CHAPTER 3

Transhumanism, the Posthuman, and the Religions: Exploring Basic Concepts

WHAT IS TRANSHUMANISM? WHAT IS THE POSTHUMAN?

The term transhumanism is usually traced back to an often-quoted statement by evolutionary biologist and philosopher, Julian Huxley (1887–1975), who wrote in 1957:

The human species can, if it wishes, transcend itself—not just sporadically, an individual here in one way, an individual there in another way, but in its entirety, as humanity.¹

The history of the term is more complicated, and interesting, than that, however. Natasha Vita-More provides a detailed etymology of “transhumanism” and similar terms, revealing their usages by the Italian poet Dante (c. 1265–1321), T. S. Elliot, FM-2030, and others. Vita-More credits FM-2030 (f/k/a FM Esfandiary) with first using transhuman as an evolutionary concept in the 1970s.²

Professor Ron Cole-Turner has a long and distinguished career speaking thoughtfully about biomedical issues from a Christian theological and ethical perspective. He has also made significant contributions to the radical human enhancement debate. In an article titled “Christian Transhumanism,”³ he also points to Dante’s use of the term.

¹ Julian Huxley, New Bottles for New Wine (London: Chatto & Windus, 1957), 17.
² Vita-More’s careful etymological work, done in the late 1980s to the mid-1990s, is published in numerous places, e.g., Vita-More, “Life Expansion: Toward an Artistic Design-Based Theory of the Transhuman/Posthuman,” PhD diss., (University of Plymouth, 2012), 78–79. http://hdl.handle.net/10026.1/1182. See also the 2008 version of Natasha Vita-More, “The Transhumanist Manifesto,” especially footnote 2, which succinctly summarizes her findings. https://natashavitamore.com/transhumanist-manifesto/.
³ “Christian Transhumanism,” in Religion and Human Enhancement: Death, Values, and Morality, eds. Tracy Trothen and Calvin Mercer, in Palgrave Studies in the Future of Humanity and
Trasumanar was Dante’s word to describe the glorious transformation that Christians experience as they ascend into God’s presence. Cole-Turner paraphrases Dante: “To go beyond the human is something that cannot be described in words.”⁴ Cole-Turner reclaims the Christian roots of “transhumanism,” which he argues go all the way back to biblical themes. Here is just one biblical example: “What we will be has not yet been revealed. What we do know is this: when he (Christ) is revealed, we will be like him.”⁵ The debate about the origins of the terms reflects broader and deeper questions about whether the nature and mission of the religions position them to embrace radical human enhancement, questions that will concern us in the upcoming chapters.

Pushing forward from the origins of words and concepts, transhumanism as a movement began with the extropian movement in the late 1980s through the work of philosopher Max More⁶ and others.⁷ The term “extropy” was chosen by More to reflect a desire for improvement and growth, in contrast to entropy, which measures disorder within a system. Today, transhumanism is generally understood as an intellectual and cultural movement that advocates the use of a wide range of increasingly powerful technologies to radically enhance human beings. Transhumanists look for the convergence of these technologies to make it possible to control human evolution by using technology to enhance human physical, mental, affective, moral, and spiritual abilities and to ameliorate aspects of the human condition regarded as undesirable, such as disease and aging.⁸

Organizations advocating for development and use of these varied and fast-developing technologies are relatively small, but powerful, and getting

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⁴ Paraphrase of Dante, Paradiso, canto 1, line 70, in Cole-Turner, “Christian Transhumanism,” 37.
⁵ In the New Testament, 1 John 3:2.
⁶ At that time Max More’s name was Max O’Connor. He changed his name to reflect his desire for the extropian commitment to “more” life, freedom, and intelligence.
⁷ The history is well documented and analyzed by James Michael MacFarlane, Transhumanism as a New Social Movement: The Techno-Centred Imagination, in Palgrave Studies in the Future of Humanity and Its Successors, series eds. Calvin Mercer and Steve Fuller (New York: Palgrave Macmillan, 2020). On the history, see especially 25–54.
⁸ More provides a good introduction to the philosophy of transhumanism, its various precursors, its relationship to humanism, some contemporary expressions, and misconceptions in “The Philosophy of Transhumanism,” in The Transhumanist Reader: Classical and Contemporary Essays on the Science, Technology, and Philosophy of the Human Future, 3–17, eds. More, Max and Natasha Vita-More. (West Sussex, UK: Wiley-Blackwell, 2013). In a brief section, page 8, he contends that religion and transhumanism are not necessarily incompatible. The Transhumanist Reader: Classical and Contemporary Essays on the Science, Technology, and Philosophy of the Human Future is an excellent collection of transhumanist writings, including, as the subtitle indicates, some classic pieces by, e.g., Robert A. Freitas, Jr. (nanotechnology), Ralph Merkle (nanotechnology), Marvin Minsky (artificial intelligence), and Hans Moravec (robotics). A recent collection of articles by scholars and others on the history, philosophy, religion, and technology of transhumanism is edited by the chair of the California Transhumanist Party, Newton Lee, and titled The Transhumanism Handbook (New York: Springer, 2019).
stronger; together they help form the transhumanist movement. Although changing, transhumanism has been largely led by white men from Europe and America, a fact addressed later in our ethical reflections. The leading secular transhumanist organization is “humanity+,”9 with the website headline, “Don’t limit your challenges, challenge your limits.” Although humanity+ has only a few thousand formal members, transhumanist ideas, and especially the technologies associated with them, are increasingly working their way into the public’s awareness. Although now only a tiny blip on the political radar, there is in the United States a small political party structure that could provide the context for intense debates about policy and funding in the coming decades.10 Later in this chapter, we provide detailed information about two other transhumanist organizations that are religious in focus.

In one sense of the word, a transhuman is still a human, but one whose capabilities go beyond those of “normal” humans. One could argue we are already transhuman, since we interface so heavily with technology. Radically enhancing ourselves into transhumans may not be the end of the matter. At some point, the enhancements may be extreme enough that the human may evolve into the posthuman. Homo sapien may become techno sapien or Homo Deus. The transhuman will turn out to be an intermediary step between “normal” humans and beings that are not human, i.e., are posthuman. We entertain the possibility of the posthuman in later chapters on mind uploading and superintelligence.

Narrowly conceived, the term transhuman refers to that which is still human, albeit greatly enhanced. However, the term is sometimes used more loosely, in the broader sense of (1) sentient beings that develop from humans but to such a degree that they are no longer human in any real sense, and (2) sentient beings that develop apart from humans. It is in this broader sense that we use the term transhumanism. So, in the coming chapters we discuss, for example, the development of advanced artificially intelligent robots, which develop apart from any direct evolution of Homo sapien.

We end this section with a suggestion to read this clever piece, “A Letter to Mother Nature: Amendments to the Human Constitution,”11 from Max More, the influential transhumanist. This letter, and its important amendments, captures well the sentiment of many transhumanists. We will encounter More again in the later chapter on cryonics. Here are some key excerpts from this letter to Mother Nature. Notice how transhumanism tends toward a view of human nature as malleable, as a work-in-progress.

