questions differently.¹ They have said that the physical reality is all there is, and that the human person really is just a biochemical machine. Our minds, we are now told by various philosophers, neuroscientists, and filmmakers, are just very complex computers. If by the word *spiritual* one is referring to some sort of nonphysical reality, then the answer often given is, No, humans are not spiritual; the physical reality is the only reality.

A history of this philosophical idea is well beyond the scope and purpose of this book,² but certainly this belief that humans are just biochemical machines had taken deep root by the middle of the twentieth century. In this first half of the twenty-first century, it is arguably the predominant understanding, at least in many mainstream academic and secular scientific circles of the West. As noted, it is the view espoused in the teachings and writings of numerous influential figures over the past half century: scientists, philosophers, and mathematicians as well as artists, writers, and filmmakers. It is preached (and accepted) in many university classrooms, and simply assumed to be true in countless newspaper articles and magazine stories, from the pages of *Popular Science* to those of *National Geographic*. And as this idea becomes more widely accepted, the implications are being explored. If we humans really are complex computers, then maybe we can get rid of our current biological minds altogether (and bodies too, for that matter) and replace them, or at least enhance them, with silicon ones.

Raymond Kurzweil is one of the chief proponents of this view. As a popular author and widely respected engineer and inventor, one of PBS's "sixteen revolutionaries who made America," and the winner of numerous awards for his technological achievements, his views are influential. In his book *The Singularity Is Near: When Humans Transcend Biology*, Kurzweil predicts a rapidly approaching future "singularity": a "period during which the pace of technological change will be so rapid, its impact so deep, that human life will be irreversibly transformed." Eventually, he

1. Certainly this idea can be traced further back than two hundred years. Prior to the late nineteenth century, however, the idea was not yet prevalent among many prominent and influential thinkers, and it did not have the scientific language of the twentieth century to provide an alternate model.

2. Interested readers might enjoy Charles Taliaferro's fascinating study, *A Brief History of the Soul*.

proclaims, the biological intelligence we now associate with human intelligence will be indistinguishably merged with computer intelligence. Our future will transcend biology.³

Kurzweil's ideas have been hailed by many other influential figures, such as Bill Gates (founder of Microsoft). There is now a regularly scheduled "Singularity Summit," which has been held at prestigious institutions like Stanford University, with high-profile speakers. As an example of how close to home these ideas can come, as I was completing the first edition of this book I learned that in my own hometown of Bristol—a rural Vermont town with a population of under 4,000 human persons⁴—the millionaire entrepreneur and transgender human Martine Rothblatt who founded both Sirius Satellite Radio and also the multi-billion dollar biotech firm United Therapeutics had begun a nonprofit organization, Terasem Movement Foundation, Inc., and a related religious organization Terasem Movement Transreligion. Like Kurzweil, Rothblatt is predicting and working toward a future immortality through downloading our consciousness onto computers. She is using film and radio (and apparently a sizeable amount of money from her business ventures) to help promote her religious ideas: to help bring about the age of transhumans, or "transbemans" as TMF calls them. Their robot BINA48 has received a fair bit of attention in national media including a 2014 appearance on *The Colbert Report*.

The broad acceptance of these ideas is also evidenced by their transition from classrooms and philosophical treatises into popular media. In the culturally iconic Matrix trilogy of films (1999–2003), set at some distant point in a post-apocalyptic future, human consciousness has been connected to a computer. The vast majority of humans unknowingly live their entire lives in a virtual reality known as the Matrix, while their biological bodies are stored in vats and never used except for the production of electrical power. Humans have actually become "brains in vats," like in the famous thought experiment of that name. Although humans in the Matrix still seem to be dependent on their brains—thus leaving open the question of whether human consciousness is fully reducible to the bits and bytes of computer code—the film clearly portrays them as capable of living entirely within the virtual reality of the Matrix through

3. Kurzweil, *The Singularity Is Near*, 7.

4. Publically available 2010 US census data.

neural implants, which itself is an important aspect of Kurzweil's future predictions.

