

Scientific Advisors Meet At Vatican

November 3 2010, By Edwin Cartlidge



Located within the Vatican garden, Casina Pio IV is a 16th century villa that houses the Pontifical Academy of Sciences. Credit: Edwin Cartlidge

Some of the world's top scientists gathered at the Vatican last weekend to discuss the scientific advances of the 20th century and their compatibility with religion.

The [scientists](#) are members of the Roman Catholic Church's papal advisory council known as the Pontifical Academy of Sciences. They largely agreed that modern science does not have to be at odds with religious faith.

In speaking to academicians during the conference, Pope Benedict XVI praised the achievements of modern science. He said that the Catholic Church "both encourages and benefits from" scientific research and told

his audience that people must neither fear science nor hold it up as a panacea capable of answering all of our deepest existential questions.

"Scientific activity ultimately benefits from the recognition of man's spiritual dimension and his quest for ultimate answers," Benedict explained.

But some scientists present said the Catholic Church must do more to convince people that it is not anti-science.

Catholicism's most sensational run in with science was its condemnation of Galileo Galilei for his support of Nicolaus Copernicus' heliocentric sun-centered model of the solar system. Catholicism also took a dim view of Charles Darwin's theory of natural selection, initially banning books on the subject and then waiting more than a century to acknowledge the large amount of supporting evidence. Benedict himself has talked of scientists' "arrogance," and a close colleague of the Pope, the Archbishop of Vienna Christoph Schönborn, created controversy in 2005 when he wrote an article in the New York Times that appeared to support the idea of "intelligent design" in nature.

The existence of the Pontifical Academy of Sciences, however, allows the Catholic Church to interface with modern science. Set up originally by Roman prince Federico Cesi in 1603, the academy was reinstated in its current form in 1936 by Pope Pius XI to ensure that the Catholic Church is kept up to speed with [modern science](#) and briefed on topics of particular interest to the [Vatican](#). The academy has had among its membership some of the most distinguished scientists of the 20th century, such as radio pioneer Guglielmo Marconi and the founder of quantum mechanics, Max Planck. It continues to attract the cream of the scientific world. Its current 80 members include a host of Nobel Prize winners and other eminent researchers including National Institutes of Health director Francis Collins and the U.K.'s Royal Society president

Martin Rees. Members are drawn from across the scientific spectrum, come from many different countries, and have many different religious beliefs and orientations.

Scientific quality is not the only criterion for membership. The pope accepts or rejects nominations from existing academicians on the basis of a candidate's "high moral profile," although it is not clear exactly what this phrase means.

UCLA Biological Chemistry professor Edward De Robertis said that his recent entry into the academy was only granted following a chat between a colleague of his and a priest who had been sent by the cardinal of Los Angeles to ascertain his moral fiber.

It has been suggested that Albert Einstein, a very conspicuous non-member, did not pass this test because the physicist had an extramarital affair.

The weekend meeting was held at the academy's sumptuous headquarters, a 16th century villa in the Vatican gardens replete with frescoes and gleaming white marble. Inside, members discussed the scientific legacy of the 20th century, getting to grips with everything from particle physics and climate change to neuroscience and genetic engineering. There were also a few personal reflections on individuals' research, including that of physicist Charles Townes, who described to delegates the story of his invention of the laser some 50 years ago.

Biologist Werner Arber attended the meeting and said that he is confident that the academy influences the pope's thinking on science. He pointed out that plenary sessions have been the setting for important papal pronouncements, such as Pope John Paul II's statement in the 1992 meeting that the Catholic Church had been wrong to condemn Galileo.

Arber also believes in the impact of smaller meetings held by the academy, which are devoted to specific subjects such as genetically modified crops, nuclear weapons or astrobiology. He maintains that a series of meetings dedicated to discussing the definition of death helped the Vatican analyze the relative importance of the brain and the heart in this matter.

Townes too believes that the work of the academy shapes the pope's understanding of science. But he described Benedict as "maybe a little less responsive" than John Paul and "religiously conservative," pointing out that academicians had direct discussions with John Paul but have yet to do this with his successor.

Other members of the Pontifical Academy of Sciences said that the Catholic Church simply refuses to discuss controversial topics such as contraception.

Even astronomer and priest Giuseppe Tanzella-Nitti sounded a note of caution regarding the Catholic Church's place in modern society. He said that science and [religion](#) have never been in conflict, but that there is instead an "image of conflict, brought about by specific events" and believes that in order to combat this the Catholic Church must give priests a better education in science.

Tanzella-Nitti said that only then will priests be able to "talk about God in a way that is credible in the 21st century."

Provided by Inside Science News Service

Citation: Scientific Advisors Meet At Vatican (2010, November 3) retrieved 2 May 2024 from <https://phys.org/news/2010-11-scientific-advisors-vatican.html>

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