Mother Nature, truly we are grateful for what you have made us. No doubt you did the best you could. However, with all due respect, we must say that you have

9 http://humanityplus.org/.
10 “U.S. Transhumanist Party—Official Website.” http://transhumanist-party.org/. For a discussion of how it fits into the history and current presence of the transhumanist movement, see MacFarlane, Transhumanism as a New Social Movement, 155–162.
11 http://strategicphilosophy.blogspot.com/2009/05/its-about-ten-years-since-i-wrote.html.
in many ways done a poor job with the human constitution. You have made us vulnerable to disease and damage. You compel us to age and die—just as we’re beginning to attain wisdom. You were miserly in the extent to which you gave us awareness of our somatic, cognitive, and emotional processes. You held out on us by giving the sharpest senses to other animals. You made us functional only under narrow environmental conditions. You gave us limited memory, poor impulse control, and tribalistic, xenophobic urges. And, you forgot to give us the operating manual for ourselves! … What you have made us is glorious, yet deeply flawed. … We have decided that it is time to amend the human constitution. … We do not do this lightly, carelessly, or disrespectfully, but cautiously, intelligently, and in pursuit of excellence. We intend to make you proud of us. Over the coming decades we will pursue a series of changes to our own constitution, initiated with the tools of biotechnology guided by critical and creative thinking.

Next, there follows seven amendments to the human constitution. More’s letter ends in the following way:

These amendments to our constitution will move us from a human to a transhuman condition as individuals. We believe that individual transhumanizing will also allow us to form relationships, cultures, and polities of unprecedented innovation, richness, freedom, and responsibility. We reserve the right to make further amendments collectively and individually. Rather than seeking a state of final perfection, we will continue to pursue new forms of excellence according to our own values, and as technology allows.

The letter is signed “Your ambitious human offspring.”

**Monotheistic Religions and Karmic Religions**

Scholars specializing in the monotheistic religions of Judaism and Christianity have been most active in evaluating technological enhancement of humans. However, we want this textbook to play a role in opening up the conversation beyond these two traditions. To that end, we here paint in very broad and introductory strokes some key theological concepts in all religions to which we refer as we reflect on radical human enhancement in the coming chapters. Our

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12 Scholars of Buddhism, Daoism, Hinduism, Islam, and Jainism contributed chapters to *Religion and the Implications of Radical Life Extension*, eds. Derek Maher and Calvin Mercer (New York: Palgrave Macmillan, 2009; paperback, 2014); and *Transhumanism and the Body: The World Religions Speak*, eds. Calvin Mercer and Derek Maher, in *Palgrave Studies in the Future of Humanity and Its Successors*, series eds. Calvin Mercer and Steve Fuller (New York: Palgrave Macmillan, 2014). We expect the karmic religions will become increasingly engaged in the conversation, and publications like the following suggest this may happen sooner rather than later: Robert M. Geraci, *Temples of Modernity: Nationalism, Hinduism, and Transhumanism in South Indian Science* (Lanham, Maryland: Lexington Books, 2018); and Zhange Ni, “Reimagining Daoist Alchemy, Decolonizing Transhumanism: The Fantasy of Immortality Cultivation in Twenty-First Century China,” *Zygon: Journal of Religion and Science* 55, no. 3 (August 2020): 748–71. https://doi.org/10.1111/zygo.12634.
hope is that our very preliminary reflections will prompt increased discussion from all the religions about human enhancement. We underscore that our goal in the textbook is not to give comprehensive summaries of the religions, but, rather, to identify a few important themes that have been or could be useful in thinking about enhancement technologies. These themes are meant to be illustrative, not exhaustive.

Terminology categorizing the world’s religions is problematic. “Eastern religions” and “Western religions” are sometimes used, but these terms are quite broad and emphasize geographical origin, which is no longer as relevant with globalization spreading the religions across the world. We chose the terms monotheistic religions and karmic religions, recognizing that these terms are also imperfect and do not capture all the ways of being spiritual or religious.

Monotheistic religions include the “Abrahamic faiths,” Judaism, Christianity, and Islam. We use the term “karmic religions” to refer to Hinduism, Buddhism, Daoism, Jainism, and Sikhism, although each religion understands karma and rebirth (to be discussed in more detail later) in varying ways. We draw ideas especially from India and the religions of Hinduism and Buddhism. We will also refer to perspectives derived from Indigenous Spiritualities and more secularized spiritualities.

There are many hybrids of all these religions, and we are aware we have not addressed all of the religions or ways of being religious. The generalizations we do make, for example, about a particular religion are just that, generalizations that are helpful in reflecting on radical human enhancement but do not apply to every strand or expression of the religion. We encourage you to further explore any religion or way of being religious or spiritual that captures your interest. Information provided about religions in this textbook is meant as a beginning study only.

This textbook presumes no background knowledge about religion; everything about the faith traditions needed for the discussion in the following chapters is provided. Excellent resources are available for those desiring a more thorough treatment of the world’s religions than provided in this textbook.

Conceptualizations of the Divine

Throughout history and across the planet, human beings have conceptualized the divine in many ways. “Theism” is from the Greek word theos (god) or theoi.

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13 Other religions include those originating in East Asia, including Confucianism and Shinto. Like the monotheistic religions, Zoroastrianism originated in the Middle East but is not strictly monotheistic.

14 Indigenous traditions, sometimes called tribal or basic religions, include African, Native American, Innuit, and others.

15 The most detailed introduction to the world’s religions is probably David S. Noss and Blake R. Grangaard, *A History of the World’s Religions*, 14th ed. (Abingdon, UK: Taylor and Francis, 2017). An excellent shorter introduction is Michael Molloy, *Experiencing the World’s Religions: Tradition, Challenge, and Change*, 8th. ed. (New York: McGraw-Hill, 2020).
The two theisms that will concern us most are pantheism (pan is Greek for “all” or “everything”) and monotheism (monos is Greek for “one” or “single”).

While not all strands of karmic religions are pantheistic, this is an important perspective in those traditions. Pantheism is the belief that God is equivalent to all of reality. God is, by definition, everything, and everything is God. Pantheism can be difficult to understand for many who do not follow a karmic religion. Pantheism is not polytheism (poly is Greek for “many”), which is a belief in many gods, particularly characteristic of ancient religion, as in the ancient Greek and Roman pantheon of deities and often associated with aspects of nature. With pantheism, God is not any particular part of nature or reality. God is everything in total and everything in total is God.

Looked at from another angle, pantheism is the idea that there is only one “thing.” In other words, everything is really the same thing. In the deepest sense of reality, there are no distinctions. There is only one reality, and it is all the same. That one “thing” is, of course, called God in this pantheistic model. When ignorance is vanished, and truth fully expressed, there is only God. Those not immersed in Asian cultures, where pantheism is an underlying mindset, may react this way: “Pantheism is an interesting idea, but it is obviously incorrect. This chair is clearly distinct from that table, and both are clearly distinct from my body.” Not so fast.

Enter the concept of maya, Sanskrit for “illusion.” According to this perspective, we are mistaken to think reality is made up of different things. We are under the power of a pervasive illusion. The gurus of this model of the divine liken it to a dream. When we dream and do not know we are dreaming, if it is a nightmare, our heart beats fast and our blood pressure rises. We are convinced the nightmare is real. Then, we arrive at that interesting moment when we transition to the awake state, realizing, “Oh, it was just a dream.”