And in the earlier film *Tron* (1982) and its more recent sequel *Tron: Legacy* (2010), the hero Kevin Flynn (and in the later film, his son Sam as well) is captured by a computer when his entire body is scanned and downloaded into the computer's memory. The underlying philosophical assumption of this plot device is that a person is reducible to a pattern of data. The 2014 Wally Pfister film *Transcendence*, starring Johnny Depp, was inspired directly from the singularity concept of downloading a human consciousness into a powerful computer.

Of course, science fiction has us imagine the other direction as well: humanoid computers, or at least computers that think and act with human intelligence and apparent self-consciousness. Even as *The Matrix* shows humans whose consciousnesses exist in cyber reality, it also imagines computer programs (Agent Smith's and Sati's family of programs) appearing like humans, and behaving with human intelligence and consciousness, and even humanlike emotions. The list of examples goes on, including the films *Blade Runner* (1982), *A.I.* (2001), *I, Robot* (2004), *Interstellar* (2014), *Ex Machina* (2015), *Tomorrowland* (2015), and perhaps the most iconic example, the Terminator films and television series spin-off. The human imagination has seemingly long accepted the idea of the biological human and the silicon digital computer slowly merging and perhaps becoming indistinguishable—even when they are at war with each other, as in the 2004–2009 *Battlestar Galactica* television series, the Matrix and Terminator films, or the 2015 film *Avengers: Age of Ultron*.

The significance of such an assumption cannot be overstated. As Kurzweil's books illustrate, there are dramatic implications to our understanding of what it means to be human. Proponents of the view that humans are complex computers have argued the importance of accepting this understanding. To reject it, they argue, is to hamper scientific progress: to view the human person as somehow spiritual is like imagining a ghost pushing buttons in a machine; it is superstitious and antiscientific; it prevents us from discovering, understanding, and ultimately making use of the real mechanisms of the computational human brain that controls our actions and determines who we are.

Oponents of this view, by contrast—those who believe there is such a thing as a human spirit that is not merely physical or reducible to a computational device—warn of the dangers of treating human persons as though we were machines. They warn that it is dehumanizing and

destructive to try to program, control, or tinker with humans through conditioning, drugs, or genetic manipulation, as we might tinker with a car, computer, or DVD player. What if we pursue Kurzweil's prophecy based on his philosophical assumption that humans are merely computational, and this pursuit leads to "irreversibly transformed" human life? And what if we then find that the transformation is based on an assumption that is false? What will we be transformed into? What will be the consequences?

These two different views of what it means to be human are mutually exclusive and profoundly at odds. What both sides agree on, however, is that the question is important: Are we, or are we not, machines?

The focus of this book is that one question. Are humans, in our totality, complex biochemical computers? Is the mind a machine? Hand in hand with that question, as the primary means of exploration, this book also asks the question, What does it matter?

Note that this questions of whether humans are machines is not a question that can be answered by neuroscience (or by science in general). Research in the growing field of neuroscience has produced many fascinating results related to how the brain functions. But while results have much to do with the physical reality and the physical body (including the physical brain), studying the physical brain and its mechanisms is incapable of revealing whether there is anything more than a physical brain and body. So neuroscience, however interesting the field is, is irrelevant to the central question of this book, whether humans are computers. The first chapter of the book will make this point more clear.

This is important enough to require some more comment. Asking whether humans, in our totality, are complex biochemical computers is not the same as asking whether or how the human brain, with its immensely complex neural structure, is (or has the ability to function as) a powerful computer. For that later question, the field of neuroscience may indeed be very helpful. But as we will explore shortly, these questions are the same only if the mind and the brain are the same thing. The question of this book is whether the human person in her or his completeness is and can be fully understood as a computational device: a complex biological or biochemical machine. (We use the phrase *human person* above to distinguish from the human body in order emphasize the possibility that the conscious person might be more than biological body. Hereafter we use the simpler human to mean the complete conscious human person, which may or may not be more than a biological human body.) As

noted above, it is a widely held modern presupposition that the answer is yes: persons are fundamentally reducible to complex computational devices.⁵ Under the philosophical label of physicalism the assumption is that the physical human is the complete human, that all that exists of the human is the physical body.

Does It Matter to You and Me?

