

TEMPLETON REPORT

NEWS FROM THE JOHN TEMPLETON FOUNDATION

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Bernard d’Espagnat’s “Ultimate Reality”

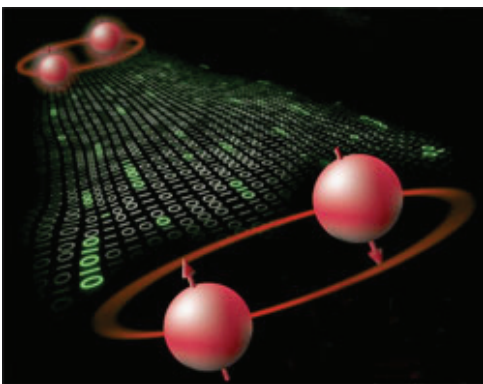
The announcement in Paris on March 16 that this year’s Templeton Prize would be awarded to Bernard d’Espagnat, professor emeritus of theoretical physics at the University of Paris-Sud, generated news coverage and commentary around the world. As the BBC reported, “Professor d’Espagnat’s scientific pedigree put him at the centre of the growth of quantum mechanics, working with Nobel laureates in the field including Enrico Fermi and Niels Bohr. But he was troubled by how little the field was addressing the philosophical questions raised by the theory—which for the first time suggested that experiments were not measuring an absolute reality.” Speaking to the *Christian Science Monitor*, d’Espagnat suggested that a key insight of quantum mechanics is to show that science does not provide a view of “ultimate reality as it really is” but rather “as it appears to us, accounting for the limitations of our own mind and our own sensibilities.”



Photo: Laurence Godart

Templeton Prize Laureate Bernard d’Espagnat at the March 16 news conference at UNESCO headquarters in Paris.

From the mid-1960s through the early 1980s, d’Espagnat was a philosophical visionary in the physics research community. As Amanda Geffer observed on the website of *New Scientist*, “Unlike most of his contemporaries, d’Espagnat was one of the brave ones unafraid to tackle the thorny and profound philosophical questions posed by quantum physics.” On his blog for *Discover* magazine, Adam Frank, a professor of astrophysics at the University of Rochester, recalled encountering d’Espagnat’s works as an undergraduate, after an introductory class in quantum mechanics had “mugged my sense of reality. I went straight to the physics library to wrap my head around what I was learning, and ran into his books.”



An artist’s rendering of quantum entanglement.*

“I’ve been covering this award for many years now,” Ruth Gledhill wrote in the *Times* of London, “and in all that time have rarely been so impressed by a winner as d’Espagnat.” In an interview, d’Espagnat told her that science has helped him to “justify his impression of a link between beauty and the divine.” He explained: “When we hear great classical music or look at very great paintings, they are not just illusions but could be a revelation of something fundamental. I would accept calling it God or divine or godhead but with the restriction that it cannot be conceptualised for the very reason that this ultimate reality is beyond any concept that we can construct.” The BBC’s online magazine used the occasion of d’Espagnat’s award to convene a panel of scientists at different points on the religious spectrum—atheist, skeptic, Platonist, believer, and pantheist—to ask their thoughts about quantum physics and divinity.

News of d’Espagnat’s winning of the Templeton Prize was greeted with warm congratulations by a number of leading figures in his field. Alain Aspect, a physicist at the Ecole Polytechnique and Institut d’Optique whose experiments in the early 1980s vindicated d’Espagnat’s bold philosophical insights, called his former colleague a “visionary thinker” whose books “have greatly contributed to focusing attention on quantum weirdness, and have emphasized its importance both for epistemology and for science.” The Nobel Prize-winning physicist William Phillips of the U.S. National Institute of Standards and Technology said that d’Espagnat has been a “key figure in providing a mature understanding of both the scientific and philosophical

implications of quantum entanglement.” Anton Zeilinger of the Institute of Quantum Optics and Quantum Information of the Austrian Academy of Sciences called d’Espagnat “one of the exceptional kind of physicists who are able to very early realize the significance of emerging fundamental concepts and ideas.”