The karmic religion sages working from a pantheistic model contend that we are dreaming a world of distinctions. It is powerful, sophisticated, detailed, and very convincing, but it is not real, at least it is not ultimately real. The world of distinctions is an illusion. In pantheism, even the many Gods in Hinduism are manifestations of the oneness. There is only one. There is only God. God is everything, and everything is God.

Every religion identifies what it considers to be the basic human predicament. For Hinduism, to give one example, the problem is ignorance. Salvation, then, comes with spiritual knowledge that brings enlightenment, waking up from the illusory dream and coming fully into the knowledge, the realization, of oneness with God. This pantheistic understanding of the divine has implications for how human beings and their salvation are conceived. We will address that in a moment, but first it will be helpful to contrast pantheism with monotheism, the dominant model of the monotheistic religions: Judaism, Christianity, and Islam.

Monotheism posits one deity, a God who creates all of reality and is distinct from that reality, including human beings. Although there are plenty of
variations, the attributes of the one God are usually understood to include omnipotence (all-powerful), omniscience (all-knowing), and omnibenevolence or omnibeneficience (all-good). Some followers see God as both immanent (existing within humans, animals and/or nature) and transcendent (being apart from and greater than), whereas others see God as transcendent only. The human predicament is that the human creatures are estranged from God through sin or acting contrary to divine intention. Salvation entails reconciliation through various means, such as divine grace, confession, atonement, and restitution.

**Theological Anthropology**

“Theological anthropology” is a fancy word for a religion’s doctrine, or belief, about human beings. Who are human beings, what is their relationship to God, and how can they journey to salvation?

**Karma and Reincarnation**

An important tradition in Hinduism, to pick one karmic religion example, asserts that human beings, caught up in the illusory world of distinctions, have a soul (Sanskrit *atman*). The soul is the infinite center of every life, distinct from the body and a reservoir of being that is unrestricted in consciousness and bliss. When salvation is achieved, the ultimate truth is revealed that the soul and God are really one and the same, because in pantheism God is everything and everything is God.

The doctrines of karma and reincarnation explain how the human soul arrives at saving, enlightenment knowledge. *Samsara* is Sanskrit for “wandering” or “going through.” Commonly known as “reincarnation,” but also called rebirth or transmigration of the soul, the doctrine teaches that in the world of illusion the human soul transmigrates through successive lives until it achieves liberation from the cycle. So, there is an aspect of every being—the soul, mind, or consciousness—that is eternal and indestructible and is reborn as human, animal, and heavenly or hellish beings until final liberation (Sanskrit, *moksha*) from the “wheel of rebirth.”

Poetically put by the book perhaps most beloved in India, the *Bhagavad Gita*, “Worn out garments are shed by the body; worn out bodies are shed by the dweller.” This notion of the soul’s rebirth through successive lives is most famous in India, although it was also held in the ancient Near East and other cultures. Our purpose here is not to engage the distinctions between, for example, the varying notions of reincarnation in Hinduism and Buddhism. Rather, with regard to assessing radical human enhancement, we will reflect more broadly on how this central belief of reincarnation might push in a different direction than the monotheistic religion view of one life and one afterlife.

16 *Bhagavad Gita* 2:22. Edwin Arnold, trans., *The Bhagavad Gita* (Kansas City: Scholar’s Choice, 2015).
Integral to the doctrine of reincarnation is the law of karma. The Sanskrit word literally means “action” or “deed,” and it refers to the idea that one’s actions (or inactions) influence, even determine, the status of the lives into which a soul is born. Science has taught us the law of cause and effect. Every event in the physical universe has a cause, and every cause has determinate effects. The law of karma extends cause and effect to the moral and spiritual realms. Moral, spiritually good actions in this life promote rebirth into a next life that is closer to liberation.

While we are not fully teasing out the differences between Hinduism and Buddhism on these matters, we should note that Buddhism has its own special interpretations of the traditional doctrines of karma and reincarnation. For Buddhists, reincarnation occurs without any actual soul-substance passing from one life to the next.

**Monotheistic Views of Soul, Body, and Physicality**

In the monotheistic religions, there is disagreement about what constitutes a human being and the role soul has in that constitution. Judaism and Christianity, for example, in the main depict a human being as a psychosomatic unity of body and soul. Soul is not a distinct and separate “part” of what constitutes a person. However, influenced by ancient Greek and other dualistic traditions, one Christian view, popular in many conservative Protestant circles, asserts that human beings do possess a separate soul, which is the focus of salvation.

The predominate view, however, that of a psychosomatic unity of body and soul, leads to the doctrine of resurrection, which entails the raising of an integrated being, not just a soul. In other words, there is a clear difference between immortality of the soul only and resurrection of the unified person, which includes the (transformed) body. An immortal soul that transmigrates from one bodily incarnation to another is a notion prominent in Hinduism (as we discussed earlier), neo-Platonic groups, and ancient Gnosticism.

The belief that the body and soul can be separated is a dualistic belief. We need not complicate matters in making this point, but the influential seventeenth century philosopher, René Descartes, also distinguished mind from body in a way that supports dualistic thinking. An immortal soul is a belief central to many religious traditions. Our point is that a dualistic view of the person is not the view in the ancient Jewish and Christian scriptures and has not been the anthropology affirmed in mainstream Christian theology. Today, many Protestant Christians, especially those with a conservative bent, use the biblical language of resurrection, but their ideas about the afterlife are much more grounded, albeit unknowingly, in a dualistic framework derived from sources outside the Bible.

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17 For a valuable collection of articles on resurrection and science, see Ted Peters, Robert John Russell, and Michael Welker, eds., *Resurrection: Theological and Scientific Assessments* (Grand Rapids: William B. Eerdmans, 2002).
The notion of the psychosomatic unity of body and soul, with the attendant notion of resurrection, is underscored by the importance of physicality. Physicality is so central to this vision that it merits putting it in a larger biblical and theological context. The Christian religion illustrates the emphasis on physicality. The incarnation of God in Jesus Christ, the full uniting of the divine and human, is one of the central doctrinal tenets of Christianity. God became flesh; God embraced physicality. Raw material for this central doctrine is found in the first chapter of the Christian Gospel of John. The eternal, divine *logos* (Word) is fleshed out in Jesus.\(^{18}\)

In the first few centuries of the Christian church, this idea was hammered out in creeds and councils. Christianity rejected the docetic (from the Greek word meaning “to seem”) heresy that taught that Jesus only “seemed” like a human being, but really was not. Finally, in the Council of Chalcedon (451 CE), the church formulated the position that has survived the centuries, despite occasional dissent. Jesus is fully divine and fully human, and his humanity includes, of course, embodiment.

The importance of the body even shows up in one of Christianity’s central rituals, the Eucharist, in some traditions called the Lord’s Supper or Holy Communion. In this ritual, Christians eat bread and drink wine.\(^{19}\) A variety of interpretations of this ritual can be found among Roman Catholics and Protestants, and even among various Protestant denominations. In all of them the bread, whether understood literally or symbolically, is the body of Christ. Indeed, the Christian church is called the “body of Christ,” again emphasizing the importance of the corporeal.

