The Phenomenon of Faust

THE FAUST CHALLENGE: SCIENCE AS DIABOLIC OR DIVINE

by Ingrid H. Shafer

Abstract. The Faust motif provides an opportunity to explore the spectrum of attitudes among Christians toward science and technology by placing them into a historic context. Depending on one's understanding of the relationship of God and the world, the accomplishments of a Leonardo, a Paracelsus, a Faust, an Oppenheimer, or some future scientist credited with the "production" of the first successfully cloned human being can be interpreted as divine or diabolic in origin. I use the example of Faust to demonstrate that the Christian assessment of the scientific enterprise is closely correlated to the level of doctrinaire dualism informing the particular version of Christianity that inspires the assessment. I show that, contrary to what seems obvious, Faust's damnation originated not in medieval times but in early modern northern Europe, reflecting a dualistic obsession with human sinfulness more characteristic of Reformation Germany than of Renaissance Italy. Encouraged by hellfire-and-brimstone preachers, the common folk saw demons, devils, and witches in every dark corner, while humanist scholars sought to recapture the brilliant past of the Greeks and the Romans. Goethe's interpretation represents a return to earlier versions of the story, while some continue to accuse contemporary Faustians of Satanic connections for seeking forbidden knowledge and daring to play God by manipulating the stuff of life.

Keywords: biotechnology; Catholic; Christianity; dualism; Faust; Goethe; humanism; Leonardo da Vinci; Lutheran; nanotechnology; Nicolas of Cusa; nondualism; Reformation; Renaissance; science.

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My fascination with Faust began as a 9-year old, some 57 years ago in my native Austria when I saw the puppet play and could not understand why our Father in heaven did not find a way to keep the devil from grabbing Faust in the end. Of course, at the time I was already quite annoyed with the way the Lord was depicted in religion class. I had a hard time believing that the Father kicked Adam and Eve out of paradise simply because they were curious and had broken a patently arbitrary rule. I could not imagine a better reason for breaking a rule than wanting to learn and know. My parents had told me that I would never have to obey or accept anything they said unless I understood why! In addition, the Flood story couldn't be true. Surely God would not have drowned all those innocent animals and little children, too young to sin! I would be much happier with Johann Wolfgang v. Goethe's (1749–1832) version (of Faust and God), which I read in my teens. Eventually I became fascinated with Faust as the paradigmatic theologian-philosopher-scientist whose bold yearning for knowledge and happiness can be depicted negatively as selling his soul to the devil in exchange for a chance of pursuing his goal. Among Christians, those who denounce Faust see him brazenly continuing to eat off the forbidden tree, thus reenacting the primal Fall. Those who admire Faust see him as bravely continuing to strive toward ever higher levels of understanding, thus realizing his human potential as one formed in the image of God.

Created in God's Image: The Humanist Quest

These two opposed interpretations of the Faustian enterprise were already clearly defined in sixteenth-century Europe. Consider the diametrically opposed ways Leonardo da Vinci and his younger contemporary Georg (subsequently called Johann) Faust were assessed by their respective biographers[1] after their deaths. Both were viewed as possessing gifts and powers that far exceeded the abilities of ordinary mortals. The source of those unique gifts and powers, however, was seen as God in the case of Leonardo and Satan in the case of Faust.

The Italian Giorgio Vasari (1511–1574) considered Leonardo (1452–1519) uniquely favored by God:

> The greatest gifts are often seen, in the course of nature, rained by celestial influences on human creatures; and sometimes, in supernatural fashion, beauty, grace, and talent are united beyond measure in one single person, in a manner that to whatever such an one turns his attention, his every action is so divine, that, surpassing all other men, it makes itself clearly known as a thing bestowed by God (as it is), and not acquired by human art. (Vasari 1550)

Vasari wrote the *Life of Leonardo Da Vinci: Painter and Sculptor of Florence* in 1550, some three decades after Leonardo had died and Luther had started the Reformation north of the Alps. A revised edition was published in 1567.

On the other hand, the German Faust (c.1480–c.1539) was accused by his biographers of owing his gifts not to God but to the devil. The difference, I believe, can be traced at least partially to the radically different worldviews found in Roman Catholic Renaissance Italy and Protestant Reformation Germany. Along similar lines, historian Crane Brinton distinguished between what he called "spare" humanists in northern Europe and "exuberant" humanists in the south (1963, 35). Despite the "Holy Office" and official condemnation of nascent science by the Magisterium, Renaissance artists and thinkers tended to focus on the Incarnation as sign of God's presence in the world, while Lutherans and other Protestants tended to focus on original sin as a sign of Satan's power in the world. Both of these perspectives had been present from the beginning of Christianity but became more extreme and polarized during the Reformation period.

Incarnational thinking inspired theologians of the High Middle Ages, such as Thomas Aquinas, and especially the humanists of the Italian Renaissance. Thomas, for example, saw no conflict between reason and faith and spent his life attempting to help others make sense of Catholic doctrines and justify those doctrines in terms of the cultural paradigms and conceptual vocabulary of his era (in which Christians and Muslims had begun to exchange ideas), which included the understanding of Greek philosophers (especially Aristotle) filtered through the lens of Arabic thought. Thomas believed in an orderly cosmos whose structure reflected the rationality of God's mind. Human beings, as created in the image of God, were naturally endowed with an intellect capable of making moral judgments that intuitively manifested rational norms. He also argued that we could know aspects of divine nature by observing the world. This principle is called *analogia entis*, analogy of being.

Scholars such as Nicolas of Cusa (1401–1464), Marsilio Ficino (1433–1499), Giovanni Pico della Mirandola (c.1463–1494), and Giorgio Vasari were simultaneously devout Christians and admirers of ancient thought, contemporary non-Christian thinkers, and humanity as created in the image of God. Pico della Mirandola happily practiced white magic and cited Zoroastrians, Jews, and Muslims as valuable sources as he extolled the magnificence of being human, speaking with the Creator's voice:

> We have made thee neither of heaven nor of earth, neither mortal nor immortal, so that with freedom of choice and with honor, as though the maker and molder of thyself, thou mayest fashion thyself in whatever shape thou shalt prefer. Thou shalt have the power to degenerate into the lower forms of life, which are brutish. Thou shalt have the power, out of thy soul's judgment, to be reborn into the higher forms, which are divine. (1948, 225)

Ficino, a Roman Catholic priest and the leader of the Florentine Academy, was also known as alchemist, astrologer, philosopher, musician, and celebrated translator of Plato's writings. He was especially intrigued with the immortality of the soul. He tried to demonstrate that the neo-Platonists

of the late Classical period, especially Plotinus, provided a perfect substructure for Christian revelation. His commentary on Plato's *Symposium* (dialogue on love) incorporated Plotinus's theory of the soul's alienation in space and time. Eventually, perfected through the practice of "Platonic love" (mystical, spiritual, pure affection), the soul ascends through the ever more rarefied levels of matter, nature, soul, and mind to achieve final unification with the divine source in the beatific union with God. Like Thomas, albeit in terms of Plato rather than Aristotle, Ficino saw no contradiction between true, perennial philosophy, the pursuit of science, and Christian revelation and was convinced of the inherent unity of classical thought and Christianity.

