FR. CYRIL OPEIL:
“A Scientist has to have a sense of wonder about God’s creation”

MOTHER TERESA:
A Saint’s Doubts

Simplicity

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"VERBA MOVENT, EXEMPLA TRAHUNT"
"Words move people, examples compel them"

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"Without love, deeds, even the most brilliant, count as nothing." St. Thérèse of Lisieux
Fr. Cyril Opeil, S.J.
Priest and Scientist

Fr. Julio Gonzalez: Fr. Cyril, who came first, the scientist or the priest?
Fr. Cyril: The priest.

JG: What kinds of talents must a scientist and a priest have?
FC: A priest must have the willingness to help people and to be with them in joyous times and in sad times, helping them particularly in prayer and in understanding God. Many years ago St. Ignatius wanted to found an order whose members were priests, but he learned that it was through the sacraments and helping as priests that enabled them to do the most work. He really wanted to be a missionary in Jerusalem, but what he discovered was that the needs were greater at home, in Europe. That’s what gave rise to the Jesuit schools. A scientist has to have a sense of wonder about God’s creation—how it’s all made and how it comes together. It’s a kind of collage of pieces of art. You see a tree, you see a stone—how did the stone come to be there? It didn’t just appear; it took millions of years to form that rock. A scientist also needs a sense of determination to do the hard work of study and research. I came into science kind of late, and I had to have strong determination and the grace of God to catch up on the studies. Another thing about being a scientist is that we don’t work alone. One of the greatest joys I’ve had in science is collaboration with people. We all have great strengths, and together we’re much stronger than we are apart. In my work at Los Alamos, I’ve come to discover that some people have strengths which are complementary to mine. I can do some things extremely well, very quickly, but there are other people who can do more easily work I can do but which is harder for me. So, collaboration in science is very important. It is unusual in our individualistic U.S. society to recognize that it’s only through collaboration and friendship among scientists that one can really excel. Science is about deciphering the mystery of creation, but to truly understand it takes a collective effort of many. Part of the reason I as a Jesuit went into science is to eventually teach. At Boston College, with its many graduate research programs, research is 75% of my time, teaching 25%. So, for me one of the challenges of being a Jesuit priest and a scientist is to integrate teaching people and having them develop a wonder of how God is in the world.

JG: Why is it so difficult for some people to believe in God and at the same time to accept what science says, or vice versa?
FC: I’ve met many scientists who don’t believe in or who have grave doubts about God’s existence. I think it’s part of their belief that they can understand everything through a rational process. No one can understand everything, because we’re finite beings. The way one knows things in science is not necessarily helpful in knowing things associated with faith. God is not a creature that can be experimented on; God is fundamentally a mystery. We are the creatures and we have to accept the ambiguity of a relationship with God. As in a relationship with another human, we will never know everything about God, though with God there are more surprises.
JG: You are a priest and a scientist. Who challenges whom—the priest to the scientist or the scientist to the priest?
FC: I would probably say that the priest challenges the scientist. The whole notion of my science is really directed to the care of souls, to make myself available to the people I'm with. I look for those opportunities where I can serve people, answer their questions, perhaps even challenge them in a good way. There is also the care of my own soul.

JG: Why is the Church so often presented as an enemy of the scientific community? FC: It starts with the control and power that the Church has in medieval times. When science as an organized study came out of the monastery/Cathedral schools and more people became educated, there developed a struggle about how people were to understand things. A perfect example is Galileo. Galileo was a very brilliant astronomer, one of many people who had theories about the solar system. At that time there were questions about whether the earth or the sun was the center of the universe. A controversy developed over who had the decision-making power about “how the heavens go.” The Church was very hesitant to allow a non-cleric to shape a world view. At one time the Church had enormous influence in Europe. Today we live in a world where secular parts of society have such power. There is also a difference in the way in which the Church approaches the world today. The Church has a role to play, particularly in how technology and inventions are used. I don’t believe the Church is the enemy of science. The Church must deal with the quality of life, of community and friendship, as well as with an understanding of creation, which is often much better understood by the Church than it is by scientists. Biologists, for example, can reduce a human being to just a bunch of raw materials, chemical reactions and drives. The Church and science should be seen as complementary in understanding the truth about the world.

"Both scientists and theologians can gain something by being respectfully complementary."

JG: Are there ways that scientists and theologians work in harmony for the sake of the truth?
FC: There are many scientists who are very open-minded, who listen to other voices besides that of science. Global-warming, for example, will affect you whether you are a scientist or a theologian. Scientists have the ability to add a kind of “meat” to an understanding of the seriousness of the problem. Theologians can contribute an ethics to the discussion—what is fair and what is just? Each needs to have respect for the other and come together about something serious which will affect both. Both can gain something by being respectfully complementary.