The embrace of physicality, profoundly exhibited in the Christian doctrine of the Incarnation, is also reflected in Judaism. In the first chapter of the first book of the Bible, God creates the entire physical world and affirms it as “very good.”\(^{20}\) This affirmation carries through to and is part of the eschatological vision of a “new heaven and a new earth.”\(^{21}\)

Christianity teaches the possibility of an afterlife in which one is immortal, living with God for eternity, although in a transformed state. What this transformed state looks like is debated among followers of this religion with many claiming that the afterlife is a divine mystery that is to be known only after death. Some believe that one’s destiny after death is determined by the way in which one lived. Others see salvation as less dependent upon works and more dependent upon God’s grace. The important thing for matters discussed in this textbook is the general belief in the possibility of an eternal life that will be more glorious than earthly life and will entail, in the dominant Christian view, embodiment.

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\(^{18}\) John 1:1, 14.

\(^{19}\) In Christian denominations that forbid alcohol, or see alcohol as excluding some members, grape juice is usually substituted for wine.

\(^{20}\) Genesis 1:31.

\(^{21}\) Isaiah 65:17; Revelation 21:1.
“Theosis” or Deification

Whether the human being is understood as “having” a soul or “being” a soul, the monotheistic traditions generally rebel against identifying God with the human or with anything else that God creates. There is only one God, and it is idolatrous to make any part of the created order divine.

Having said that, we need to consider one very important exception in the monotheistic tradition of Christianity. Gaining a good bit of attention of late is an important theological notion in Eastern Orthodox Christianity, one of the three main branches of the Christian religion. The Eastern Orthodox Christian doctrine is called theosis and is well expressed in the often-quoted words of Athanasius of Alexandria (296/298–373 CE), “He [Jesus Christ] was made man that we might be made god.” The idea is also affirmed by Mormonism, a Christian movement discussed later in this chapter.

Theosis, sometimes called deification, refers to a view of salvation whereby one is transformed, or divinized, and elevated in some significant way into the life of God. The discussions about (and terminology of) theosis are quite technical and complex, perhaps in part due to the effort to stop short of attributing full divinity to a human, which would be heresy in a monotheistic religion.

Theosis is interesting in that it is perhaps the best example of a theological concept in an Abrahamic religion that compares closely to pantheism in karmic religions. There is an important difference, however. Traditionally, at least in Hinduism, a soul can move through thousands or more rebirths before arriving at liberation. Buddhism, in a reformation of Hinduism, asserted that it is possible for anyone to become enlightened in this lifetime, although it can take many reincarnations. Theosis, however, is a spiritual process that theoretically occurs in a single lifetime as the Eastern Orthodox Christian pilgrim moves through three stages: (1) purgative or purification, (2) illumination, and, finally, (3) theosis, deification or unity with God.

Created Co-Creators

Christian theologian Philip Hefner proposed the interesting notion that human beings are created co-creators with God. Human beings, created in the image of God (Latin, imago Dei), are charged in the first chapter of the Bible with being stewards of the created order. Human beings are responsible for tending the garden, keeping it beautiful, and flourishing. So, using God-given talents, people work with God as created co-creators in the creative process to make anew.

22 The other two branches in this religion are Roman Catholic and Protestant.
23 Athanasius of Alexandria, On the Incarnation of the Word, trans. John Behr, Popular Patristics Series 44 (New York: St. Vladimir’s Seminary Press, 2011), section 54.3, p. 167.
24 For a discussion of the created co-creator principle and Christian theology, see Stephen Garner, “Christian Theology and Transhumanism: The ‘Created Co-creator and Bioethical Principles,” in Religion and Transhumanism: The Unknown Future of Human Enhancement, eds. Calvin Mercer and Tracy Trothen, 229–43 (Westport, CT: Praeger, 2015).
25 The Human Factor: Evolution, Culture, and Religion (Minneapolis, MN: Fortress, 1993), 27.
Hefner’s theological reasoning goes like this. If we are created in the image of God (Latin *imago Dei*), as expressed in a Jewish creation story, and if one of the divine qualities is creativity, then human beings are meant to create so long as this creating is done with humility (knowing they have a propensity to make mistakes and to sin), the intent to do good (repair the world), and with the communal and ongoing discernment of God’s will, as best that will can be discerned. In other words, we are meant to do good and to care for creation, ourselves, and our neighbor. Professor Trothen explains:

Humans, as made in the likeness of God, have been given creativity to be used in divine service. Theologian Philip Hefner’s proposal of humans as created co-creators helps us to complicate the caution not to “play God” in the realm of science and technology. While we ought to be prudent and aware of our abilities to mess up, we also have extraordinary capacity to improve life with God’s help. The *imago Dei* suggests a divine mandate to create for the good. This is a risky venture requiring humility and some audacity. Theological ethicist Grace D. Cumming Long develops the ethical principle of creativity making a strong case for the necessity of creativity if we are to reimagine and recreate the world as just and compassionate .... We have means to assess the damage we have done and continue to do to the environment, and there are possible correctives if we collectively have the political will.

The concept of created co-creators lays the theological ground for asserting that God can and does work through and with people, as humble and courageous partners, in developing technologies, perhaps very powerful ones, for good. To say it a different way, technology can be a means of grace, just like the hands of the traditional doctor. The concept is similar to a Jewish notion, *Tikkun olam*, translated “repair the world.” A justice oriented “co-evolution” could be considered the secular version.

To put it yet another way, the material world can be a domain of God’s graceful, creative action. Lurking behind this theology is, of course, an optimistic view of how technology can be both potent and good in the hands of God and her/his created co-creators. So, the fundamental assessment of nature’s potential for good, in the monotheistic religions, is a deeply biblical concept, going back to the very important creation stories in Genesis. Following the sixth day of creation, God declared that everything is “very good.” There is no hint of evil, suffering, or fallenness in the creation story in the first two chapters of the Hebrew Bible. Everything is very good, including human physical, cognitive, affective, moral, and spiritual abilities.

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26 Genesis 1:26.
27 Tracy J. Trothen, “Christian Anthropology: Doing Good Through Science and Technology,” in *Technology and the Image of God: A Canadian Conversation* (Canadian Council of Churches, Faith and Life Sciences, 2017), 18–19.
28 “Co-evolution with technologies” is used by MacFarlane, *Transhumanism as a New Social Movement*, 2.
29 Genesis 1:31.
If the Bible had ended at Genesis, Chap. 2, the story would be of a good God creating an incredibly wonderful world with no hint of evil and suffering. Human beings are able and good-faith stewards of that world. Wonderfully situated in the lovely Garden of Eden, the human creatures are charged with naming the animals and tending the garden. When God comes walking through the garden in the cool of the day, Eve and Adam, the first humans created, run out to greet their creator. Then, we arrive at Genesis, Chap. 3, where the humans freely, deliberately, and painfully make irresponsible decisions that bring heartache and pain. Adam blames Eve, Eve blames God, Cain kills Abel, they build the Babel tower, and that age’s version of nuclear holocaust comes in the form of a worldwide flood.