Nicolas of Cusa, a fifteenth-century Roman Catholic priest, mystic, philosopher, astronomer, mathematician, canon lawyer, bishop of Brixen, and Cardinal, wrote, anticipating Copernicus, that the stars are other worlds and that the earth is a not-quite-perfect sphere that rotates on its axis and revolves around the Sun. In addition to his native German he knew Latin, Greek, Hebrew, Arabic, and presumably—since he lived in Italy and visited Holland—Italian and Dutch. He considered the Aristotelian principle of contradiction useful only for ordinary rational thought concerned with the everyday world, and in his masterpiece *De Docta ignorantia* (*Of Learned Ignorance*) argued that the Really Real can be approached only by means of higher levels of knowing, a faculty of intellection we might call mystical insight that can overcome all differences and distinctions by intuiting the Divine as perfect unity, the *coincidentia oppositorum* (coincidence of opposites). Using a geometric analogy (the coincidence of the infinite line, the infinite triangle, and the infinite circle), Nicolas pursued the mathematical problem of the limits of infinite series. In speculative flights that anticipate contemporary theories of relativity and non-Euclidean space, he concluded that God must necessarily be both the absolute maximum and the absolute minimum, the *coincidentia oppositorum*, the dynamic resolution of all contradictions, a cosmic womb/void engendering all finite beings while sheltering their unfolding. Conversely, anticipating Leibniz, Nicolas also argued that the entire cosmos is somehow present in every entity, albeit in a form curtailed by the individual limitations of the finite being.

Nicolas used the image of the "Infinite Circle" as analogy for his systematic vision:

> It is the measure of all circular movements: from potency to act and back from act to potency; of all composition: from Primary elements to individuals and the resolution of individuals to their Primary elements; of perfect circular forms, circular operations and movements which turn on themselves and return to their beginnings; and similarly of all such movements whose unity consists in perpetual cycle. (Cusanus 1954, 48)

Nicolas's Infinite Circle closely resembles the Taoist Diagram of the Supreme Ultimate, a circle representing the dynamic Oneness of Being that maintains its identity in and through an infinite variety of transformations and manifestations. Like the other Italian humanists, Nicolas, despite his northern roots, was a Platonist but neither a dualist bent on splitting reality into good spirit and evil matter nor a pantheist for whom God is wholly and immediately present in each individual finite thing. David J. Deleonardis (1998) eloquently summarizes Nicolas's position:

> In order to understand the way in which finite being reflects the Divine, three points are imperative. The first is that the Absolute is the primary reality and no being whatsoever can exist that is not derived therefrom. Despite the orientation toward the Divine had by all finite being, one must constantly bear in mind that though finite being is dependent upon the Divine it is also distinct from It. Secondly, each finite being is indispensable in that it contributes something which is entirely unique to the proclamation of the Divine. Thirdly, each individual entity serves as an image of the Divine. As such each actively seeks to fulfill its limited potential and thereby to mirror the Divine to the greatest possible degree.
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> The universe is not a contraction of the Absolute in the sense that a teaspoon of sea water is a contraction of the ocean, but in the sense of a mirror's reflection being a contraction of a face. The distinction here is that the teaspoon of sea water is part of the ocean and is a minute diminution of the ocean's being, while the reflection in no way is part of the face and, therefore, in no way diminishes the face's being. When Cusa refers to finite being as a contraction of the Absolute he does not mean the being of the Absolute is restricted into a particular being, but rather that this particular being is a disproportionate image in that one cannot multiply the perfections of this being to equal the total perfection of the Absolute. What is contracted is not the being of the Absolute, but the expression of that reality which finite being reflects. The Absolute and the finite, even as represented in the universe, are two fundamentally different orders of reality. Though diametrically opposed due to the very nature of their respective being, nonetheless, they are related in that the latter is derived from the former. Each, however, can be only itself and can never become the other.

The Reformation Context of the Original Faust Legend

The Faust legend crystallized in the sixteenth century, an era of exploding scientific knowledge, polarization of good and evil, shifting paradigms, the fragmentation of Christian unity, the dying of the medieval world, and geometrically escalating uncertainty. William Butler Yeats sang early in the twentieth century of the falcon no longer hearing the falconer, but the chasm had first opened five centuries earlier.

In late fourteenth-century Prague, Jan Hus (c.1372/73–1415) discovered the writings of the English reformer John Wycliffe who argued, among other things, that an evil authority ceases to be a legitimate authority. In 1401 Hus began to teach philosophy at Charles University, lecturing on Aristotle and Wycliffe's theology. Hus was later appointed the rector of Bethlehem Chapel, where he preached in Czech rather than Latin and in

his homilies attacked the feudal lords for exploiting the people and the church for what he considered un-Christlike greed and clerical immorality. This was the period of the so-called Great Schism of three popes reigning simultaneously, and in 1412 one of them, Pope John XXIII, placed Prague under interdict because of Hus's heretical teachings. Hus traveled to Germany to defend himself at the Council of Constance (1414–1418), a synod called primarily to bring an end to the schism involving the popes (Gregory XII, Benedict XIII, and John XXIII). Eventually all three were deposed or resigned, and Martin V was elected in 1417. However, before the schism had been settled, Hus—who had been promised safe conduct—was arrested, condemned of heresy, and burned at the stake on 6 July 1415. While the stable foundations of Christianity seemed to crumble, Copernicus (1473–1543) was challenging the commonsense Earth-centered Aristotelian-Ptolemaic cosmology, and Earth was demoted from its cherished central position, adding to confusion and uncertainty (Nicolas of Cusa's earlier similar teachings had not been publicized). Good Christians, such as the popes and Martin Luther (1483–1546), considered Copernicus a heretic and a fool, but change was in the air, and natural philosophy came to be viewed both as threat and promise.

The brilliant alchemist and physician Theophrastus Bombastus von Hohenheim, born Philippus Aureolus and eventually known as Paracelsus (1493–1541), attempted to apply scientific principles to medicine and what we now call pharmacology. From a pragmatic perspective, Niccolo Machiavelli (1469–1527) invented the field of political science as he turned cunning deceit and mass manipulation into legitimate means for attaining political success. In the early sixteenth century the Reformers north of the Alps succeeded in focusing theological attention on human corruption and original sin. Alchemists, herbalists, necromancers, and astrologers were laying the foundations for the sciences of chemistry, biology, physics, and astronomy at exactly the time when their activities would become suspect first among Protestants and then among Catholics who did not wish to appear less pious than the heretics. Encouraged by hellfire-and-brimstone preachers, the common folk saw demons, devils, and witches in every dark corner, while humanist scholars sought to recapture the brilliant past of the Greeks and the Romans. The authoritative text on witches and witch hunts, the *Malleus Maleficarum* (1486), went through twenty-nine editions during the sixteenth and seventeenth centuries. While the term would not be used for three hundred years, the plague of alienation was turning into a rapidly spreading epidemic.

The earliest record we have of the historical Faust's existence is a letter Johannes Trithemius of Sponheim (1462–1516) wrote on 20 August 1507 to the court mathematician-astrologer Johann Wirdung of Hassfurt.[2] Trithemius called Faust a glib con-man and drifter who beguiled a gullible public for glory and profit and should be whipped for blasphemy. Since

he mentioned that Franz von Sickingen had recommended Faust for a teaching position in Kreuznach (Palmer and Moore 1986, 82–86; Theens 1948, 16–17), I assume that Faust was at least twenty-five and probably around thirty years old at the time. No exploits by Faust were mentioned by his contemporaries after 1539. Within a couple of decades folk tales about his life began to circulate, and the Faust character became a collage of numerous historical and legendary personalities. The character became the focus of the sixteenth-century equivalent of contemporary urban legends that circulate through the Internet. Several fragmentary manuscripts exist. The first printed version is Johann Spies' 1587 *Faust Buch* (Faust Book).

