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FREEMAN DYSON WINS 2000 TEMPLETON PRIZE FOR PROGRESS IN RELIGION

Freeman J. Dyson, one of the world's pre-eminent physicists whose futurist views consistently challenge humankind to reconcile technology and social justice, has won the 2000 Templeton Prize for Progress in Religion.

The announcement was made on March 22 at a news conference at the Church Center for the United Nations in New York. Dyson, Professor Emeritus at the Institute for Advanced Study in Princeton, New Jersey, has dedicated much of his life to advocating the development of "joyful and useful" technologies for the benefit of all humankind, regardless of economic or cultural situation. His insistence on using current emerging technologies as social equalizers -- in much the same way that vaccines, antibiotics, and electricity helped bridge economic and social gaps in the 20th century -- has put him at the forefront of scientists who call for eliminating the wedge that technology drives between the haves and have nots.

Awarded by the Templeton Foundation annually to a living individual for outstanding originality in advancing the world's understanding of God or spirituality, the prize is one of the world's largest monetary awards, this year valued at 600,000 pounds sterling, about \$948,000.

Created in 1972 by the pioneering global investor Sir John Templeton to remedy what he saw as an oversight by the Nobel Prizes, which do not honor the discipline of religion, the Templeton Prize is always set at an amount that exceeds the value of the Nobels.

Previous Templeton Prize recipients include the Rev. Dr. Billy Graham in 1982, Aleksandr Solzhenitsyn in 1983, and Charles Colson, founder of Prison Fellowship, in 1993. Last year's winner, physicist and theologian Ian Barbour, launched a new era in the dialogue between science and religion and is one of the world's most forceful advocates for ethics in technology. Other scientists who have received the award include British astrophysicist Paul Davies (1995), physicist Carl Friedrich von Weizsäcker (1989), and Benedictine monk and professor of astrophysics Stanley L. Jaki (1987).

The first Templeton Prize recipient was Mother Teresa in 1973.

H.R.H. Prince Philip award the Templeton Prize to Professor Dyson in a private ceremony on May 9. On Tuesday, May 16, the Templeton Prize public ceremony was held in the Washington National Cathedral. This marked the first time the public ceremony, held each year in various locations throughout the world, took place in the nation's capital.

In nominating Dyson for the prize, Dwight E. Neuenschwander, professor of physics at Southern Nazarene University in Bethany, Okla., described him as "one of the outstanding physicists of our time," adding, "He has written extensively on the

meaning of science and its relation to other disciplines especially religion and ethics.... He is truly a man of a third culture that is in the making."

Freeman John Dyson, born in England in 1923 and an American citizen since 1957, has long enjoyed a reputation as a writer with a knack for turning intricate scientific theories into easily understood concepts. His 1979 book, *Disturbing the Universe*, a "scientific autobiography" describing in lay terms how a scientist looks at the world, received an American Book Award nomination. His 1984 book, *Weapons and Hope*, received the National Book Critics Circle award for general nonfiction, and a Los Angeles Times Book Prize nomination. Dyson's interest in the weapons and ways of war began in 1943 when he served as a civilian statistician in the operations research section of the Royal Air Force Bomber Command during World War II. In 1963, while a consultant for the U.S. Arms Control and Disarmament Agency, he helped provide technical support for the team that negotiated the Partial Test-ban Treaty in Moscow. For many physicists, Dyson epitomizes originality, which is the essence of the Templeton Prize. At the Institute for Advanced Study, the same center where Einstein worked, Dyson's colleagues have coined the term "dysonian" to describe "ideas that crackle with originality the way that Dyson's own ideas do," according to a recent article in Business Week.

Sometimes his originality is less than welcome by fellow scientists. Dyson opposed funding for the now-defunct \$8 billion Supercollider atom smasher and has consistently spoken out against "big science" projects whose costs are out of proportion to their scientific value. In particular, he opposes the International Space Station, which he describes as a welfare program for the middle class.

"Science is the most powerful driving force of change," he wrote in *Imagined Worlds*, a collection of essays based on 1995 lectures he delivered at Hebrew University in Jerusalem in conjunction with Harvard University. It is with that same attitude Dyson approaches the role of science in bettering the world while acknowledging the limits of science in deference to spiritual guidance, which he says "has at least an equal claim to authority in defining human destiny."

As mathematician Roger Penrose wrote in the New York Times Book Review when Dyson's *Infinite In All Directions* was published in 1988, "He is concerned about the future of mankind, both in the short term and in the very remote future. He puzzles over the meaning of life, the purpose of the universe and the nature of God. In short, he is a philosopher in the broadest sense."

Dyson first rose to public notice at the age of 24 when he showed that a number of seemingly incompatible theories of quantum electrodynamics, which attempt to explain the interaction of electromagnetic radiation with matter, proposed by Richard Feynman, Julian Schwinger, and Sin-Itiro Tomanaga were, in fact, the same. In a series of debates with J. Robert Oppenheimer, his mentor at the Institute for Advanced Study in the late 1940s, the elder scientist was eventually convinced of the validity of Dyson's synthesis. This role as a synthesizer has been echoed ever since in areas where Dyson has cultivated mutual understanding and respect for science and society. In particular, he has chastised science for concentrating too much technology in "making toys for the rich" -- cellular phones, ever-smaller laptop computers, and the like -- rather than helping to spread knowledge, well-being, and wealth around the world so that one day "every Egyptian village can be as wealthy as Princeton."

This "long-range moral and social fallout of today's scientific miracles" which fail "to produce benefits for the poor in recent decades is due to two factors working in combination," he wrote in *Imagined Worlds*. "The pure scientists have become more detached from the mundane needs of humanity, and the applied scientists have become more attached to immediate profitability." New medical technologies, he adds, "too attractive to forbid and too expensive to be made generally available, will exacerbate the inequalities that now exist within and between societies."

In a statement prepared for the March 22 news conference, Dyson urged for more respect and understanding between scientists and theologians, noting:
". . .science and religion are two windows that people look through, trying to understand the big universe outside, trying to understand why we are here. The two windows give different views, but both look out at the same universe. Both views are one-sided, neither is complete. Both leave out essential features of the real world. And both are worthy of respect."

Dyson also made a strong appeal for technology to employ ethics to drive its progress:
". . .to lift up poor countries, and poor people in rich countries, from poverty, to give them a chance of a decent life, technology is not enough . . . science and religion should work together to abolish the gross inequalities that prevail in the modern world."

After receiving a Bachelor of Arts degree in mathematics from Cambridge University in 1945, Dyson moved to the United States in 1947 as a Commonwealth Fellow, studying first at Cornell University under Hans Albrecht Bethe and then at the Institute for Advanced Study under Oppenheimer. He was appointed professor of physics at Cornell University in 1951, but returned to the Institute two years later to accept a position as professor of physics. In 1956 he worked with Edward Teller, father of the hydrogen bomb, at the General Atomic Division of General Dynamics Corporation, designing a nuclear reactor, and in 1958 joined the Orion Project, an effort to construct nuclear-powered space-ships. Dyson taught at the Institute until 1994, when he was named professor emeritus.

Dyson leads an active life, giving lectures, writing, traveling, and interacting with colleagues. He and his wife, Imme, live in Princeton, New Jersey. They have raised six children and have nine grandchildren.