Although the central question posed above is relatively simple to state, it is vitally important in its significance and implications. And it brings us back to the early question, What does it mean to be human? This is one of the most important and most interesting questions ever asked. It is a question of great philosophical interest. It is a question of anthropological, psychological, and historical import. It is also a question with important practical implications, a question that matters as much to the present as to the past, as much to the common person on the streets as to professional philosophers, psychologists, and anthropologists. That is, it is one of the most important questions that you and I can try to answer today, tomorrow, and the next day.

What we believe it means to be human is vitally important to how we live our lives, day in and day out, at the most practical level. Professional philosophers (and books like this one) may help us understand what the question means and may provide useful tools for answering it, but ultimately, all of us ought to ponder the question for ourselves. We all live our lives based on some set of answers to this question, whether explicit or implicit, carefully thought out or not. And our answers matter. Our basic philosophical presuppositions, whether phrased in philosophical terms or not, impact our daily decisions and behaviors. That is to say, what we think about the world in which we live, and about our place in the cosmos, has a dramatic impact on how we live in the cosmos, and on how we interact with it and with our fellow creatures.

5. This philosophical idea (physicalism) has actually been held, suggested, or defended by at least a few persons for hundreds of years. Before the mid-twentieth-century invention of high-speed digital computers, it would have been phrased philosophically in terms of “machines” rather than “computers.” Nonetheless, though computers are immeasurably more complex (and also faster) than even the most advanced machines of the eighteenth or nineteenth centuries, the underlying philosophical idea is essentially the same.

For many people, however, the idea of a world view, or *weltanschauung*—a fundamental outlook on life’s major metaphysical questions; a set of basic assumptions or presuppositions—remains an abstract, academic, and esoteric concept with seemingly little practical significance in day-to-day life. Thus, it remains in the minds of many a topic of interest only in university classrooms (and perhaps not even there). When an academic defines the concept of world view, his or her definition probably involves ontology, teleology, cosmology, epistemology, and, perhaps, cosmogony, cosmography, and even theology. All of these are important, but they can be difficult to translate from technical language to practical implications.

For example, we all have an implicit epistemology: a theory of knowledge, of what it means to know something, and how it is we know what we know. But our epistemology, though functional, may be subconscious. We may not even be aware of what it is, and we likely have a difficult time articulating it. We may know what we know, or think we know what we think we know, but we don’t necessarily think about how or why we know it, and how or why we know that we know it, or just what it means to know it. In short, then, everybody has a world view, but we do not necessarily spend much time thinking about what that world view is, at least not in philosophical terms. And we don’t think nearly enough about the implications of our world view for how we live.

Sometimes the first important step is translation. Dick Keyes, the author of several excellent books, including *Beyond Identity*, suggests one helpful approach. He boils down one’s world view to three fundamental questions,⁶ easy to state and to understand, but profoundly important:

1. What exists?
2. What is wrong?
3. What is the solution?

When phrased like this, it is easier to see why our answers will prove fundamental to how we live, whether we are consciously aware of our answers or not.

6. Keyes is by no means the first person to suggest three fundamental philosophical questions. Immanuel Kant, in his *Critique of Pure Reason* (1787) suggest three great existential questions: “What can I know? What ought I to do? What may I hope?” Though I don’t attempt to directly address Kant’s questions as they are phrased, they are all certainly relevant to the topic and are not unrelated to Keyes’s questions. I am exploring what is true about the human person, and how one might attempt to know what is true. In doing so, I will also address the question of whether the word “ought” makes sense with respect to human actions and choices.

Consider, for example, the question, What exists? The question could lead in many directions. Do I exist? Do other people exist? Do numbers exist? Do Platonic ideals or forms exist? Does God exist? Do objective morals or ethics exist? None of these questions are trivial, and there is no universal agreement on any of them, except perhaps the first.⁷ The focus of this book is what exists with respect to humans and human nature. What exists in the human individual? There are (at least) three different aspects of what it might mean to be a human, or three different parts of the human person that may or may not exist, and that have been explored, understood, affirmed, or denied by different philosophical traditions throughout history. These are body, mind, and spirit, sometimes collectively referred to as a tripartite soul.