By beginning our journey with the popular Spies account, I hope to show that contemporary hostility of science and some Christians is largely rooted in the kind of mindset that condemned (and continues to condemn) Faust. A comparison of the *Faust Buch* with earlier stories of scholars who sought privileged knowledge and control over nature by entering a pact with the devil indicates that the notion of sending such individuals to hell played a subordinate role in medieval thought but started to run amok during the Reformation. Gerald Strauss (1989, 32–33) points out that printer-publisher Spies belonged to a rigorously conservative branch of Lutheranism that was violently opposed not only to Catholics but also to Calvinists and Melanchthon's moderate reformers. Except for the Faust book, Spies published only sermons, tomes on theology and law, and spiritual advice. Strauss argues that the *Faust Buch* was no "potboiler to bring in money for printing more low-profit theology and jurisprudence" bur Spies' "instrument in his beleaguered fellow Lutherans' reformist assault on folk occultism" (p. 33), dressed up, of course, with mass appeal.

The Reformation plunged northern and western Europe into a period of intense preoccupation with Satan, a preoccupation that Strauss argues began not with the masses but with a deliberate attempt by the educated to manipulate public opinion. The devil craze was spread to the people by preachers, popular stories, the Inquisition, and witch trials (p. 31) and spawned an entirely new genre of writing, the immensely popular *Teufelsbücher*, devil's books. Strauss notes that focusing on the devil's pervasive presence in the world had practical advantages to would-be culture shapers. Seeing Satan lurking beneath the most trivial, everyday choices allowed "early modern opinion makers to brand every infraction as, literally, devilish" (p. 32). Polarizing reality into simple blacks and whites would help eradicate "the sprawling network of cunning folk, spell-casters, and fortune-tellers" of what amounted to "an alternative religion, and to bond them firmly to the elite-determined obligation of church, court, doctrine, parish, law book, and catechism" (p. 32).

Strauss fails to acknowledge an essential historic factor, however. Until the Reformation, most of what he calls alternative religion had been tacitly

integrated into popular Catholicism, and medieval Faust prototypes are generally saved despite a pact with the devil, as I discuss more fully in the following section.[3] In this perspective, the "happy ending" of Goethe's Faust represents a rejection of the Protestant emphasis on original sin and paternal wrath in favor of the Catholic emphasis on original blessedness and maternal love. Eliza Marian Butler notes concerning the ending of Goethe's Faust:

> Happily for Faust and for Goethe there were many precedents for the eleventh-hour salvation of repentant black magicians. There was Cyprian, there was Theophilus, there was Pope Sylvester II, there was Militarius, there was Robert the Devil, there was Roger Bacon. And now at long last Doctor Faustus joined this happy band of sinners; and he joined them naturally and logically under the Catholic dispensation under which they had all obtained pardon and grace, whereas he had been damned under the Lutheran persuasion. . . . But it was not only because of the great opportunities for poetry and grace offered by Catholic angeology that the last scene in the poem took place where and how it did. It was because the Faust legend went down fighting, defying even Goethe to revoke its decrees on its own religious ground. He gave ground gracefully and reverted to an older and more merciful tradition, transforming the utter spiritual defeat of a mortally misguided man into grace abounding for the striving soul of humanity. (Butler 1952, 265)

Karl Theens, citing Alexander Tille, makes a similar point when he distinguishes between the portrayal of the Faust character on the stages of southern Catholic Germany and of the Lutheran north. In Catholic regions, apart from cosmetic changes, such as having Mephistopheles[4] not appear in a monk's habit and leaving out Faust's visit to a venal Pope at his Vatican palace, there is the far more significant shift toward at least the genuine possibility of salvation. Theens argues that Calderón's (1600–1681) drama with its Catholic vision became the catalyst for Faust's salvation (Theens 1948, 86–87). I suspect that Calderón's play is merely a symptom of the persistence of the pre-Reformation spirit that had produced Butler's above-mentioned "happy band of sinners" who had all obtained pardon and grace under the Catholic dispensation. Theens also points to seventeenth- and eighteenth-century versions of the puppet play in Catholic areas in which Faust seems to keep the upper hand over the devil by insisting that Mephistopheles make a crucifix. When the devil finds it impossible to attach the inscription "I.N.R.I."[5] Faust has the chance to escape the pact's conditions.

The Spies book describes Faust as a man who wants to explore the heights and depths of heaven and earth and decides to conjure up the devil to help him. Thus he acquires a familiar, Mephostophiles, who promises to answer all of Faust's questions and fulfill all his desires for twenty-four years in exchange for his soul. Faust signs the contract in blood and proceeds to crisscross the land as traveling philosopher, physician, surgeon, lecturer, entertainer, magician, astronomer, astrologer, clairvoyant, and so forth. Mephostophiles takes him on several major excursions—all across Europe,

beyond the clouds to the stars, and through hell. The demon answers Faust's questions concerning the origin and destiny of the universe and helps him perform such feats as building a castle in the mountains, flying, reattaching severed body parts, growing flowers and grapes in midwinter, and siring a son with Helen of Troy. Toward the end of the twenty-four years, Faust appoints his apprentice, Wagner, as his heir, and, on the final day of his life, accompanies a group of students to an inn in the vicinity of Wittenberg where the devil tears him to pieces and leaves the horribly mutilated corpse, limbs still twitching, on the dung heap.

Legends of Individuals Who Reputedly Entered Satanic Pacts

There are many legends of satanic pacts that may be forerunners to the Faust story. I recount three in some detail to provide the flavor of these legends. The first man on record to enter a pact with the devil in the Christian era was the servant of Senator Proterius of Caesarea who engaged Satan's help in order to gain his master's comely daughter in marriage. According to the fourth-century legend, his soul was saved through the prayer of Saint Basil (Wiemken 1961, xxiv).

Possibly the most famous of all ancient progenitors of Faust is Theophilus, who was said to have entered a pact with the devil because of thwarted ambition. He, too, escaped Satan's claws. According to legend, Theophilus administered the Episcopal Church of Adana in Cilicia during the sixth century. When the bishop died, he was offered the position but turned the offer down because he did not feel qualified. The next bishop fired Theophilus. In order to get his old position back, Theophilus entered a pact with the devil and publicly renounced allegiance to Jesus and the Virgin. The machinations worked, and he was reinstated. He turned into an arrogant, cold, and obnoxious boss. After a while he recognized his error and repented. He fasted and prayed for forty days and nights. Mary took pity on him, and eventually even Jesus forgave him. Mary retrieved Theophilus' I.O.U. from Satan and put it in Theophilus' lap as he slept. When he awoke, he loudly proclaimed his guilt and praised the Virgin for her loving assistance. He died peacefully three days later. There are many versions of this legend, particularly after Paulus Diaconus of Naples translated the story into the *lingua franca*, Latin. One of the most important renderings is that of Hrotswitha of Gandersheim in the tenth century. By the fifteenth century, the legend had spawned miracle plays across Europe, in France, the Netherlands, and in northern Germany. After the sixteenth century it disappeared, swallowed up by the Reformation and the more recent Faust legend (Theens 1948, 35–36).

Finally, there is the French Benedictine monk Gerbert (c.955–1003), a brilliant mathematician, musician, and astronomer, who reached prominence as Pope Sylvester II. Gerbert had studied in Spain, introduced Arabic

mathematics and the abacus to Christian Europe, and was considered a powerful magician. In a thirteenth-century manuscript his encounter with the devil is reported to include the following promise by Satan: "Aye, he said, if you yield to me, see, I will make sure that no one is more learned than Gerbert" (Wiemken 1961, lv).