Most assuredly, the above interpretation of the biblical stories of creation as originally good and human beings as created co-creators with God is not the only interpretation. Earlier, we referenced how some Christian thinking was influenced not by this Jewish background, but by Greek-inspired dualistic philosophies that postulated a soul separate from a physical body. That same dualistic thinking was sometimes extended to judge physicality as bad or evil. Such a dualistic view could very well lead to the conclusion that the physical world is evil by nature and God’s work is to save the faithful from that evil world. In such a worldview, technology is part of the evil world and is not seen as a means of God’s action in the world.

THE SPECTRUM OF THEOLOGY

While labels are often libels, doing more harm than good, sometimes labels and broad generalizations can be useful in beginning to understand ideologically based movements or trends. Used cautiously, terms like “liberal” and “conservative” can be useful in framing judicial philosophy, political leaning, and economic theory. Theological commitment in religion also often falls along a liberal-conservative continuum.

“Liberal” refers to the left side of the theological spectrum, a side some prefer to call “progressive.” “Conservative” refers to the right side of the spectrum. Conservative, as we are using it, includes fundamentalism, which would be the extreme right. The next page contains a helpful table showing theological generalizations of the liberal-conservative continuum.

As noted in the continuum (Table 3.1), theological liberalism contends that God affirms and works through the natural world to foster peace and justice, to bring God’s Kingdom/Kin-dom ever closer to fruition in this world. This contention generally puts liberals in an open—even if careful—stance toward science as providing knowledge about God’s creation and enabling technology that benefits humanity.

So, the progressive wings of the religions, with their generally favorable attitude toward science, are positioned to adapt religion to radical enhancement. For example, a recent book about Islam and transhumanism30 illustrates

30 Roy Jackson, Muslim and Supermuslim: The Quest for the Perfect Being and Beyond, in Palgrave Studies in the Future of Humanity and Its Successors, series eds. Calvin Mercer and Steve Fuller (New York: Palgrave Macmillan, 2020).
how a “creative and explorative” approach to the religion positions Islam as an inspirational and productive interlocutor in the debate about radical human enhancement. If a positive stance toward science was the only consideration, we would conclude that religious liberals are supportive of the transhumanist agenda, since it is science-based and with the mission of improving the human condition through technology.

However, liberals are also concerned about social justice. They worry that enhancement therapies and technologies are going to be the privilege of the wealthy and powerful. Also concerning to liberals is that this privileged class may dictate the nature and purposes of these technologies. Consequently, many liberals are extremely cautious about, and even opposed to, enhancement technology. We explore these issues in more detail in the following chapter that addresses ethics.

31 Ibid., 5.

### Table 3.1 Theological Continuum

| Theological Aspect | Conservative | Liberal |
|--------------------|--------------|---------|
| The Divine | Theocentric (God-centered), low view of human beings as sinful and weak | Anthropocentric (human-centered), high value on human ability given by God, optimistic about human capability, God works through the created order |
| The World | Otherworldly, emphasizing the reality and importance of the realm above and beyond the natural, such as heaven, hell, souls, and the afterlife | This-worldly, emphasizing the here and now, more occupied with immediate, present social and other problems, rather than with future spiritual destiny |
| Revelation | Religious truth comes from God through special communication, such as sacred writings (fundamentalist), institutions and traditions (Roman Catholic), or personal religious experience (Pentecostal/charismatic) | Traditions and texts are important, but truth in them is appropriated and discerned by the God-given rational ability of human beings |
| Tradition | Traditionalists, valuing religious understanding handed down from previous generations, generally opposed to change | Revisionist, sees the necessity for revising and updating traditional notions in light of changing circumstances and new knowledge, reluctant to claim infallibility for any doctrine |
| Attitude | Dogmatic, committed to certain indisputable beliefs that are not open for questioning, modification, or debate, because they are supernaturally revealed | Pragmatic, interested in what works, what solves human problems and meets human needs |

Adapted from Calvin Mercer’s *Slaves to Faith: A Therapist Looks Inside the Fundamentalist Mind* (Westport, CT: Praeger, 2009), 47, and based on George C. Bedell, Leo Sandon, Jr., and Charles T. Wellborn, *Religion in America* (New York: Macmillan, 1975).
LIBERAL AND CONSERVATIVE REACTIONS

Many religious conservatives, and especially fundamentalists, tend to see the world as the domain of temptation and evil. God’s redemptive acts that lead us to peace and justice are in spite of the sinful world, rather than through the leaders and systems of the world. Science and technology are, at best, enterprises of sinful humans with some positive breakthroughs due to God’s grace and, at worst, the work of the devil.

Liberal optimism has suffered a huge setback with the two world wars, one of which included a horrendous Holocaust, and other global atrocities. Now, with a pandemic, terrorism, wide-scale racial justice protests, and other global violence a part of our recent past, where is the evidence that God is working through human beings and through the world? It seems we are not always moving toward increased community, peace, and justice.

With the world seemingly bent on evil and destruction, there arose on the right side of the theological spectrum a Christian Protestant movement known as “neo-orthodoxy.” Championed by the influential German theologian Karl Barth and American theologian Reinhold Niebuhr, neo-orthodoxy began as a critique of the left emphasis on human goodness and preached our need to depend on God’s grace and God’s radical intervention to save sinful humanity. Neo-orthodoxy was not right-wing fundamentalism, and perhaps is best interpreted as a New Reformation Theology that was a mix of liberal and conservative and something more. While religions tend to develop liberal and conservative poles, most movements are somewhere along the continuum between the left and right extremes.

Another theological response to the growing social disquiet of the post-World War II decades came from the more radical left in the form of liberation theologies, with third world, feminist, and Black being prominent examples. These leaders include Gustavo Gutiérrez, Rosemary Radford Ruether, and James Cone. These theologies grew out of marginalized voices that championed social justice and strongly critiqued the status quo, including the theological status quo. Liberational theologians looked anew at the Bible, with its themes of exodus from oppression and slavery, courageous prophetic preaching for social justice, and privileging of the poor and dispossessed in Jesus’ ministry.

Process theology is another example of a progressive way of formulating doctrine that can be employed in a positive assessment of radical human enhancement. This approach is based on the work of English mathematician and philosopher Alfred North Whitehead. At a basic level, process thinking begins with the real world, wherein everything changes all the time. Trees grow, buildings crumble, the sun rises, teeth decay, relationships change, and so it goes for everything, all the time. Christian theologians, such as John B. Cobb and Charles Hartshorne, influenced by Whitehead, argued that since everything changes, God does as well, an idea we explore in a later chapter.
The idea that change is intrinsic to the nature of reality has wide support. In Western philosophy, its most well-known ancient Greek advocate is Heraclitus (c. 535–475 BCE) who famously said, “You cannot step twice into the same stream.”

Buddhism reinforces this point about change. One of the very important Buddhist “Three Signs of Being” is the law of impermanence (Pali, anicca, literally “nonpermanent”). While impermanence is central in Buddhism, it plays an important role in some schools of thought in Jainism and Hinduism, where it is found in important Hindu scriptures, such as the Rigveda, Upanishads, and Bhagavad Gita.

