

National Perspective; Religion; Telescopic View of a Higher Power; As head of the Vatican's team of astronomers, George Coyne's task is to make the case for science before the pope.: [Home Edition]

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Abstract

The pope's personal scientists have the dual mission of doing God's work while advancing earthly knowledge. For more than 20 years, Coyne has been successfully straddling the two, finding harmony between a spiritualist's blind faith and a scientist's need to quantify and subject the world to rigorous proofs.

Directing it all is the 65-year-old Coyne, a Baltimore native whose credentials read, in order, SJ (Society of Jesus), PhD. He has the reassuringly rumpled look of an academic--more likely to run a hand rather than a comb through his graying hair. Despite his impressive title of director of the Vatican Observatory Research Group, Coyne exudes an informality some might not associate with a representative of the Holy See.

Rather, everyone wants to know what Father Coyne sees when he looks into the night sky,

what he discerns among the dusty swirls of distant light and blurry specks. Coyne and his team scan the heavens as others may leaf through a family photo album, a familiarity born of both science and spirituality.

Full Text

The sigh escapes, muted but audible. A slight and unnecessary adjustment to his eyeglasses betrays George Coyne's impatience with the well-worn line of questioning.

"What business does the Vatican have running a high-powered telescope on some remote mountaintop in the Arizona desert?" he drones, preempting the familiar query.

Well, yes.

What is a team of Jesuit astrophysicists doing, meticulously compiling celestial information for the express purpose of presenting it to His Holiness John Paul II? What are the pope's personal scientists doing, looking for God at the end of a high-resolution telescope?

The irresistible image of priests scanning the heavens has been utilized more than once in describing the work of the Vatican Observatory Research Group, situated here at the Steward Observatory on the University of Arizona campus.

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It's a curious existence.

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Coyne's group of 10 Jesuits works side by side with some of the world's great astronomers--all of whom undoubtedly are paid more than Coyne's \$16 daily stipend.

Like their colleagues, the spiritual scientists publish their work in scholarly journals. But in serving the pope, they operate with the certainty that their achievements will be presented to the pontiff in an annual report destined to gather dust at the Vatican.

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On a chilly day, Coyne arrived in his cramped offices, shucked the bike clips off his pants legs, tossed his backpack on a table and peeled off two layers of hooded sweatshirts, down to his plaid flannel shirt. His astronomer's outfit.

Sinking into a wooden chair, Coyne talked about his research interest: the study of binary stars, cataclysmic variables and how twin stars are born and die--topics seldom broached in interviews.

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His enthusiasm about astronomy and God seem a natural combination. For Coyne, to look through a telescope is to confirm the existence of a higher power.

"It's a glorious participation in God's creation to try and understand it," he said, growing animated. "The more we understand it--if you have religious faith--the more you understand God, since he's the source of it. So should we presume to attempt to understand God's creation? Yes, we have an obligation to do so."

The Catholic Church has not always concurred with such a view. The church started out as a benefactor to astronomers, albeit with an agenda. Pope Gregory XIII oversaw the first foray into astronomy in 1582 when he ordered the Jesuits to reform the Julian calendar using astronomical data, thus creating the Gregorian calendar.

Things took a nasty turn in 1600, when the philosopher Giordano Bruno was burned at the stake after a trial by the Roman Inquisition, having been found guilty of pondering the planets beyond the solar system.

Thirty years later, Galileo was placed under house arrest for supporting the Copernican theory positing that Earth--instead of being at the center of the universe--orbits the sun.

Even after affirmation of Copernicus' theory and a lifetime of brilliant work by Galileo, the church refused to remove its condemnation. The Holy See eventually pardoned Galileo--in 1992.

Now it falls to Coyne to make the case for science before the pontiff. And he has an admirable nonchalance about the job. Such sessions, Coyne said, are perfunctory affairs. "He says, 'How's it going?' I say, 'Fine,' " Coyne said. "That's pretty much it."

The church's perceived anti-science stance has been difficult to shed.

"There's always a healthy tension," Coyne said. "Doctrinally, there are some things that are pretty rigidly defined. In science, there are some things that tend to challenge that. Frankly, I think that any time a conflict has occurred, it's always because of ignorance on one side or the other.

"There has been no better time for science than with this pope. That's why he took on this Galileo thing. . . . I have to be careful. I do have to listen to what the pope is teaching and try to work with it with my knowledge of science."

Pope Leo XIII established the first Vatican observatory in 1891, behind the dome of St. Peter's basilica, and the Jesuits--the church's scholars--have always run it.

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The observatory has been relocated twice--first to the pope's summer residence in the Alban Hills in 1935, when the lights of Rome began to encroach upon the darkness required to view distant stars, then again to Arizona in 1980 when ambient light began to flood even rural Italian skies.

The Vatican Observatory is on Mt. Graham, 100 miles northeast of Tucson. Coyne's staff includes six researchers and four observational researchers. Time spent on the mountain is minimal. A typical astronomer might observe four nights a month, a total of three weeks a year. More time is spent analyzing data gleaned from observation: One night's work requires an average of one month to digest.

The observatory is thought to afford the best viewing in the continental United States, pleasing Coyne, who saw to it that the site was fitted with a plaque, inscribed in Latin, that reads in part: "May whoever searches here night and day the far reaches of space use it joyfully with the help of God."

Coyne's clerical collar has not insulated him from the threat of reduced funding faced by virtually all academics.

He, his staff and his facility could be downsized at any time. Coyne serves at the pleasure of the current Vatican administration, and the next pope naturally will bring with him his own interests and pet projects. An observatory in far-off Arizona could easily be flung out like an old rug.

"There's a saying in Rome," Coyne said, his eyes narrowing in amusement. " 'There's nothing as dead as a dead pope.' That's very true. Everything dies with him. The next pope . . . can do whatever he wants."

The church, like many institutions, doesn't easily embrace something it can't control, such as scientific inquiry.

"You have the contrast of encouraging research and still a bit of suspicion," Coyne said. "I think the suspicion comes from the top down, and the encouragement comes from the bottom up. The hierarchical institutional church . . . is protective by its very nature."

Coyne knows that his observatory's \$1-million annual budget is not a strain on the Vatican's resources. Still, he is preparing a fund-raising drive, a prospect he greets with distaste. Extra money will not come from the Vatican, which has told Coyne that it fully supports his efforts to augment his Advanced Technology Telescope's ability, but will not increase its funding.

Still, Coyne's abiding interest is in the stars and in heaven. He believes in proving his science and living his faith.

"I did not come to believe in God through any scientific knowledge," Coyne said. "I believe in God because God gave himself to me. Not in any miraculous way. I grew up and I questioned this and that. I thought, 'Could this be true?' I never came to a point where there was any need to reject what was given. . .

"Once I am a believer and I start doing science, I find that not only does science not challenge my faith, but that it enriches it . . . it gives me more to think about as far as God being the source of all this. Faith goes beyond reason. It's transcendent."

PHOTO: Science and religion converge in the person of George Coyne, the pope's stargazer.; PHOTOGRAPHER: JOHN ROBERT MILLER / For The Times

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Details

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