D’Espagnat has worked over the years to make his thinking accessible to non-specialists, including a classic 1979 article for *Scientific American* called “The Quantum Theory and Reality.” As d’Espagnat explained in a piece written for the *Guardian’s* science blog after winning the Templeton Prize, “I believe that some of our most engrained notions about space and causality should be reconsidered. Anyone who takes quantum mechanics seriously will have reached the same conclusion.” The Templeton Prize website provides a full list of d’Espagnat’s writings, as well as several short videos of the new laureate discussing his ideas.

The Templeton Prize, which has been awarded since 1973, “honors a living person who has made an exceptional contribution to affirming life’s spiritual dimension, whether through insight, discovery, or practical works.” Valued at one million pounds sterling (approximately \$1.42 million or €1.12 million), it is the world’s largest annual award given to an individual. The 2009 Templeton Prize will be presented officially to d’Espagnat by HRH Prince Philip, the Duke of Edinburgh, at a private ceremony at Buckingham Palace on May 5.

NOTEBOOK

“Africa is to development as Mars is to NASA”

At a Templeton Book Forum event on March 26 at New York University, author Dambisa Moyo discussed her new book, *Dead Aid: Why Aid Is Not Working and How There Is a Better Way for Africa*, with economist (and JTF grantee) William Easterly. Moyo described the ways in which an overreliance on aid has trapped developing nations in a vicious circle of dependency, corruption, market distortion, and further poverty. Criticizing the current model of international aid promoted by both celebrities and policy makers, she offered a new way forward for financing the development of the world’s poorest countries.

As she remarked in the conversation with Easterly, excerpts from which are now available on video, “Africa is to development as Mars is to NASA: You spend billions of dollars studying it, traveling there . . . but at the end of the day nobody actually really believes that we’ll live on Mars and nobody actually really believes that Africa will develop. It encapsulates this view that African leaders are just sitting there hanging around, waiting to be told what to do.”



VIDEO: Dambisa Moyo at the Templeton Book Forum

For video excerpts, visit http://www.templeton.org/events/book_forums/bf_20090324.html

David Brooks on “Moral Emotions”

In his April 6 column in the *New York Times*, David Brooks provided his own take on “Darwin 200: Evolution and the Ethical Brain,” the panel discussion that he moderated last month for the Templeton Foundation:

What shapes moral emotions in the first place? The answer has long been evolution, but in recent years there’s an increasing appreciation that evolution isn’t just about competition. It’s also about cooperation within groups. Like bees, humans have long lived or died based on their ability to divide labor, help each other, and stand together in the face of common threats. Many of our moral emotions and intuitions reflect that history. We don’t just care about our individual rights, or even the rights of other individuals. We also care about loyalty, respect, traditions, religions. We are all the descendents of successful cooperators.



VIDEO: “Darwin 200: Evolution and the Ethical Brain”

For video excerpts, visit <http://www.templeton.org/darwin200>

Templeton Laureate Rev. Stanley L. Jaki, 1924-2009

Rev. Stanley L. Jaki, the world-renowned Hungarian-born author, physicist, philosopher, and theologian, died April 7 in Madrid, following a heart attack. Jaki was awarded the Templeton Prize in 1987 for his extensive research and writing delineating “the importance of differences as well as similarities between science and religion” and for “adding significant, balanced enlightenment to the field.”



Jaki taught widely throughout the United States and Europe, at Yale, Harvard, Oxford, the Sorbonne, the Gregorian University in Rome, and Seton Hall University, among other institutions. His many academic distinctions included appointment in the mid-1970’s as the Gifford Lecturer at the University of Edinburgh, an honor in philosophy and theology previously held by Hannah Arendt, John Dewey, William James, and Albert Schweitzer.

Jaki was deeply committed to the conjunction between faith and reason, arguing that the flourishing of science in Europe was intrinsically related to the Christian understanding of creation and the Incarnation. “Although the world was God’s creation and, as such, to be profoundly respected, the world itself possessed no intrinsic divinity,” Rev. Thomas G. Guarino, professor of theology at Seton Hall, stated. “Father Jaki’s work elucidated the notion that in understanding the very laws of the physical universe, science naturally opened out toward the affirmation of faith.”

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For more information, write to communications@templeton.org.