Until I began to research this topic, I had accepted the superficially appealing interpretation that Faust's damnation was a function of medieval thinking while Gotthold Ephraim Lessing's (1729–1781) and Goethe's salvation of Faust reflected post-Enlightenment respect for humanism and rationality. Anyone who reads surveys of German literature can find numerous statements to the effect that Lessing in the eighteenth century was the first to "save Faust." Reality is far more complex. Most of those depicted as having entered a pact with the devil are ultimately saved rather than damned. In addition, the pact with the devil is related not only or even primarily to gratification of physical desires. Instead, humans seek access to "secret" knowledge through the devil, and generally that knowledge falls into the category we now would consider scientific.

These legends show that people's view of the devil (and science) during the Middle Ages was inconsistent. Theoretically, invoking the Lord in the process of calling up Satan was considered a sin. On the other hand, it was common knowledge that demons could be called forth in the name of God. If the ritual was performed properly, they would have to do the conjurer's bidding. After all, light was more powerful than darkness, and to bind the devil or his servants in Jesus' name could even be interpreted as an act of faith. Hence, there seemed no reason not to make use of Satan's special powers temporarily, for a few months or even several years, as long as one made sure to repent or recant in time. It was a gamble, but one with reasonably good odds. God's grace was considered unlimited, and there were insurance policies ranging from intercessionary prayers to special masses and indulgences! In this view, Faust's damnation was not as much a function of the medieval mindset as the result of the breakup of the Christian world that emphasized sinfulness and encouraged polarization of reality into stark black and white extremes.

Late medieval traditions evolved the human archetype whose dissatisfaction with the limitations of life leads to a pact with the devil in order to use demonic powers for advancing the spectrum of earthly existence from erotic passion and physical comfort to scientific knowledge and philosophic wisdom. As Helmut Wiemken notes in his introduction to a 1961 edition of the chap-books[6] of Dr. Faustus and Wagner, "the idea of a pact with the devil could never have arisen in a context other than the Christian understanding of life after death" with the devil, God's adversary and Lord of hell who had crystallized during the Middle Ages out of Jewish conceptions of Lucifer mingled with northern images of personified darkness and evil (Wiemken 1961, xxx–xxxi). By the time of Luther, the devil was "real"

enough that the Reformer threw an inkwell at him! The reformers had certainly forced the devil out of the closet.

A Closer Look at the 1587 Book

In 1587 the Spies *Volksbuch*[7] (literally "people's book," chap-book) was published and became a bestseller. An English translation followed almost immediately (Christopher Marlowe wrote his *Doctor Faustus* at some point between 1589 and 1592 after reading the English version). The *Volksbuch* describes Faust as having been born from pious peasant parents. He moved to Wittenberg, where he lived with a wealthy uncle who loved him like a son. He studied theology but kept evil company and began to lead a godless life. Frustrated with theology, he called himself a physician. Paracelsus comes to mind. Despite his success, Faust was still dissatisfied and finally conjured up a member of the Satanic horde.

Assuming that he would be able to control the demonic forces he had unleashed, he entered a contract with that representative of Satan who promised to help him discover the secrets of the universe that up to that point had been concealed from his mind. The demon entertained him with beautiful music and illusionary battle scenes, providing him with the sixteenth-century equivalent of films, television, video, CDs, DVDs, and the Star Trek holodeck. He supplied Faust with the best of foods and finest of wines. Fowl, already deliciously roasted, would appear instantly, as though prepared in a contemporary microwave oven. The demon gave an interesting account of the origin of the world: the cosmos was without beginning and end. Human beings were not created. The earth formed itself, and the oceans developed on their own. Carl Sagan would approve.

Anticipating space travel, Faust journeyed to the stars in a "flying carriage," discovering that the Sun was so large it seemed to have no boundaries. By air coach he flew to Italy, Switzerland, Vienna, Egypt, Hungary, and Constantinople, where he entertained the emperor with magic and himself in the harem in the guise of Muhammad. He conjured up the forms of Alexander the Great and his lovely female companion for Charles V at the imperial court at Innsbruck, and in a lecture hall at the University of Erfurt he supplemented his presentation with three-dimensional images of the Homeric heroes. Virtual reality and holography had arrived.

Pious sixteenth-century Christians, transplanted from Luther's Germany to the present age, would see themselves surrounded by the works of Satan—the countless tools and gadgets, from automobiles ("self-movers") to cell phones, that we take for granted. The legend warns that the human attempt to control natural forces and resources is a blasphemous encroachment on God's prerogative, a pact with Satan in which Satan—the source of our power—himself will eventually become our executioner, tearing us limb from limb and leaving us, body parts still twitching, on the dung heap.

In the following section I focus on specific representative passages in the Spies book. I am reading and translating from the 1981 facsimile edition. In his introductory remarks to the "Christian Reader," Spies calls magic and necromancy the most heinous of all sins (*ein*),[8] an abomination before the Lord (*in*). Practitioners should be stoned (*in*). He cites Galatians 5: "Whoever practices idolatry and magic shall not inherit the Kingdom of God" (*Zau*') and "Jacob. 4" [*sic*], "Submit to God, resist the devil. . . ." (*euch*).

Faust was a Doctor of Theology (p. 4) who studied Chaldean, Persian, Arabic, and Greek words, spending day and night on incantations. He called himself a "Man of the World" (*Weltmensch*), a "Doctor of Medicine," an "Astrologer and Mathematician" who effected many cures and was well versed in Scripture (p. 5). Soon we learn that Faust "wanted to soar to the heights and depths of heaven and earth on eagle's wings" (p. 6). Satan appears to him first in the guise of a grey monk (p. 10) and later dressed as a Franciscan friar carrying a little bell (p. 18). Projection of live images plays a major role. Mephostophiles entertains Faust in his room with a battle between a lion and a dragon, a peacock and hen, an angry bull, an old monkey, a sack of gold and one of silver, and beautiful music. Faust thinks he is in heaven (p. 26). At times Faust is portrayed as a pure materialist. Mephostophiles did not permit a proper marriage, because marriage is a divine institution; he suggested fornication (p. 31), but Faust appears to have been celibate until five years before the end—except for the above-mentioned night in the sultan's harem. When Faust realized that time was running out, he had a series of affairs with succubi as well as an international assortment of seven witches (pp. 196–97). More significant was his cross-temporal relationship with Helen of Troy whom he conjured up in the final year of his life. Helen became his lover and bore him a son, Iustus Faustus, apparently a child prodigy who told Faust future events. Both disappeared after Faust's demise (p. 199).

Much if not most of the Faust story involves lessons in scientific theories concerning everything from disease, meteorological phenomena, and the seasons to the origin and nature of the universe. One day, Faust was depressed and asked the evil spirit how the earth and human beings were created. We read:

> The spirit gave Faust a godless and false account. He said, the world, dear Faust, has no beginning and no end, and the human race has been here from all eternity, without origin at the beginning. The earth has always had to sustain itself, and the waters separated from the land. Land and sea lived in mutual friendship as though they could speak with one another. The land demanded her realm from the sea—fields, meadows, lawns, and forests, while the sea established his realm of water with its fish and everything else therein. Ultimately, they conceded to God the creation of humankind and heaven, in order to have them subservient to God in the end. From this original kingdom there arose four realms: air, fire, water, and earth. I know of no more concise answer to your question. (pp. 75–76)

Another intriguing incident involves space travel. One night, after he had studied the heavens in his books, Faustus thought how grand it would be if he the chance to actually experience that which he could only read about. He looked out his window and later wrote in a letter:

> I saw a coach drawn by two dragons soar down. The coach was lit up with brilliant flames of hell. Since the moon was bright in the sky I could see the beasts as well as the coach. The wings of the worms were a mottled brown and black with white spots; their back, belly, head, and neck were green, speckled with yellow and white. . . . So I climbed up on the window sill, jumped into my carriage, and off we went. The flying dragons carried me higher and higher. In addition, the carriage had four wheels that whirred loudly as though we were on land, leaving behind a fiery trail. The higher I ascended, the darker it became, and I felt as though I were rushing into a black hole [*finsteres Loch*] from bright daylight. I looked from the sky down to earth. . . . I left on a Tuesday and returned on a Tuesday. During that time I did not sleep or feel like sleeping. I was invisible. . . . Later that day I looked down onto the world and saw many kingdoms, duchies, and seas. I could make out the entire world, Asia, Africa, and Europe. . . . As I turned my face in the four cardinal directions I could see that rain fell here, and thunder crashed there, and hail fell elsewhere, and the weather was fair yet other places. . . . On the eighth day of my flight I looked up into the distance and saw the heavens churn so rapidly that it seemed they might shatter into a thousand pieces or crack the world. The heavens were so bright that I could see no further, and it was so hot that I would have been consumed by fire if my servant had not stirred up a cool breeze. . . . With us the sun seems no bigger than the bottom of a keg, but in fact it is larger than the entire world, for I could see no end to it at all. At night, after the sun has set, the moon receives the sun's light. . . . One of the stars was the size of half the world, and a planet as large as the world. . . . Descending, I looked at the world, and it seemed like the yolk in the egg. . . . During the night of the eighth day I came home and slept for three days straight. Then I set my calendars and horoscopes accordingly. (pp. 93–98)

Faust also appears to have been busy as a botanist. Around Christmas of the nineteenth year of his life with Mephostophiles people were amazed when after a major blizzard there was no snow in Faust's garden. Instead, the lawn was green, and lovely flowers were blooming. The vines were covered with grapes, and there were white, red, and peach-colored roses along with other fragrant flowers (p. 192).

There is no evidence that the Faust of the Spies book is the "depraved creature" Erich Heller calls him in a sweeping and brilliant, albeit one-sided, discussion of the fate of Faust through the ages. Heller argues that there is a real difference between the "wanton, lewd, disreputable, and godless enterprises of the German magician and the 'wonderful Speculation' of P. F.'s audacious scholar" (Heller 1965, 7). Heller takes at face value the polemic invective Spies directs against his Faust and argues that the English translator, known as P. F. Gent[leman], turned Faust into a potential tragic hero by his interpretation. I believe that we must recover the Faust behind the Spies text. Once the stern Lutheran bias is factored into the equation, the first Doctor Faustus' sin is not brute carnality but the yearning to eat of the

Tree of Knowledge, a hunger I consider noble rather than depraved. There is no evidence that the Spies Faust was utterly lacking in love for his fellow humans. In fact, his relationship with young Wagner is rather touching. Apparently, early in his career, Faust took in a young runaway thief and panhandler known as Wagner. Faust was the only one willing to give him a home. The boy eventually became a student at Wittenberg and Faust's apprentice. Faust called him his son and made him his heir (Spies 1587, 201).

Other Faust Figures before Goethe

Christopher Marlowe. Marlowe (1564–1593), a man who had himself been accused of atheism, was fascinated by the Faust theme. He was a member of a group of young writers, the "University Wits," who left the sheltered academic environment in order to live by their wits—and pens. Ian Watt calls them "restless, Bohemian, unsatisfied, and scornful—angry young men who found no satisfactory vocational position, and who . . . [except for one] died young" (1989, 44).

In many ways the character of Faust paralleled Marlowe's. His Faust is a symbol of humanity face to face with the terrible possibilities of a future no longer grounded in medieval assurances. His Faust is eternally damned for simply being a man in search of himself. He, too, is a physician, and a good physician, but his art does not suffice. His prescriptions may have saved entire cities from the plague (1.1.20–21) but can still neither give eternal life nor raise the dead: "You art still but Faustus and a man" (1.1.23)—finite, limited man, yet capable of rational thought. That reason, however, drives him to despair. He reads "the reward of sin is death" (1.1.40) in scripture, but also that anyone claiming to be sinless is a liar, a sinner. Either way, it seems, we are already condemned to spiritual death, so why not sin exquisitely? He consciously chooses to become his own God: "A sound magician is a demi-god" (1.1.63). Like the Faust of the Spies book, he travels to space:

> Learnéd Faustus,
> To find the secrets of astronomy,
> graven in the book of Jove's high firmament,
> Did mount him up to scale Olympus' top,
> Where sitting on a chariot burning bright
> Drawn by the strength of yokéd dragons' necks,
> He viewed the clouds, the planets, and the stars,
> The tropics, zones, and quarters of the sky,
> From the bright circle of the hornéd moon
> Even to the height of the Primum Mobile.
> And whirring round with this circumference,
> Within the concave compass of the pole,

> From east to west his dragons swiftly glide
> And in eight days did bring him home again. (3.Prol.10–14)

Doctor Faustus is a tragic figure, destroyed by the very impulse that constitutes his genius. Marlowe's God is a petty tyrant, small and spiteful, who resents having to watch Faust/Adam eat of the tree of knowledge once again, egged on by the eternal serpent in the form of the "Bad Angel." Faust cries out, "O Christ, my Savior, my Savior, Help to save distressèd Faustus' soul." But instead of Christ, the unholy trinity of Lucifer, Beelzenbub, and Mephistophilis enter (2.2.91–92), and Lucifer informs him, "Christ cannot save thy soul, for he is just" (2.2.93). Faust's doom is far less his own doing than the result of divine jealousy. Faust's acknowledgment that "I gave them [Lucifer and Mephistophilis] my soul for my cunning" (5.2.74) leads to his last words: "Ugly hell, gape not! Come not, Lucifer! I'll burn my books! Ah, Mephistophilis!" (5.2.211) Thus, he makes his exit right into the gaping jaws of a mystery-play hell mouth.

Marlowe's Faust is a tortured man, like Pascal aware of the abyss between the infinite and the finite but, unlike Pascal, not sustained by faith. Necromancy becomes his key to self-actualization. Part of him desperately wants to believe, while another part is equally devoted to atheistic materialism. He vacillates between assurance and uncertainty, arrogance and anxiety. In many ways he is a contemporary "existential" hero, called upon to choose himself again and again. He has wagered eternal life in an attempt to gain knowledge of the mysteries of the universe, but, instead, his demonic servant-master offers only sense gratification.

Calderón de la Barca. The legend of Cyprian inspired Calderón's *El mágico prodigoso*. The connection with Faust is deliberate; Calderón had originally intended to call his heroine Faustina. When the action begins, Cyprian is a virtuous pagan in search of the truth. The devil cleverly deceives him by telling him part of the truth but not all. The play has a double message. On the surface it appears to demonstrate the dangers of seeking knowledge and love, since both can lead us astray. The search for knowledge ends with uncertainty as we confront illusion, and the Platonic inspiration of love through beauty is equally transient. The devil conjures up Justina's image for Cyprian only to have her lovely form turn into a corpse. On the other hand, Justina was originally born from a dead mother and herself represents the mystery of life springing from death. The devil tempts Cyprian with Justina in order to trick him into signing the contract. In the end it is the devil who is tricked, because Justina becomes Cyprian's path toward the knowledge of Christ. (Citing Goethe out of chronological sequence, Calderón's devil seems "part of that power that wants to create evil and must create good"!) Cyprian finds salvation precisely because he questioned, doubted, used his mind. After Cyprian and Justina have suffered martyrdom, the devil is the one who must clear their

names and announce publicly that both have gloriously ascended to heaven (Theens 1948, 63–64; Brown 1989, 57–58).