Keeping in mind that there is no universal agreement on which, if any, of these three parts of the human person actually exist, here is one way they are traditionally understood. Body is the physical part of us—not only the skin, bones, heart, lungs, muscles, etc., but also the neurons in our brains that impact how we think and feel. Spirit is that part of us that might be said to be eternal or to transcend in some way the mortal body. It is nonphysical. If, as many religions and philosophies have taught, we as individuals have some sort of life after death—that is, a life after the death of our biological physical bodies—then since bodies obviously die, there must be some nonbiological or nonphysical side of us that continues on after bodily death (perhaps, at some point, with a new and different body). Finally, the concept of mind (as distinct from the biological brain, which is just a part of the body) is often thought of as being in the middle, between body and spirit. The mind consists of our thoughts and identities as human persons, what we refer to or feel as our consciousness or self-consciousness. My mind—as in my memories,

7. Certainly everybody can say, “I exist” without reservation. However, each individual who says this has a different subject—a different “I”—in mind, and perhaps even a different understanding of what “existence” is. Beyond that, there appears to be no universal agreement. It is possible to argue that everything else that *seems* to exist independently of my mind actually exists *only* in my own mind. Taliaferro, in *Consciousness and the Mind of God*, notes: “According to many idealists, the commonsense, ordinary notion of a material object is a theoretical construction of our own. We become accustomed to thinking of material objects existing independently of experience. This informal assumption becomes such a habitual, humdrum affair that it appears natural, almost instinctive, to believe that we live among experience-independent entities. We lose track of the fact that the belief in such material objects is a convenient hypothesis” (24). There are also religions that seem to deny even *individual* existence, seeing the concept of the individual as illusory.

thoughts, beliefs, opinions, and emotional makeup—might remain largely unchanged even if my body were to undergo some dramatic transformation through illness, surgery, or accident, or simply over the course of time as my cells are continually replaced.

Of course, as noted, none of these three things necessarily exist. Different religions and world views have disagreed on what is and is not real. Those philosophers, poets, artists, and religious teachers through history who have spoken of any of these aspects of humanity as though they were real might be wrong. Some world views, for example, have denied the importance of, or even the reality of, the material body, or of material existence itself, saying that spirit (or soul) is all that matters. Now, when one denies the philosophical reality or importance of the body, it is a natural step to next start denying the body itself—the bodies of others as well as the body of self. We may practice extreme asceticism in the effort to free the spirit from the body or illusion of body, or to deny the reality of the body altogether. We may abuse the body to free the spirit—scourging our own backs, or walking on hot coals, or simply denying ourselves any form of pleasure or even basic sustenance. Some world views are understood as denying the individual altogether, emphasizing only a grand collective unity or consciousness.

On the opposite side, the world views that have grown widely in acceptance in the modern and postmodern West have denied the reality of the spirit, claiming initially (for example, in some forms of Enlightenment rationalism) that mind and body are all that exist. However, if the material reality is the only reality—an assumption defining the world views known as materialism or strict naturalism—then it becomes more difficult (though not impossible) to understand mind as anything other than body.⁸ And so this materialist world view, in reducing the person to just a physical body, eventually also reduces the mind to just the biological brain: a physical collection of cells; it denies the traditional concept of the mind as being more than the brain, and thus leaves us with the philosophy of physicalism. Not only is the spirit denied, according to this

8. There are some philosophers of mind who hold a form of naturalism and yet still argue that mind is not reducible to brain. They deny the reality of *spirit*, affirming some form of naturalism, and yet argue that *mind* is still more than *body*. Searle is a notable example. See, for example, Searle, *The Rediscovery of the Mind*, a careful and thoughtful contribution to the topic. While I believe this a difficult position to hold consistently, my argument, as well as this particular argument of Searle's, are beyond the scope of this book.

idea, but so also is mind as a separate category from brain. This leaves the person as just body.