JG: The U.S. is at the forefront of scientific research. Do you think that our morality corresponds to our leadership in the world?
FC: Development of new areas of science are directly related to funding and funding decisions. The U.S. could make hydrogen into a common source of fuel, if we decided to do that. What scientists focus on is directly related to the decisions of civic leaders deciding where funding will go. Those decisions are really moral decisions. For example, we have spent hundreds of billions of dollars on the war in Iraq, dollars that could have solved, through science, some of the world’s problems—coming up with innovative ways of using hydrogen as a fuel, getting clean drinking water for people at a reasonable price, developing solar technology as a renewable form of energy, using science to eradicate diseases that affect millions of people. The reason that polio is no longer a problem is that the government decided to spend a lot of money in order to get rid of polio. I’d say that today there is a real lack of moral leadership. The question is the common good, but many of our leaders are interested in only a very select good.

JG: Can science save us from poverty, disease, lack of meaning?
FC: Science has that ability if funded properly and urged on properly by moral leadership. The most important problem in the next century is going to be energy—who has it and who controls it. There are two countries today, India and China, with huge populations and which are quickly becoming industrialized. This can not happen with a coal- or oil-based economy. There is not enough oil, probably only about 30-40 years of oil left in the world, and once that’s gone, you go to coal. China has enormous amounts of coal, but coal is extremely dirty, which will make breathing impossible. Science can help
by developing new technologies--wind, solar, hydrogen power--so we can solve fundamental problems. The Church's role is to urge leaders to think of the common good, which is not determined by a small electorate, 51% of the population. The common good is everyone, whether in a blue state or red state, whether in India or China. Decisions by the powerful need to be made with more concern for the common good of all. As for the lack of meaning, I'm not sure science can contribute directly; however, there are many people, such as Bill Gates, who use technology to build a better, more just world.

JG: Do you think that the scientific community is being used for business purposes?

FC: As a scientist, most of my focus is on making the discovery or a new device. Recently a friend and I applied for a patent for something that will probably be used in the semiconductor industry. The patent lawyer said, "Well, now, this is a fundamental discovery. How do you think it will be used?" My colleague responded, "I just enjoyed making the discovery. How to shape it into something that can be sold is not really my concern." The lawyer didn't want to hear that. He wanted to hear how this would make money for the laboratory or the government. For us, it was just fascinating to do this; that's just what scientists do--invent or discover something. It comes down to, again, who gets to make the decision on how it's going to be used. Industry needs to recognize that a piece of technology is something that can be used for good or for ill. The reason we have computers today is that physicists made fundamental discoveries, which were then shaped by engineers into a product that's been extremely helpful for huge numbers of people. They've improved the quality of life and what we can do. Thus, science has enabled us to do things, like mathematical calculations or controlling equipment on an assembly line, that were literally impossible before.

JG: Do you need to learn mathematics to know our world?

FC: Math is the queen of the sciences. I don't think everyone needs to be an expert in math, but it's very helpful to understanding the world, especially in its very smallest parts. Without mathematics we would never know just how intricate is the design of creation that surrounds us.

JG: How do you combine your work as a scientist and your ministry as a priest?

FC: I've been wonderfully blessed to be there when people have a question about the church, ethics, different religions or need help with sacramental work. I am humbled by people in history who have effectively combined priestly service and science. One of the most pre-eminent Jesuit scientists/priests is Christopher Clavius, who organized the Gregorian Calendar that the entire West uses. It's nice to be in this great train of people who've been priests and scientists. To be teaching at Boston College, one of the pre-eminent Jesuit universities in the world, is hard to believe, and so, I'm going to shepherd and steward that ministry the best I can, and leave the place better when I leave.

Current assignment: Assistant professor;
Boston College Physics Department,
Chestnut Hill, Massachusetts

Favorite book:
"Perelandra Trilogy" by C. S. Lewis

Favorite movie:
"The Unforgiven"

Favorite song:
"How Can I Keep from Singing?"
A Quaker Hymn

Favorite Saint:
St. Ignatius of Loyola

Church event:
The Easter Vigil

Hobby:
Hiking and camping

Dream:
To visit Jerusalem someday

Nightmare:
My computer dying just before giving a slide presentation at a science convention

Sport:
Racquetball

Challenge:
Teaching at a university

Hero:
Abraham Lincoln

My day is perfect if:
I am reminded that all of this is entirely God's gift to us.

Favorite meal:
Anything Italian

Favorite drink:
An old Cabernet Sauvignon from Napa Valley, California

An awesome invention:
The transistor

A gift:
A phone call from an old college friend

A place to visit:
Jerusalem

A place to live:
Jerusalem

Berkeley, California