Abstract. Paul Tillich noted the emergence of science by "de-mythologization" from its original unity with religion in antiquity. De-mythologization can lead to conflicts with accepted paradigms and therefore requires the "courage to create," as exemplified by Galileo. Tillich's "God above God" as the ground of creativity and courage can, in this new millennium, enable religion to be reconciled with science. Religion is a source of the "courage to create," which is essential for progress in scientific knowledge. Religion and science working together as complementary dimensions of the human spirit can lead us into a wider world and greater wisdom. Reconciliation and union characterize the New Being and Creation.

Keywords: courage to be; courage to create; Galileo; science and religion; Paul Tillich.

ORIGINAL UNITY AND "DEMYTHOLOGIZATION"

Paul Tillich ([1960; 1988] observed the original unity of science and religion in antiquity. There was no conflict, as science had not separated from "natural philosophy." According to ancient mythology, natural phenomena were explained by the actions of the gods. For Homer, the divine was always present and working out the destiny of events. Tillich noted that...
science arose as a separate discipline by the process of "demythologization" ([1960] 1988, 54). Conflicts arose, however, as principles of natural philosophy and laws of science replaced ancient mythology and cosmology. Galileo's belief in the new Copernican heliocentric universe conflicted with the geocentric system supported by the church. This, as well as Darwin's theory of evolution, was opposed by churchmen who voiced the dehumanizing and amoral implications of this new science. Tillych himself was strongly opposed to the depersonalizing forces of our technological society, which "deprive the creative self of its selfhood" (Tillych [1939] 1988, 21). Rather than demonizing technological societies as evil and defying petechiological ones as good, however, Tillych wanted to hold them in a creative dialectical tension. He said, "Creation and chaos belong to each other, and even the exclusive monotheism of biblical religion confirms this structure of life." (Tillych 1963, 51).

The trial of Galileo dramatizes the "demythologization" of science from religion. In my description, I shall make use of Tillych's Protestant Principle, his "courage to be and to create," and his New Being and Creation. Galileo's dynamic creativity with the newly invented telescope resulted in chaos between the old and the new cosmological forms. Galileo observed that the moon had mountains similar to those of Earth and that the sun had spots. This challenged the ancient myth that heavenly bodies were perfect spheres, made of "ether," in contrast to the imperfect and corrupted earth. He also observed that Venus had phases like those of our moon and that Jupiter had moons. This convinced him that Venus was orbiting the sun, just as our moon orbits Earth, and led him to advocate the new Copernican heliocentric cosmology, instead of Ptolemy's geocentric system.

**Galileo's "COURAGE TO CREATE"**

The trial of Galileo was a challenge to his autonomy by the heterogeneous church. The ambiguity of history is illustrated by the fact that the church was scientifically correct in saying that Galileo had no proof that Earth moves through space. Tycho Brahe, the great astronomical observer, never accepted the Copernican system, because he could not observe the stellar parallax caused by Earth's motion around the sun. Galileo's argument that the tides result from Earth's rotation later turned out to be correct, but at the time no one knew enough about gravity and centrifugal forces. The whole confrontation might have been avoided if Galileo had been more diplomatic. His Italian best seller, Dialogue on the Two Principal World Systems—Ptolemaic and Copernican, irritated the Pope, a key factor in the church's bringing Galileo to trial.

Tillych's commentary in his Systematic Theology seems appropriate: "It is disastrous for theology if theologians prefer one scientific view to others on theological grounds..." This ill-conceived resistance of theologians from
the time of Galileo to the time of Darwin was one of the causes of the split between religion and secular culture in the past centuries" (1951, 130).