Modern Westerners might have difficulty seeing any important consequences of materialist presuppositions, precisely because it is such a common way of thinking that it is taken for granted. As I argue in the first chapter, naturalism (with its offspring of materialism and physicalism) is a prevalent world view today. Indeed, the noted mathematician and philosopher Bertrand Russell made the bold claim eighty years ago that “nobody believes” anymore that the human being could be anything more than a body composed entirely of matter, whose every movement is completely controlled by material laws.⁹ That he would make such a claim shows how widespread the view was as early as 1930. Even if his use of the word *nobody* was a gross exaggeration, the philosophy of physicalism has, if anything, grown more popular in the century since Russell’s comment. And seeing the implications of the world view most common to your culture is a bit like hearing your own regional accent; we all think it is other people who speak with accents. So why would a denial of any spiritual nature in humans matter? Consider just one example of how it matters by looking at comparable states of body, mind, and spirit.

A good feeling for the body might be described with the word *pleasure*. Chocolate (for most people) and sex (for some) are prime examples of pleasure. For others it is coffee, backrubs, foot rubs, hot baths, fresh raspberries, or fine wine. By contrast, a good feeling for the mind is what we call happiness. Happiness of the mind and pleasure of the body are not the same, though they might (and often do) coincide. If my wife offers to bake one of her apple pies for me, I will start feeling happy well before the actual physical pleasure of eating that pie begins. Listening to my favorite music doesn’t necessarily involve bodily pleasure, but it certainly impacts my happiness. Though it is not easy to be happy in the presence of bodily pain, it is not impossible. I have stood shivering in any icy river, my feet numb, my face and hands chilled and raw from snow or sleet swirling around me, yet feeling delight and contentment as I held a recently landed steelhead, salmon, or trout for a quick photo before releasing it back to the wild. At the end of one of my regular lunchtime basketball games (especially if I have been guarding one of the guys twenty years younger), my body may be sore, tired, and uncomfortable. My knees and ankles might ache, and I may have a jammed finger and

9. Russell, “Has Religion Made Useful Contributions to Civilization?,” 38–39.

numerous bruises from collisions under the boards. In short, physical pleasure may be lacking. But if I played well, made some good passes, and kept the person I was defending from scoring at will (a task that grows harder with each passing year), I can feel quite happy.

Indeed, if we believe that mind is important as well as body, then we may pursue happiness as much as (or even more than) we pursue bodily pleasure. The serious athlete, hardworking farmer, or skilled craftsperson will often forgo bodily pleasure for extended periods of time in order to attain the happiness that comes in the form of athletic prowess, a well-tilled and skillfully farmed field, or a beautiful work of art or craft—something that comes only as a result of disciplined, difficult, or painful bodily labor. We might even deny our bodies feeling pleasure for the very purpose of making our bodies look pleasurable, which in turn may help us feel happy.

Then there is what has traditionally been called the spirit. And many philosophers, theologians, and artists have used the term *joy* to refer to a good or positive spiritual state. That is, pleasure, happiness, and joy may be thought of as states of being for, respectively, the body, mind, and spirit; joy is to the spirit what pleasure is to the body or happiness is to the mind. And if these people are right that spirit is real, and joy is a spiritual state, then what applies to the relationship between happiness and pleasure may well apply to the relationships between joy and happiness, and joy and pleasure. There are those who, even when there is no apparent reason for a mental state of happiness, and little or no bodily pleasure, still claim to experience spiritual joy. And they genuinely appear to exhibit something positive and transforming in how they live and act. The great twentieth-century Oxford University scholar and creative writer J. R. R. Tolkien, whose world view affirmed the reality of spirit and mind as well as of body, gives a classic example of this in his famous story *The Lord of the Rings*. Approaching one of the darkest and most hopeless moments of the tale, when all seems almost lost and his mind is overcome with care and sorrow, the wise wizard Gandalf nonetheless experiences and even exudes joy. That joy is evident to the young hobbit Pippin, who is watching him. “Yet in the wizard’s face he saw at first only lines of care and sorrow; though as he looked more intently he perceived that under all there was a great joy: a fountain of mirth enough to set a kingdom laughing, were it to gush forth.”¹⁰

10. Tolkien, *The Lord of the Rings*, V/i.

Many in our world have claimed to experience something similar. The joy that Pippin saw in Gandalf, others have seen in people like the late Mother Teresa, whose life afforded little in the way of physical pleasure, and who certainly was not “happy” about the circumstances of those she sought to help. Readers of this book may think of friends who have been in the midst of “unhappy” circumstances—the loss of a job, the death of a loved one, a failed exam or business ventures, the discovery of cancer in a loved one or themselves—and yet have exhibited some peculiar interior quality that defies their circumstances just as surely as my happiness at the end of a well-played basketball game or after landing a big fish on a cold fall or winter day defies the physical pain in my cold or aging body.