Gotthold Ephraim Lessing. For Lessing (1729–1781), Faust represented enlightened humanity while transcending the narrow confines of cold rationalism. In his famous seventeenth *Literaturbrief* (1759) he includes a Faust fragment, "Faust and the Seven Spirits," and elaborates on the Faust theme, pointing out how fond the German people are of "their" Faust and arguing forcefully that God could not possibly have provided humanity with a passion for knowledge, the most noble of instincts, merely to cause him eternal misery. Lessing's God is the God of the Enlightenment, no longer a tribal tyrant or a feudal lord but instead the ultimate lawgiver of the orderly Newtonian world. Unfortunately Lessing's Faust was never completed. Nevertheless, the intent is clear: Faust would be saved in the end (Bates 1969, vi; Henning 1989, 80).

JOHANN WOLFGANG VON GOETHE

Goethe (1749–1832) spent most of his long life giving shape to his Faust, his vision of and for humanity. Again, but more powerfully so, Faust is motivated by the passion to know, to comprehend the inner working of the cosmos. Like his forerunners, he is frustrated by the limitations inherent in all finite pursuits, even (or particularly) those involving learning. For Goethe this striving is not a sin, neither the hubris of the Greeks nor the pride of Saint Paul. It is that which constitutes the essential human character, that which makes human beings human. Like Georg Wilhelm Friedrich Hegel (1770–1831) in his *Phenomenology*, Goethe realizes that humanity must have eaten of the tree of knowledge to attain full human status. Faust is a true hero. He is in control. He knows himself and his potential. He determines the terms of the contract, and he is certain that the pact is one he can keep. If he should fail to abide by its conditions, he deserves to go to hell. Genuine knowledge proceeds along a path of negation and criticism. Mephistopheles is symbolic of negation, not God's enemy but rather "part of the power that eternally wills the evil and must create the good" (Trunz 1972, 1335–36).[9] The "forever nay-saying spirit" (1338) encourages human inquiry, action, progress. While Faust curses scholarship, glory, beauty, possessions, love, hope, faith, and so on, he never actually curses God. "The good human being in his dark striving is always conscious of the just path" (328–29). Mephistopheles is duped by his limited understanding of Faust. He thinks of the pact in traditional terms and agrees to the conditions without realizing that Faust chose the terms of the contract with utmost care.

> If I should ever rest contentedly on an idler's bed
> Then I be done for right then and there!

If you can ever deceive me by your flattery
into being pleased with myself,
If you can ever trick me with physical delights,
then this be my final day!
That is my wager!

If to the moment I should say:
Remain! You are so fair!
Then you may put me into chains,
Then I shall gladly be doomed! (1699–1702)

Faust uses Mephistopheles for his purposes. He knows that he cannot be beguiled by him, that in order to become himself, to realize himself, he must pass through the stages of sense experience as well as those of understanding. As in Hegel's *Phenomenology* (1927, passim), and possibly anticipating Pierre Teilhard de Chardin's movement from Alpha to Omega, the action of the drama rises in an expanding spiral, tracing human evolution from the immanent, immediate, individual consciousness through the emergent social horizons of the human community to an ultimate merging with the absolute spirit, God.

Part One of *Faust* takes place in the small world of individuals relating to other individuals while coming to terms with instincts and passions. Faust learns and develops, but the cost is high: Gretchen, her brother, mother, and newborn child, all dead. Part Two takes place in the large world of political intrigue, war, economics, scientific and technological development, and social activism. The European present merges with the Greek past in the symbolic marriage of Faust and Helena. Nature and Spirit fuse, and from their union springs Euphorion, brilliant son of Faust and Helena, who like Icarus (and Marlowe's *Doctor Faustus*) falls to his death from the dizzy heights. Prophetically, Goethe introduces lemures (robots?) and homunculus (the result of genetic engineering?). He seems to have an intuitive awareness of the terrible potential of technology wedded to fanaticism without a heart. Philemon and Baucis, symbols of innocence and simplicity, are the final victims of Faust's "self-actualization"—killed by the heartless, mechanical wheels of "progress." Still, in the end, Faust prevails. He is at once saved and saves himself in a double movement of descending grace and ascending striving by wedding love for humanity to scientific rationality. When the moment of satisfaction finally arrives, it is a moment of altruistic concern, of a vision of a future world populated by a free people engaged in fruitful labor, realizing themselves.

A Contemporary Faust in Popular Fiction

With Andrew Greeley's *Angel Fire* (1988) we return almost full circle to the kind of literature represented by the popular Faust books of the sixteenth and seventeenth centuries and even farther back to the early legends

of the Catholic tradition that tended to blend the spheres of ordinary people, angels, and saints all within the context of a particular historic moment. Like the Spies book, *Angel Fire* tricks readers into pondering serious issues while being entertained (though Spies' "entertainment" was the sadistic joy some people feel at another's misfortune). In many ways, the future of humankind depends on the moral and intellectual courage of those who affect the minds of the young (and not so young) at home, in the classroom, from the pulpit, and through books, films, and television. We have already seen what happens when single-minded doctrinal rigidity is allowed to split God's creation into a cosmic war zone. The term self-fulfilling prophecy applies not only to individuals but to humanity as a whole. If we abandon hope, we shall indeed find ourselves in Dante's icy pit of nuclear winter and frozen hearts. If we dare hope, on the other hand, if we don't allow ourselves to be paralyzed either by fear of the devil or by cynical spectatorship, there is no reason why the world of the future cannot be inhabited by people who use technology for the good of the earth and humanity—men and women who have made what Sean Desmond of Greeley's *Angel Fire* calls the "small [evolutionary] leap toward more cooperation between peoples and nations," adding, "Otherwise we won't be around for the next really big leap" (1988, 6).

Like the Spies book almost exactly four hundred years earlier, Greeley's novel is a sermon in story form but with a message almost diametrically opposed to that of the solemn, pious, conservative Lutheran. Greeley's message is one of a God whose grace works through nature, science, surprise, and creative play, a God who accepts the world and wants us to accept it. The book jacket hints at the difference:

> Pursued by a very real and present danger into a Europe still haunted by specters of pure evil, Sean Desmond will question his own sanity and his deepest beliefs, as he experiences what cannot be rationalized away as anything other than a powerful, radiant, transcendent love . . . one that will test Sean Desmond too long afraid of the human and divine fires within himself.

Greeley, a Roman Catholic priest, is clearly intent on having his readers focus on the sacramentality of the world, including the potential for good of science. In fact, Greeley's Satanic figures all represent aspects of rigidity—religious and/or ideological dogmatism and dualism. They are evil precisely because they are not open to transformation.

Professor Sean Desmond, an evolutionary biologist and a Nobel laureate, is a Faustian blend of Teilhard and his severe critic Stephen J. Gould. In his fictional evolutionary theories, Sean fuses the "punctuated equilibrium" of the latter with the former's quantum jumps of consciousness fueled by love. Love, according to both Teilhard and Greeley, is the primal, universal psychic energy. *Angel Fire* is a modern Faustian bestseller with a twist: Sean's otherworldly companion is not a demon but the archangel

Gabriel in feminine form, Dr. Gabriella Light, who turns out to be the grieving widow of the unfairly deposed Lucifer. It is a story that reworks the medieval themes within the context of the very cutting edge of contemporary natural science and does so from an openly Catholic perspective with deliberate forays into theological speculation. Like their ancestors, this contemporary Faust and his powerful assistant travel and teach. Much of the journeying is done by air. Sean is almost murdered by a Christian fanatic who accuses him of being possessed by Satan (p. 83) and in an earlier age would have applauded the Spies volume. Like the sixteenth-century progenitor, Gabriella Light is a whiz at conjuring up delicious meals and unlimited amounts of money. Sean and "Gaby" do a great deal of talking; their latter-day disputations revolve around current hypotheses of quantum physics and ultimate reality.