A key underlying question for the religions is how flexible they are in the face of modern world developments, such as in the science and technology of radical human longevity. Conservative attachment to tradition and dogmatic attitude resists evolving religion in ways that accommodate changing circumstances, while liberalism works hard to find ways to adjust its theology. Liberal religion is nimble; it flexes and adapts to new ideas and ways, although sometimes at the expense of core beliefs, according to many conservative critics.

Often implicit in the liberal embrace of transhumanist programs is a positive assessment of technology as a means of divine action in the world. The moral status of technology is a subject of considerable academic debate. The “instrumental view” of technology is the idea that technology is value-neutral and can be utilized to morally positive or morally negative ends, depending on the intentionality and motive of the human guide. However, several well-regarded philosophers have shown that technology is imbued with the values of utility and efficiency. More will be said about values and technology in the next chapter on ethics.

Drilling down below these various theological positions, we reach fundamental questions. Are we basically optimistic or pessimistic about the human spirit, about human intentionality? Relatedly, do we think, to put it bluntly, that we are going to survive in good fashion or do ourselves in with these new technologies? Splitting the atom led to electricity for our homes and also created a means for the end of civilization and planetary collapse. While such questions can be asked by any human being, these questions are religious questions. Put theologically, does a religion’s theological anthropology understand human nature as good or bad or somewhere in-between? Liberals tend to drop down on the side of the goodness and potential of the human creature.

32 Plato, Cratylus 402a, in Plato in Twelve Volumes, vol. 12, trans. Harold N. Fowler (Cambridge, MA, Harvard University, 1921). http://www.perseus.tufts.edu/hopper/text?doc=Perseus%3Atext%3A1999.01.0172%3Atext%3DCrat.%3Asection%3D402a.

33 The other two are suffering and no-self.

34 For a review of options, see Maarten Franssen, GertJan Lokhorst, and Ibo van de Poel, “Philosophy of Technology,” Stanford Encyclopedia of Philosophy, last updated September 6, 2018. https://plato.stanford.edu/entries/technology/; Thomas A. C. Reydon, “Philosophy of Technology,” Internet Encyclopedia of Philosophy, accessed November 2019. https://www.iep.utm.edu/technolo/; and James Michael MacFarlane, Transhumanism as a New Social Movement, 5–8.
Conservatives tend to emphasize our fallen nature and are, consequently, cautious about putting too much control, including technology, into our hands.

**Religious Transhumanism**

Transhumanism as a movement was initially populated primarily by secularists. As it gains momentum and the enhancement technologies become widely known, if not utilized, transhumanism will continue to include more people of faith from all the religions.\(^{35}\) It is important to be clear about what it means to be a religious transhumanist. Most transhumanists see the body as a machine that needs repair and improvement. That is a secular, mechanistic view of who we are. Although it may be slowly changing in light of a more holistic model, much modern medicine is similar to transhumanism in its view of the body as made up of mechanistic parts that can be fixed.

Most religions reject this simple reduction of who we are. Physicality is not all there is; our embodiment is one pervasive aspect of our being, but not the only one. Many karmic traditions attend to the soul and its cosmic welfare. Even Buddhism, with its “no soul” view, understands that reincarnation and the law of karma place our lives in a larger cosmic context than that afforded by a strict materialist worldview. Indigenous spirituality understands all life as profoundly intraconnected and interconnected. Healing cannot occur without attending to the whole person.

In the monotheistic religions, God as creator breathed life into the human creatures. The Bible does not speak about our bodies in isolation from ourselves as persons animated by God. The worldview of materialism is rejected by Judaism, Christianity, and Islam that stem from the same biblical tradition. So, if there is a religious transhumanism that could sanctioned by the Abrahamic religion followers, then the secular, materialistic program must be somehow incorporated into the religious vision.

Because the religions understand physicality as an integrated aspect of who we are, and care about our physical well-being, the world faiths are positioned to embrace enhancement to some degree should they choose. Professor Trothen summarizes this point:

Religion places a high value on healing and minimizing suffering. For example, Christians are guided by the many stories of Jesus’ healings. Some unavoidable creaturely suffering is seen as valuable, potentially contributing to spiritual growth and community. Buddhists are committed to reducing suffering by loosening one’s attachment to the self as an identity, in light of the Buddhist notion of “no-self.” Hindus see deserved suffering as necessary to ward off bad karma but undeserved suffering can be minimized. Daoism promotes a variety of practices for

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\(^{35}\) MacFarlane, *Transhumanism as a New Social Movement*, 177–201 discusses various aspects of transhumanism and religion.
health and long life. And, in Judaism the preservation of life is the highest mitzvah.36

Ron Cole-Turner, a Christian theologian introduced earlier in this chapter, argues that, indeed, Christian transhumanism differs significantly from secular notions of transhumanism, especially in its emphasis on the need to let go of self (an idea that resonates with Buddhists) in order to find one’s true self in relation with God. With this understanding, transhumanism is properly a Christian concept, he argues. In his article entitled “Christian Transhumanism,” he writes:

Christian transhumanism is not an accommodation to our age. It is instead an affirmation of the radically transformative nature of the hope that lies at the heart of a Christian view of humanity and the cosmos.37

In a statement that is typical of religious transhumanists of all religions, Cole-Turner is quick to point out that a larger self-sacrificial vision should motivate people of faith, even if they identify as transhumanists: “The pathway to life is not found in preservation and extension but, paradoxically, in ‘self-denial’ and in willingness to lose one’s own life.”38

Mormon Transhumanist Association

We have made the case that the religions are diverse and flexible enough to have elements that can embrace radical human enhancement. Indeed, we find that flexibility exemplified by two Christian transhumanist organizations. Organizationally, the oldest pro-transhumanism religious group is the Mormon Transhumanist Association (MTA),39 a Christian movement started in 2006. “Transfigurism” is the theological word the MTA often uses for “transformation.”

The MTA is a robust organization with professional leadership and an active schedule of conferences and other programs. Mormon theology calls for a glorified and immortal body achieved through theosis, a notion we discussed earlier in this chapter in connection with the Eastern Orthodox branch of Christianity. The MTA contends that Mormon scriptures teach that God commands we use science and technology to help achieve this theological goal. Here is the MTA list of affirmations:

36 Tracy J. Trothen, “Technology, Medicine, Ethics and Religion: Body Matters,” in Bloomsbury Religion in North America (“Religion, Science and Technology in North America” section, section eds. Whitney Bauman and Lisa Stenmark) (NY: Bloomsbury, in press).
37 p. 51.
38 “Extreme Longevity Research: A Progressive Protestant Principle,” in Religion and the Implications of Radical Life Extension, eds. Derek Maher and Calvin Mercer (New York: Palgrave Macmillan, 2009; republished in paperback, 2014), 58.
39 https://transfigurism.org/.
• We are disciples of the Gospel of Jesus Christ, which is to trust in, change toward, and fully immerse our bodies and minds in the role of Christ, to become compassionate creators as exemplified and invited by Jesus.