And on the flip side, there are plenty of examples of persons who have gained bodily pleasure but seem to have found no happiness or joy in those very things that provide that physical pleasure, just as there are persons who find no spiritual joy in the activities they are doing “for fun.” The protagonist Jake, in Ernest Hemingway’s *The Sun Also Rises*, has lost his ability to enjoy trout fishing or watching bullfighting, two pastimes that previously had brought him great delight.

Now, if our world view tells us that spirit is real, then we may also consider our own spiritual state important, and thus at times we may be willing to forgo physical states of pleasure, or even happiness, for the sake of spiritual joy—perhaps by working toward something spiritually significant, such as Mother Teresa and Gandalf did, despite how difficult, frustrating, and painful those labors might be.

And here is where our world view really matters—where our answer to the question, “What exists?” becomes dramatically important, whether we realize it or not. If we believe only in the body, then joy as a spiritual state must be understood as an illusion. That doesn’t mean that people don’t experience what we call joy. It means only that the state of joy is not a spiritual state at all, but simply a bodily state: a chemical reaction in the brain that may have bodily or material significance, but not spiritual significance. After all, if only the body exists, and spirit is an illusion, then all of our states are bodily. This is what the philosophy of physicalism tells us. It denies the spirit, and by doing so inescapably also tells us that what we have called “joy”—what we had thought of as pleasure or happiness of the spirit—must be explainable in terms of body. Perhaps neurons in the brain trigger responses that we are conditioned to consider as pleasurable and that we associate, wrongly, with some spiritual reality that turns out not to exist.

If we really believe that spirit is illusory, then whether we consciously decide to act on this or not, what ultimately becomes important to us is the state of our body. In particular, why bother to work toward a state that feels “good” for the spirit (that is, a state of joy) if the very notion spirit is a great deception? Once we realize that the body is all that exists, we should work instead toward a bodily state of feeling “good” (which is to say, a state of physical pleasure). Of course, as mentioned, if spirit is illusion, then mind (however complex) seems also to reduce to body, and so happiness as well as joy reduces to some physical sensation. Thus, finding joy or happiness reduces merely to finding bodily pleasure (perhaps pleasure of the brain). But if we realize that our spiritual sense is just an illusion, then we should no longer be willing to endure bodily pain for the sake of an illusory spiritual joy.

What is true of individuals is true of cultures as a whole. American culture and, more broadly, Western culture of the twentieth and twenty-first centuries—shaped by Enlightenment rationalism, the philosophy of Darwinism, the writings of Marx and Freud, and a host of other influences—has largely denied a spiritual reality and affirmed only a bodily reality. When a culture affirms only the body and denies the spirit, it naturally becomes a culture that pursues pleasure above all things. Life becomes a mass pursuit of bodily fulfillment. This, it could be argued, is indeed a characteristic of our culture. We are pleasure seekers. And though we may not often stop and explicitly connect this aspect of our cultural behavior to our cultural view of body, mind, and spirit, and though we might not recognize in our culture’s pursuit of pleasure an obvious implication of an underlying philosophy denying spirit, the correlation is there.

It is also true that when a person or a culture denies mind and spirit, and believes only in body, then any perceived illness of spirit or mind must be reducible to an illness of body. If every illness is bodily, then every cure is bodily. We would thus expect such a culture to become deeply dependent on pharmaceuticals to heal all its ills. As William Dembski has noted (in an article about the impossibility of material machines being spiritual): “In place of talking cures that address our beliefs, desires, and emotions, tomorrow’s healers of the soul will manipulate brain states directly and ignore such outdated categories as beliefs, desires, and emotions.”¹¹ We might argue that this is already true of today’s healers;

11. Dembski, “Kurzweil’s Impoverished Spirituality,” 108.

we needn't wait for tomorrow. Indeed, like most aspects of culture, the pharmaceutical industry, in addition to reflecting our cultural world view, has almost certainly helped to shape that world view (through extensive marketing) and contributed to the prevalence of physicalism. Thus, the industry has helped shape how we as a culture act with respect to illnesses of the mind—thus also creating a very large market for itself.