Through Gabriella, Greeley suggests to us that we take life too seriously and need to learn to be more playful. "'One of the more difficult aspects of working on this planet is that your species is disinclined to play, even as much as its limitations permit. It is a specially burdensome trait'—she jabbed her finger at him—'in creatures like you who have strong play propensities'" (p. 221). She describes herself and her race as "'messengers, secret agents, overseers, . . . explorers of beauty and goodness, companions on pilgrimage . . .'" (p. 222). The purpose of angels is to enjoy, observe, and sustain patterns of beauty and goodness. "'We could not live,'" she adds, "'and I mean that literally, unless we did so. We are beauty hungry creatures'" (p. 222). Angels are not limited to the speed of light. Their communication is over distance and instantaneous. Toward the end of the book Gabriella reveals herself as mistress of the most fundamental powers of nature, significantly for the Faust connection near the city of Leipzig, by now a standard haunt of Faust characters. She transforms herself into a nuclear reaction.

> From the absolute center of the haunted castle, a broad pillar of white light leaped into the sky, up and down, several times, dazzling, swirling, implacable light, glowing like molten plasma and turning the night into a blinding daylight. . . . Angel fire! Seraph fire! . . . A seraph, a being on fire with love, and now with love driven by anger. There was a mighty explosion, a fireball like a hydrogen bomb, brighter than a thousand suns. (pp. 248–49)

Gaby had destroyed the "Evil Magician's" empire, a Nazi-like scientific institute where scientific research was in the service of planned destruction. In a sense, good-Faust archetypes Sean and Gaby annihilate (at least for the moment) evil-Faust archetypes Dr. Helmstadt ("Helmet City") and his assistant, Frau Lutz. Good and evil, however, are not defined in terms of not-seeking-knowledge versus seeking-knowledge. Good and evil are functions of acceptance/refusal of God's grace (Gaby) and benevolence/brutality of the quest's motivation.

A Faust by Any Other Name . . .

Who or what is Faust, the flesh-and-blood sixteenth-century individual turned protean protagonist of legend and story? Is he the abominable necromancer-astrologer-charlatan-quack of one imagination or the admirable scientist-astronomer-philosopher-physician of another? Is he both or neither? How did he come to develop into the archetypal figure of Western civilization, an evolving compound of Prometheus, Job, Pythagoras, Hippocrates, Simon Magus, Cyprian, Theophilus, Gerbert, Abelard, Nostradamus, Leonardo, Johann/Georg Faust, Faustus Socinus, Kepler, Paracelsus, Marlowe, Prospero, Newton, Frankenstein, Goethe, Darwin, Marie Curie, Einstein, Oppenheimer, Watson-Crick, Teilhard—all past and present Faust incarnations, some historic figures and other legendary—waiting to be braided into those yet to be born/created? Faust figures will appear periodically as long as human beings continue to question, strive, seek, think, doubt, and challenge authority. No wonder that physics Nobel laureate Stephen Weinberg (1992, 5) refers to himself as "Faust playing with his pentagrams before Mephistopheles arrives."

As generic type, however, Faust is still very much part of popular culture, even if most contemporary American students do not recognize the name. We continue to be intrigued by the Faust character as representative of the search for the "good life," the morality of knowledge, and the religious implications of natural science and technology. This fascination is enhanced by developments in physics and biology—the harnessing-unleashing of nuclear power, the decoding of DNA and the emergent nanotechnology—the very foundations of matter and life, coupled with the information-technology revolution and questions concerning the nature of time. According to Wilson Knight, the Faust legend was one of the master myths of Renaissance Europe, and it is also closely related to the Prometheus myth (Knight 1958, 252) that links Faust both to fire, the divine gift that granted humans mastery over nature, and to origins of human life itself.

As contemporaries concerned with understanding the dynamics of the relationship of the scientific and religious communities, we need to understand that the Satan-sniffing mentality is still with us, firmly ensconced in religious extremism that can be found in many guises and contexts. It lies at the basis of the blanket opposition to fetal-tissue research and other reproductive technologies, sweeping denunciation of video games, acclaim for creation "science," censorship of libraries and textbooks, and so forth. A few years ago a woman I had never met sent me a copy of *Awake!* and a handwritten note addressed to "Dear Friend" in which she informs me that "Jehovah God is going to destroy the wicked." In the context of the magazine, the "wicked" are a strange amalgam of rock fans and scientists. The magazine sports a garish cover depicting the black magic of heavy metal and rap music. The anonymous author of the lead article tells the

story of a young man who found his Christian life endangered by "a steady diet of heavy metal and rap" (Anon. 1993a, 4–7). The words sound much like the four-hundred-year-old description of young Faust's corruption in the Spies book. Another article is called "Working 20th-Century 'Magic'" and deals with the role of science and technology in the present world. The author (again anonymous) cites Einstein's much-quoted comment about humankind drifting toward "unparalleled catastrophe" in the wake of the "unleashed power of the atom" without corresponding changes in our "mode of thinking" (Anon. 1993b, 21).

On 6 August 2005, a search in Google for the terms *evolution* and *devil* in the same document resulted in 1,140,000 pages, and *evolution + Satan* yielded 790,000. A search for *devil + cloning* yielded 118,000 results, and *Satan + cloning* yielded 52,100. There were 95,700 cases of linking *stem-cell + devil* and 67,200 cases of *stem-cell + Satan.* Even the less common term *nanotechnology* showed up in combination with *devil* 47,700 times and with *Satan* 11,000 times. Lance Morrow (2001) calls stem-cell research a "Faustian Bargain" in an article in the online edition of *Time*, offering "News from the Department of Miracles and Promethean Hubris." The Spies spirit is alive and well.

On the other hand, so are Faust's defenders. In a review of Michael Crichton's *Prey*, one of Crichton's series of popular novels that seek to warn the world of the dangers of technology, Freeman Dyson cites John Milton's 1644 argument for freedom of the press in support of his own "libertarian" position concerning the issue. Dyson is critical not only of Crichton but of the position proposed by Bill Joy, cofounder and chief scientist at Sun Microsystems, who argued in *Wired Magazine* that "Our most powerful 21st-century technologies—robotics, genetic engineering, and nanotech—are threatening to make humans an endangered species" and called for a moratorium on such research. Dyson, on the other hand, considers it appropriate to assume

> that risks are unavoidable, that no possible course of action or inaction will eliminate risks, and that a prudent course of action must be based on a balancing of risks against benefits and costs. In particular, when any prohibition of dangerous science and technology is contemplated, one of the costs that must be considered is the cost to human freedom. . . . What Milton declared unacceptable was prior censorship, prohibiting books from ever seeing the light of day. Next, Milton comes to the heart of the matter, the difficulty of regulating "things, uncertainly and yet equally working to good and to evil." (Dyson 2003)

Final Reflections

The idea of "playing God" evokes Sirach 4:20[10] with its call for not seeking what is too sublime for us. This advice can easily be misused to justify lazy adherence to traditional practices and imposition of arbitrary boundaries to human inquiry. How do we know what is "too sublime" for us, or

"beyond our strength," unless we test the limits, unless we dare "boldly go" (to quote *Star Trek*) "where no one has gone before"? If we believe in God, we must also believe that God made us with hungry brains, eager to reach out toward new horizons. It is not the quest for ever more knowledge that constitutes an evil but the irresponsible, hasty, arrogant application of that knowledge. Paradoxically, by unconditionally condemning the entire Faustian enterprise as Satanic we abdicate our responsibility to converse with the scientific community and literally block any chance to affect the way discoveries are applied.