• We believe that scientific knowledge and technological power are among the means ordained of God to enable such exaltation, including realization of diverse prophetic visions of transfiguration, immortality, resurrection, renewal of this world, and the discovery and creation of worlds without end.

• We understand the Gospel to be compatible with and complementary to many religions and philosophies, particularly those that provoke strenuous pursuit of compassionate and creative exaltation.

• We feel a duty to use science and technology according to wisdom and inspiration, to identify and prepare for risks and responsibilities associated with future advances, and to persuade others to do likewise.

• We seek the spiritual and physical exaltation of individuals and their anatomies, as well as communities and their environments, according to their wills, desires, and laws, to the extent they are not oppressive.

• We practice our discipleship when we offer friendship, that all may be many in one; when we receive truth, let it come from whence it may; and when we send relief, consolation, and healing, that raises each other together.

Notice that the affirmations do not require members to be Mormon, and, indeed, a recent quick survey shows that about 40 percent of members do not self-identify as Mormon.

To further develop the view of this organization, from the MTA website we include a statement that echoes themes from process theology, considered earlier in this chapter.

Mormonism maintains that God wasn’t always God, but became God, and that humans should try to become gods too. Over time, we can become like God by taking steps to improve ourselves and our world … Mormon Transhumanism takes the Mormon idea that humans should become gods, and the Transhumanist idea that we should use science and technology in ethical ways to improve our condition until we attain posthumanity, and suggests that these are related, if not identical tasks. That is, we should ethically use our resources including religion, science, and technology to improve ourselves and our world until we become Gods ourselves.

Lincoln Cannon is a founder, board member, and former president of the MTA. In “Mormonism Mandates Transhumanism,”40 Cannon argues just that. Cannon proposes and supports four points: (1) God commands us to use

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40 In Religion and Human Enhancement: Death, Values, and Morality, eds. Tracy J. Trothen and Calvin Mercer, in Palgrave Studies in the Future of Humanity and Its Successors, series eds. Calvin Mercer and Steve Fuller (New York: Palgrave Macmillan, 2017; reissued in paperback, 2019).
prescribed means to participate in God’s work; (2) Science and technology are among the means prescribed by God; (3) God’s work is to help each other attain Godhood; and (4) An essential attribute of Godhood is a glorified immortal body. His introduction to Mormonism, transhumanism, and the connection between the two is also found in a video entitled “Mormon Transhumanism.”

**Christian Transhumanist Association**

The other group that has emerged as playing a very important role in educating about and advocating for Christian transhumanism is, aptly named, the Christian Transhumanist Association (CTA). The CTA affirmation, while pro-enhancement, is modest enough to be inclusive of Christians ranging from ardent advocates to more cautious proponents. It reads:

- **We believe that God’s mission involves the transformation and renewal of creation** including humanity, and that we are called by Christ to participate in that mission: working against illness, hunger, oppression, injustice, and death.
- **We seek growth and progress along every dimension of our humanity:** spiritual, physical, emotional, mental—and at all levels: individual, community, society, world.
- **We recognize science and technology as tangible expressions of our God-given impulse to explore and discover** and as a natural outgrowth of being created in the image of God.
- **We are guided by Jesus’ greatest commands** to “Love the Lord your God with all your heart, soul, mind, and strength … and love your neighbor as yourself.”
- **We believe that the intentional use of technology, coupled with following Christ, will empower us to become more human** across the scope of what it means to be creatures in the image of God.

Currently, the CTA is led by founder Micah Redding, who is software developer, writer on the subject of human values and technology, and host of the “Christian Transhumanist Podcast.” The CTA held its first national conference in 2018, featuring a presentation by scientist Aubrey de Grey, a leading anti-aging proponent.

We are not aware of any other transhumanist organization associated with a major religion. Roy Jackson, the author of a book on Islam and

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41 [https://www.youtube.com/watch?v=AeyJbRoOo-Pw](https://www.youtube.com/watch?v=AeyJbRoOo-Pw).
42 [https://www.christiantranshumanism.org/](https://www.christiantranshumanism.org/). Of your two authors, Mercer is a member of the Academic Advisory Council of the CTA, and Trothen is a member of the CTA.
43 The bolded sections are as per the website.
44 [https://www.christiantranshumanism.org/podcast](https://www.christiantranshumanism.org/podcast).
transhumanism, ends with a call for a “Muslim Transhumanist Association,” for which one suggested affirmation is:

We believe that the intentional use of technology will empower us to transcend our current state and move towards perfectibility, guided by the example of the Prophet Muhammad as the Perfect Human (insan al-Kamil).45

The Arabic insan al-Kamil is an honorific title for the prophet that means “the person who has reached perfection” or “the complete person.” We anticipate that in the next few years transhumanist organizations will emerge in various religions.

RELIGION AND SCIENCE

The relationship between religion and science is of increasing interest to scholars of religion and theologians of the various traditions. Many agree that technology and medicine do not give all the answers to every question and that other sources such as religion help us understand what it means to live better and be better. Examine the video, “Can Science Understand Everything?” in which a number of the United States’ National Aeronautics and Space Administration (NASA) scientists respond to the question of whether science can provide answers to everything.46 The level of interest in the relationship between religion and science is such that, in the past few decades, a robust subfield of “religion and science” has emerged with devoted journals, conferences, and professional societies. Simplifying, but hopefully not overly so, three basic models of the relationship between science and religion have been identified: conflict, independence, and dialogue/integration.

That religion and science are contradictory and in conflict through history, at least in the West, was the prevailing view of the history of the relationship between religion and science until recent decades. The seventeenth century Galileo affair was held up as a prime example of the clash between and incompatibility of religion and science. Galileo Galilei (1564–1642) was supposedly punished for his support of heliocentrism, i.e., the belief that the Earth and planets revolve around the sun. A more nuanced interpretation, held by most historians of science and religion today, is that the conflict was more about politics and a dispute about the Roman Catholic Church’s authority, rather than an intrinsic conflict between religion and science. Evolutionary biologist Richard Dawkins is a prominent contemporary advocate of the conflict model.47

Advocates of the independence model argue that religion and science have different missions and methods and have nothing to do with each other. A

45 Jackson, Muslim and Supermuslim, 175–76.
46 “Can Science Understand Everything? NASA Scientists Attempt to Answer the Question.” https://aeon.co/videos/can-science-understand-everything-nasa-scientists-attempt-to-answer-the-question.
47 E.g., The God Delusion (Boston: Houghton Mifflin, 2006).
common assertion from this camp is that religion has to do with values and science with facts. An example of a proponent of the independence model is evolutionary biologist and historian of science Stephen Jay Gould, who was a respected advocate of what he called the “non-overlapping magisterials” of religion and science. Proponents of the independence model have been criticized for being vulnerable to scientism, which conceals arguments as unchanging “objective facts.” As the history of science demonstrates, no definition or argument is infallible. Science, by definition, requires openness to the possibility of being proven wrong.