In short, then, our philosophies do not remain abstract and irrelevant. They are real and incarnate in how we live. Or, as the late songwriter Mark Heard wisely noted in one his songs, “we end up looking like what we believe.”¹²

World Views Defined

And this returns us to the basic question of this book: What does it mean to be human? As noted, there are five closely related and commonly held philosophies (or sets of assumptions) implying that persons are merely complex machines—highly evolved biochemical computers. These four philosophies are: naturalism, materialism, physicalism, causal closure, and determinism. We will explore these in the first half of this book, and so we should define them a little more clearly and discuss their relationships with each other.

The first three have subtle differences in meaning but are almost interchangeable. Naturalism, in the strict form, is the philosophical that the physical, natural world is all that exists: there is no supernatural or non-natural reality. Materialism, as already suggested, is the belief that everything can be adequately explained with reference only to matter. This is generally understood as a philosophy stemming from strict naturalism: if nature is all that exists, and nature is purely physical (or material), then ultimately all effects must have a material cause, and thus matter (material) is sufficient to explain everything. As a result, everything real can be studied by the natural sciences; all knowledge can be reduced to what can be learned by the methods of natural science. Physicalism, to borrow a phrase from philosopher David O'Hara, can be understood simply as “materialism applied to the question of the nature of the mind.”¹³ That is to say, physicalism is the philosophy that the human mind is fully

12. Mark Heard, “Orphans of Good,” album *Satellite Sky*, Fingerprint Records, 1992. *Used by permission.*

13. O'Hara, “Daniel Dennett: Naturalism and Philosophical Theology.”

explainable with reference only to the biological brain and the laws of physics and chemistry.

One of the central assumptions of these philosophies is causal closure. The philosophy of causal closure is that the material universe is a closed system; if there is anything other than material reality (for example, a spiritual or supernatural reality), it does not impact the material reality in any way at any time; all material events have material causes. As we will show later, this is also a philosophical belief. It may be correct. It may be incorrect. In either case, however, the assertion of causal closure is not in any way a scientific statement. Unfortunately for those interested in careful philosophical inquiry, the assumption of causal closure is one of the cultural “accents” that our ears no longer hear. It is not always acknowledged as an explicit presupposition but rather is often mistakenly phrased as a scientific result rather than as a hidden assumption.

A broad version of what might be called determinism is another subject of this book. There are many types of determinism. Narrowly defined, determinism is the philosophy that everything that will ever happen has already been determined. Note that it is possible (though not necessary) for a physicalist to be a determinist, and it is also possible to be a determinist without adhering to any form of naturalism. There have been adherents of both combinations of philosophies. In the latter category, for example, one might believe in the existence of God or the gods, and even in some sort of human soul, but still deny ultimate free will or at least any important consequences of human free will. Under this belief, God or the gods completely determine the fates of the universe as well as the decisions and actions of individual humans. One who held this belief would be a supernaturalist, and also a determinist—but not a physicalist determinist. This is not a philosophy we will explore in this book.

A narrow version of determinism, what I refer to as strict determinism, is that the state of the universe and the laws of physics determine everything that will ever happen. This strict determinism assumes causal closure and is compatible with materialism and physicalism. If the human person is entirely physical, as physicalism claims, and if physical laws deterministically govern all physical behaviors, then of course determinism applies to humans as well as to the rest of the cosmos: every thought of the human mind and every subsequent action of the human body are already determined. This is one possible physicalist version of determinism, rooted in the belief that human mind reduces to the biochemical brain, and the brain simply follows laws of physics. Thus, the

human person is a determined device: a complex computer, biochemical rather than digital, but fully programmable and in fact already fully programmed.

