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Keeping religion and science separate

The idea that science illuminates the divine is not one that should be sought.

By Margaret Wertheim

This month, the Nobel Prize-winning physicist Charles Townes won the $1.5 million Templeton Prize, an award given out for "progress toward research or discoveries about spiritual realities." What does it mean that a religious prize is being given to a physicist?

Townes, in fact, is the fifth scientist to have won the award (the world's most lucrative academic prize). Fellow physicist winners include Freeman Dyson of the Institute for Advanced Study in Princeton, cosmologist Paul Davies, general-relativity expert George Ellis, and particle physicist John Polkinghorne.

"Religion," Townes told the journal Physics World, "is aimed at understanding the purpose and meaning of our universe, including our own lives. If the universe has a purpose and meaning, this must be reflected in its structure and functioning, and hence in science." In 1966, after his Nobel Prize, Townes was even bolder. In an article published in MIT's Technology Review, he wrote that differences between science and religion "are largely superficial... . The two become almost indistinguishable if we look at the real nature of each."

The idea that science and religion coalesce in the structure of the universe has been expressed by a slew of physicists in recent years. Among them are Davies, in his best-selling book *God and the New Physics,* and Stephen Hawking, in *A Brief History of Time.* In this view, science and religion both find their apotheosis in a Theory of Everything - a unified account of all the world's forces and particles. Know the final equations, Hawking tells us, and you will know "the mind of God."

There is nothing new about this notion, but there is something fundamentally missing from this portrayal of the religious enterprise, at least from a Christian point of view.

Contrary to widespread belief, religion and science have not always been at odds. The idea that science may illuminate the divine predates Christianity and goes back to the great pioneer of mathematics, Pythagoras of Samos in the fifth century B.C. Pythagoras believed that numbers were literally gods, and he associated the numbers 1 through 10 with the major gods of the Greek pantheon.

In Pythagorean science, to find mathematical relations behind physical phenomena was to find the divine harmonia by which the universe had been created. This was the original "music of the spheres," an idea that was to have a profound effect on the evolution of modern physics.

From the 13th through 17th centuries, the Pythagorean notion of an underlying cosmic harmony gradually gave rise to the idea that the Judeo-Christian God had created the world according to a divine mathematical plan - the "laws of nature." To discover and understand these laws was to decipher God's plan, and therefore an essentially religious act.

As Isaac Newton's great predecessor, Johannes Kepler, wrote: "For a long time, I wanted to become a theologian... . Now, however, behold how through my effort God is being celebrated in astronomy." Newton himself saw his scientific work as one long argument for a beneficent creator.

The linking of God and physics today follows directly from this tradition, but there is a critical difference between the scientific theologizing of Kepler and Newton and that of such physicists as Hawking and Townes.

The Christian God has two aspects: God the Creator and God the Redeemer. The former acts at the beginning of time, the latter reigns at the end. For most of Christian history, intellectual reflection was focused on God the Redeemer, for the core of Christian theology and faith has always been the end-time promise of resurrection and atonement. Christ died and rose to heaven as the guarantee that eventually all true believers would follow him into the everlasting bliss of paradise.

Kepler and Newton were adamant that the value of their work lay in its support for God's salvific function. Yet as time went by, God the Redeemer has gone missing from the "god and physics" discourse. That is because material science can say nothing about sin and grace, let alone heaven, a place that by definition is beyond the purview of modern science.

Of the five physicists who have won the Templeton Prize, four are practicing Christians (Townes, for example, is a member of the First Congregational Church in Berkeley). While the claim they make for the discoveries of science supporting their faith in God the Creator is certainly legitimate, that is surely only half the task. "Progress" in religion must be judged not by our knowledge of particles and forces but by action toward a more just, equitable and humane society.

By equating God with the "structure and function" of the material world, Christians play a losing game. As the Jesuit philosopher Michael Buckley has pointed out, rational inference can never substitute for personal experience of the divine - which is, and must remain, the grounding of faith.

Margaret Wertheim's "Pythagoras' Trousers," a history of the relationship between physics and religion, in 1996 won a book prize funded in part by the Templeton Foundation. This essay first appeared in the Los Angeles Times.