Galileo, although he renounced a staunch Roman Catholic even after his conviction, ironically had Túlich's "Protestant Principle of the infinite distance between the divine and the human that undercuts the absolute claim of any doctrinal expression of the New Being" (Túlich 1963, 177; emphasis added). The transformation and revelation of the New Being is described by Paul in 2 Corinthians 5:17 (TEV): "If anyone is joined to Christ, he is a new being; the old is gone, the new has come." This concept of religious revelation is similar to the scientific discovery that Galileo experienced with the newly invented telescope, which showed a new cosmology, universe, creation, and New Being. This led him to challenge the absolute cosmological claim of the church. Galileo agreed with Aquinas and Bonaventure that sacred writings are bound in two volumes—that of Creation and that of the Holy Scriptures. When the Bible (Holy Scriptures) did not agree with the "Book of Creation and Nature," Galileo quoted Cardinal Baronius: "The intention of the Holy Ghost is to teach us how to go to heaven, not how heaven goes" (Burbour 1997, 44). Galileo, although deeply hurt by his conviction at age 65, never lost his faith and courage. He said, I have two sources of perpetual comfort—first, that in my writing there cannot be found a faintest shadow of irreverence toward the Holy Church, and second, the testimony of my own conscience, which I and God in Heaven thoroughly know. And he knew that in this cause for which I suffer...none have spoken with greater zeal for the Church than I. (in Hummel 1986, 124)

Galileo courageously believed that the church was making a mistake (which, in an act of reconciliation, it recently admitted). While under house arrest, Galileo continued his research on mechanics, which was smuggled to Protestant Holland for publication. When he was 78, he "rendered up his soul to its Creator" (Hummel 1986, 129). The historical tragedy to Italy of Galileo's conviction was that the center of scientific innovation shifted in the Protestant countries of the North. Isaac Newton was born in 1642, the year Galileo died.

Galileo's scientific creativity continued new ideas, which conflicted with geocentric cosmology. He had the "courage to create"—the title of a book by Túlich's student and friend, Rollo May (1975). May defines creativity as "broughting something new into being as well as an expression of our being. Courage is not the absence of despair but the capacity to move ahead in spite of despair" (1975, 12). The source of the "courage to create" expressed in Túlich's Courage to Be (1952) was the "God above God." By this Túlich meant the God who transcends theism and the concrete symbols of organized religion. The theistic objectification of a God who is a being must be transcended by the "God above God," the ground of all that has being and the source of all existence. Making God into a being would
make God finite. If God were a being, an invincible tyrant, then, being all knowing and powerful, God could destroy our freedom and personhood. "The God above God" is present in all mystical longing, yet mysticism must be transcended in order to reach him. . . . The "Courage to Be" is rooted in the God who appears when God has disappeared in the anxiety of doubt" (Tillich, 1952, 190). In completely accepting the possibility that God does not exist, one discovers that there is still something there, the "God above God."

Reconciliation and Reuniting of Science and Religion

Tillich's insight of the "God above God" as the ground of the "courage to create" will hopefully in the new millennium enable religion to be reconciled and reunited with science. Religion is a source of the courage to create, which is essential for progress in scientific knowledge. Reconciliation and reunion characterize the new reality, the New Being, the new state of things, on which Christianity is based. "The New Creation is the reality in which the separated is reunited" (Tillich 1955, 22). Human creativity in the arts, literature, and sciences is the source of culture. Religion is the ground and source of meaning and ultimate concern. Science and religion are complementary dimensions of the human spirit. For Tillich (1963, 157), then, science, which is part of culture, is the form of religion, and religion is the substance of science and culture. Science is a formal method for understanding the universe, which gets its ultimate meaning and purpose from religion. Our technological society is the situation in which religion is practiced.

The reconciliation of the New Being and Creation is taking place. The John Templeton Foundation, for example, sponsors a wide range of research and educational programs. These include the awarding of one hundred grants per year for science-and-religion courses. In 1987, Pope John Paul II sponsored a "study week" to investigate the multiple relationships between theology, philosophy, and the natural sciences. This was done to commemorate the 300th anniversary of the publication of Newton's Philosophiae Naturalis Principia Mathematica. In convening this study week, Pope John Paul II said, "Science can purify religion from errors and superstition; religion can purify science from idolatry and false absolutes. Each can draw the other into a wider world, a world in which both can flourish" (1990, M13).

Note

1. Paul Tillich's picture appeared on the cover of the 16 March 1959 issue of Time with the caption "A Theology for Postwar." In a private communication, Grace Cali said that Tillich regarded this as too restrictive. The Time article mentioned Jesuit theologian Gustave Weigel, who noted the "summoned brilliance" of Tillich's theology. Tillich's "Prevenient Principle" contradicts the organized church.
REFERENCES