However a physicalist, while holding to causal closure, need not be a determinist in this strict sense. As a result of the modern theory of quantum physics, many physicalists still believe in the possibility of random events and thus are not strict determinists. Specifically, as the twentieth-century development of the field of quantum physics has theorized and provided evidence for, there appear to be subatomic quantum particles that exist in the physical universe but do not follow any currently known laws of physics. That is, even if we had perfect knowledge, the behavior of the quanta would be unpredictable. In this context, random, unpredictable, and nondeterministic all mean the same thing. These subatomic particles apparently behave randomly, and their behavior is able to impact the behavior of particles at the atomic level, which means of course that the behavior of all physical matter is impacted by this unpredictable nondeterministic behavior.

Now some physicists believe that while these particles exist and appear to behave randomly, we will one day discover deterministic laws that govern their behavior, just as we have discovered laws of gravitation, momentum, and electromagnetism. If that view is correct, then the world really is determined in the strict sense. However other physicists believe that these quantum particles really do behave nondeterministically, and that there are no laws that govern their behavior—not only no known laws, but no laws at all that might later be discovered—and thus there is true randomness and not a strict form of determinism in the universe. Put another way, if modern theories of quantum physics are correct, these quantum particles do not behave strictly computationally, like instructions in a computer program.

Of course, if there are random purely physical effects and events, then one could affirm complete causal closure and deny any human spirit, or free will, or any supernatural reality at all, and yet still believe (as many indeed do) that the universe (including human behaviors) is not completely determined. That is to say, even physicalists can believe that neither all events in the future nor all thoughts and behaviors of human persons are already fully predetermined by laws of physics. In other words, one could affirm causal closure and physicalism and yet not be a determinist in the strict sense.

The exploration in this book includes this broader form of physicalism: physicalism that accepts random quantum effects. In that sense, the book—though it explores a computational view of humans—is really about physicalism and causal closure and not about strict determinism. Note, however, that even if this sort of quantum randomness exists, it is not the same as free will. Under an assumption of physicalism that also affirms random quantum behavior, we would have to say that human behavior, though not determined solely by the laws of physics, is still determined jointly by the laws of physics and by physical randomness, and not by any will of the individual (free or otherwise). That is, under materialism and physicalism, the human person, and indeed the entire course of the universe, is still determined entirely by physical processes, even if some of those physical processes have inherent randomness and are thus not even hypothetically predictable with complete knowledge.

This might be viewed as a broader form of physical determinism. Whether or not we use the term determinism, however, with respect to the basic questions explored in this text, I believe that a physicalist belief in quantum randomness reduces in practice to the same position as the physicalist's version of strict determinism. The important question really is that of causal closure. So, for the first four chapters of this book, I will use the word *determinism* in this broader way as synonymous with physicalism.

And this leads, again, back to the fundamental question with which we began this book. This book explores two different answers to the question, the first one stemming from naturalism and physicalism, and a second one that might come out of a particular form of supernaturalism. The approach is not to argue for explicit evidence for or against naturalism, or evidence for or against the existence of God or some supernatural being, but to look instead at the implications of how we answer the question. The book will begin with the implications of strict naturalism with respect to the human person and will then contrast these with the implications of a theistic world view that denies causal closure and affirms a supernatural reality.

The first half of the book explores the implications of physicalism to human creativity and heroism, human ecological outlook and practice, and human reason and science, asking the question of what our philosophical assumptions and presuppositions mean to how we are able to live. How does one's answer to the question of what it means to be human, if taken seriously and consistently, impact how we live?

In the second half, we will look at competing implications of one possible nonnaturalistic (and much older) alternative world view: a theistic world view that sees humans as both spiritual and bodily beings, and moreover as beings created in the image of a creator. Again we explore the implications of this view to creativity, heroism, ecology, reason, and science.

The basic argument of this book is that a physicalist world view of what it means to be a human person—a philosophy that says humans are complex computing machines (perhaps with random number generators)—denies the importance not only of creativity and heroism, but also of healthy ecology and (most surprisingly) of reason and science. On the other side, we will present a dualist view of humans that is different from the dubious “ghost in the machine” and argue that this dualist view affirms the validity not only of creativity and heroism, but also of healthy ecology, reason, and science. That is, to live out this world view will (or ought to) dramatically impact our artistic, ecological, and scientific practices.

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