A dialogue/integration model can have many expressions, depending on the religion, theology, and interests of the advocate of the model. An interesting proponent of this model from an evangelical (i.e., conservative) Christian perspective is Francis Collins, a widely respected scientist who headed up the important Human Genome Project, completed in 2003. Collins founded the organization BioLogos, which illustrates the dialogue/integration model in a thoroughgoing way. Theological ethicist Ron Cole-Turner also promotes the dialogue/integration model, which he articulates from a progressive Christian perspective. Cole-Turner explains how understanding and meaningfully exploring what it means to be human, why we exist, and what is our purpose and destiny require science and religion working together.

The Theological Continuum

A helpful way to think about the three religion and science models (conflict, independence, and dialogue/integration) is to filter them through the liberal-conservative theological continuum presented earlier in this chapter. In general, liberals—human centered, this-worldly, revisionist, pragmatic—are more likely to embrace a non-conflict model of the relationship between religion and science. Usually, conservatives—God-centered, otherworldly, traditionalist, dogmatic—are more prone than liberals to adopt some version of a conflict model. This statement is a generalization and, of course, there are exceptions. We have already noted how evangelical Christian Francis Collins does not advocate a conflict model.

48 Rocks of Ages: Science and Religion in the Fullness of Life (New York: Ballantine Books, 1999).
49 Jim Parry, “Must Scientists think Philosophically about Science?” in Philosophy and the Sciences of Exercise, Health and Sport: Critical Perspectives on Research Methods, ed. Mike McNamee (New York: Routledge, 2005), 22.
50 www.BioLogos.org.
51 Ronald Cole-Turner, The End of Adam and Eve: Theology and the Science of Human Origins (TheologyPlus Publishing, 2016). Brent Waters provides a cautious approach to theological embrace of technology. See From Human to Posthuman: Christian Theology and Technology in a Postmodern World, in Ashgate Science and Religion Series, series eds. Roger Trigg and J. Wentzel van Huyssteen (Burlington, VT: Ashgate Publishing, 2006).
52 An excellent social science presentation of what people of faith think about science is Elaine Howard Ecklund and Christopher P. Scheitle, Religion vs. Science: What Religious People Really Think (New York: Oxford University, 2018).
Liberals and conservatives often congregate in their respective positions on wide-ranging issues, such as politics, judicial philosophy, economics, and religion. In the coming chapters, however, we will predict that the new world of radical human enhancement may produce some strange bedfellows, with traditional liberal and conservative groupings finding new expressions.

Our reflections up to this point on the relationship between religion and science have been drawn from Christianity, because it is that tradition in which the most vigorous disagreements are taking place. As we have seen, the model of the relationship between religion and science adopted by Christians and Christian organizations is influenced, in large part, by where they lay on the liberal-conservative continuum. In comparison, religions originating in Asia, such as Hinduism and Buddhism, are generally accepting of science, seeing no conflict between religion and science.

In Hinduism, the dividing line between religion and science is blurred in the sense that all of reality is, in the deepest sense, divine, and so an embrace of any way of more fully understanding reality is a spiritual enterprise. Based on teachings stemming from its founder, Buddhism is an empirical religion, encouraging direct, personal experience as the final test for truth. One could even call Buddhism scientific in that it aims at uncovering the causes and effects that order existence, especially the cause and effect of suffering. While Confucianism has a more checkered history with science, Jainism, Sikhism, and Daoism in the main are quite compatible with scientific findings.

**Science and Technology**

The relationship between science and technology is complex. One of your authors, Professor Trothen, explains the relationship between science and technology in another book:

... the goal of science is knowledge and technology is the practical application of science. There has been much debate concerning the conflation of science and technology; proponents of one side do not wish to be subsumed by the other. Science and technology are connected, but they are not the same.

One distinction that is often—but not always—made between science and technology concerns values: science is purported by some to be objective or value-free, while technology is generally accepted as value-laden (Frey 2011). Several European philosophers, including Herbert Marcuse (1964), Jürgen Habermas (1971), and Michel Foucault (1988), have shown that technology promotes values of efficiency and utility ...

While it is clear that technology is informed by particular values, I am in agreement with American philosopher, historian, and physicist Thomas Kuhn and do not find science’s purported objectivity convincing ... Scientific knowledge, it has been said, is simply knowledge; the choices around how to apply it have not been made in the science itself. However, factors influencing the framing of science are value-laden and so have an effect on the science: How we choose which scientific
inquiries to investigate and who should be involved in these pursuits are value-laden decisions.53

Science and technology are human pursuits and creations and, as such, have a reciprocal relationship with context, including the people who interact with science and technology. For example, the COVID-19 pandemic, some governments placed a strong emphasis on protection for healthcare professionals and consequently invested huge resources in the creation and manufacturing of personal protective equipment (PPE). Other governments emphasized personal freedom or the economy, rather than preservation of life, which led to proportionately fewer resources funneled into healthcare. Our values go far in shaping how political powers direct science and technology.

CONCLUDING REFLECTION

Our goal in this chapter has been to set the context for a religious consideration of various radical human enhancements and other technological programs in the coming chapters. Radical enhancement is in the context of a growing transhumanist movement that almost assuredly will lead to radical human enhancement to one degree or another and maybe even lead to posthuman beings.

The religions will be impacted by transhuman and maybe posthuman beings, and the religions also will have the opportunity to assess and influence the coming developments. Religion helps shape values and moral reasoning for many people in the world, and, as a result, religion is often embedded in responses to radical enhancement. To put it another way, with regard to the topic of this textbook, academic theologians and lay adherents of religion can and should have much to say about human enhancement technology in the public square.54

As we have emphasized, this chapter by no means attempts a systematic introduction to the world’s religions. Rather, we have identified some themes in those religions that are being and could be employed in the conversation about enhancement. As noted, Judaism and Christianity have been the most active in thinking about radical enhancement. We want to play a part in expanding the conversation, and so have endeavored to raise questions and issues from religions beyond Judaism and Christianity. In the coming years, scholars, theologians, and followers of all the religions will come increasingly into this important conversation.

53 Tracy J. Trothen, Winning the Race? Religion, Hope, and Reshaping the Sport Enhancement Debate (Macon, GA: Mercer University Press, 2015), 25–26.
54 See, e.g., Peter Kahn, “Bioethics, Religion, and Public Policy: Intersections, Interactions, and Solutions,” Journal of Religion and Health 55, no. 5 (2016): 1546–1560; and H. Brody and A. Macdonald, “Religion and Bioethics: Toward an Expanded Understanding,” Theoretical Medicine and Bioethics 34 (2013):133–145.
QUESTIONS FOR DISCUSSION

1. Is transhumanism a religious or secular concept? Why?
2. What is the difference between a transhuman and a posthuman?
3. After reading Max More’s “Letter to Mother Nature,” how would you describe More’s transhumanist attitude toward nature and our current human capabilities?
4. Why do you think the Abrahamic religions of Judaism and Christianity have been most active in discussions about radical human enhancement?
5. If human beings begin to live for thousands of years, how might the doctrines of karma and reincarnation be revised or reinterpreted to be relevant?
6. What are ways the concept of change or process, as taught by process theology, can be employed to embrace transhuman and posthuman beings?
7. Do you think human beings are basically good or evil? Did you arrive at your conclusion though a religious or some other avenue? Explain.
8. What differences and similarities do you see between the MTA and the CTA affirmations?