As Goethe realized, to keep from becoming destructive, intellectual striving must be combined with the kind of spiritual maturity and intellectual humility that permit frank assessment of our strengths and limitations. The wise person should indeed be humble, but simultaneously he or she also should ponder the continuing validity of the ancient "nothing to excess" and heed Sirach 10:27, "With humility have self-esteem; prize yourself as you deserve." Self-confidence tempered by humility and humility tempered by self-confidence can help us find solutions for the problems of today and tomorrow.

The longstanding association between science and the demonic is an association that both falsely fails to appreciate the enormous potential for good in the scientific enterprise and accurately recognizes the tremendous dangers inherent in seeking to understand and control nature, especially because human understanding of the laws and processes of nature will necessarily always remain incomplete. On the one hand, there are studies raising major concerns about the safety of cloning and reports that the long-term effects of in vitro fertilization and embryo cryopreservation may include fetal chromosomal abnormalities and other predispositions that lead to serious health problems in later life among those born by means of assisted reproduction. On the other hand, scientists such as South Korea's Hwang Woo-suk and his international team are not about to stop their successful efforts that over the past year included the first known cloned human embryos, the first embryonic stem cells to match patients, and Snuppy ("Seoul National University puppy"), the first cloned dog, an Afghan hound whose picture as a playful three-month old was transmitted throughout the world earlier this year (BBC 2005).

The closer we come to the manipulation of matter and life at the cellular, molecular, and atomic levels, the more conscientious must be our approach. While Crichton's *Prey* is technically flawed and emotionally alarmist, it raises legitimate concerns about the irresponsible use of potentially dangerous technologies in an environment that allows decisions to be made primarily on the basis of estimated financial gain.

Even for Christians, and obviously for non-Christians, it is counterproductive to claim that certain kinds of knowledge and technologies are Satanic and should therefore be automatically off limits. Instead, we need to

realize that what we traditionally call Satan represents the absolute absence of love and reinterpret the traditional Faustian enterprise as the legitimate innate human yearning for exploring whatever lies beyond the farthest horizons. By themselves, science and technology are neither demonic nor divine. They simply are. They become destructive if they are pursued irresponsibly, without concern for potential negative consequences for humanity and the biosphere. Hence, while I believe passionately in freedom of inquiry and the potential for good of technology, I believe with equal fervor that we cannot afford to disregard the warning, not because the natural sciences or technology or the human thirst for knowledge are inherently diabolical but because the contemporary technological potential for causing irreparable harm in foreseeable and unforeseeable ways is a real and present danger. Just because the call to caution is founded on a premise one finds unacceptable does not mean that the call itself is invalid.

From within my own circle of faith I believe that God self-reveals not only through what Christians or Jews call scripture but through the entire cosmos (along with scriptures in other traditions), choreographing the movement of atoms and subatomic particles, quarks and tachyons and strings, composing the cosmic ballet that gives birth to suns and planets and galaxies. God pens the book of life with the four-letter genetic code, spins the ecological web that surrounds the earth, breathes what Teilhard calls the noosphere into existence, perches on the side of a petri dish, and rests in the computer chip quite as comfortably as in Kepler's snowflake or on the altar of Notre Dame. To limit God to any official scripture or space is idolatry, and to automatically damn Faust simply for seeking is to damn humanity for one of the two features that make us most like the One we call God: our minds. The other, of course, is love. And it is love, as I intuitively realized when I saw the puppet show some 57 years ago, that assures Faust's salvation.

NOTES

An earlier, considerably shorter version of this article was published as "Faust through the Ages: God, Grace, Satan, and Science" in *Bridges: An Interdisciplinary Journal of Theology, Philosophy, History, and Science* 10 (Spring/Summer 2003): 137–66.

1. I am using the term *biographer* loosely, because the Faust of literature has from the beginning been more of a legendary character than a historical personality.

2. Spelling of proper names and geographic locations varies from source to source. In *The Sources of the Faust Tradition from Simon Magus to Lessing*, for example, Trithemius von Sponheim is called Johannes Tritheim of Spanheim and the letter's recipient Johannes Virdung of Hasfurt. Except for spelling, most of my background material concerning the historical is based on material in the Palmer and More volume ([1936] 1966).

3. Hence, Watt is wrong when he accuses Goethe of altering "the Faust story almost beyond recognition; his hero is not damned" (1989, 51). Looking at the data, it would be far more reasonable to accuse Spies (as representative of conservative Protestantism) of having altered the Faust story beyond recognition.

4. Throughout the Faust literature, the name "Mephistopheles" appears in variant spellings, depending on the document. Except for the times when I am referring to a specific work I use

Goethe's above-cited orthography. In the Spies book the *Geist* (spirit) calls himself "Mephostophiles" (p. 20), and Christopher Marlowe (1969) spells him "Mephistophilis."

5. "INRI" is an acronym for the Latin phrase "Iesus Nazarenus Rex Iudaeorum" ("Jesus the Nazarene, King of the Jews") that Pontius Pilate had affixed on the cross above the head of Jesus. The inscription is part of almost all artistic representations of the crucifixion.

6. Chap-books were the seventeenth- and eighteenth-century equivalent of contemporary illustrated paperbacks or comic books that were sold by itinerant peddlers and provided inexpensive entertaining and often racy reading for the at least semiliterate poor.

7. My analysis is based on a 1981 facsimile edition of the 1587 chap-book *Historia Von D. Johann Fausten/ dem weitbeschreyten Zauberer vnnd Schwartzkünstler/ Wie er sich gegen dem Teuffel auff eine benandte zeit verschrieben/ Was er hier zwischen für seltzame Abentheuwer gesehen, selbs angerichtet vnd getrieben/ biß er endtlich seinen wol verdienten Lohn empfangen. Mehrertheils auß seinen eygenen hinderlassenen Schrifften/ allen hochtragenden/ fürwitzigen vnd Gottlosen Menschen zum schrecklichen Beyspiel/ abscheuwlichen Exempel/ vnd treuwhertziger Warnung zusammen gezogen/ vnd in den Druck verfertiget* (Spies [1587] 1981). Unless otherwise indicated, all translations from the German are mine. In English, the title reads *History and Tale of Dr. Johann Faustus, the widely acclaimed conjurer and necromancer, how he made a pact with the devil for a specific time, the marvelous adventures he saw, committed, and experienced during that period until at long last he received his deserved reward. In part collated and prepared for publication from his own records, as terrible instance, loathsome example, and heartily meant warning for all arrogant, impudent, and godless people*.

8. There is no pagination in the introduction. Instead, the typesetter followed the medieval custom of placing the initial word (or part of that word) of the following page at the end of each page. This is the reason for my peculiar way of referencing.

9. Goethe's *Faust* quotations are taken from the Beck edition and referenced by line number. All translations into English are mine.

11. *The New York Review of Books*, 13 Feb. 2003, *http://www.nybooks.com/articles/16053*, accessed 19 September 2005).

12. Sirach, or Ecclesiasticus, is the last of the Old Testament Wisdom books. It is included as part of the canon by Roman Catholics but generally considered apocryphal by Protestants. Sirach deals with wisdom as the formative, creative power that represents the earthly embodiment of God, a priceless treasure, and a path toward a happy and contented life.

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