

## **Putting faith in the universe — The Editors Interview Brother Guy Consolmagno, S.J.**

A U.S. Catholic interview (July 2008)

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### **How did you end up being both an astronomer and a Jesuit brother?**

I was a Sputnik kid. I started school the year Sputnik went up, and I was in high school the year people landed on the moon. How could I not be in love with space? Since I went to a Jesuit high school in Detroit, I came to admire the Jesuits. I chose Boston College because it was a Jesuit school and I figured, “Maybe I’ll be a Jesuit.”

I went to see a teacher at BC about this and he asked me the killer question, “Have you prayed about this, son?” Prayer? Who prays at 18? So I went back to my room and asked God, “OK, I know you’re desperate for Jesuits; say yes and I’ll go.” And there was no answer. I sat there feeling foolish, and I asked myself, “Actually, what does a priest do for a living?” I realized you work with people with problems-like the kids in my dorm who all seemed to have miserable problems that bored me to tears. So, I thought, maybe this is God telling me this is not a good choice for me.

I ended up transferring to the Massachusetts Institute of Technology, which is a nerd school and I was a nerd, so what the heck. That’s how I *didn’t* become a Jesuit. But always in the back of my mind it was “not now” or “not yet.”

In my mid-30s, the woman who I had thought was going to be the perfect wife for me was smart enough to know that wasn’t going to work. I had my career as an astronomer, and I wondered, “This is good; what’s next?” And the idea hit me to be a Jesuit brother. The fact that I might be getting a call scared me. But I knew it was a call, because I couldn’t figure it out. Why a brother? That didn’t make any sense at all. Sometimes I wonder if there is a God, but I never wondered about the fact that God wanted me to be a brother.

### **How did you end up as a Vatican astronomer?**

When I joined the Jesuits, the last thing I wanted to do was work for the Vatican observatory. I wasn’t much interested in doing research; I had done that at MIT, and the world of big research seemed very political and money-grubbing. But I had taken a vow of obedience, so I joined the Vatican observatory. It was, of course, the greatest thing that’s ever happened to me. I love the science, and being part of the Vatican observatory means I don’t have to worry about grants or impressing anybody. I can just do the work for the love of the work. When I arrived, the only instruction I got was, “Do good science.” That was it!

### **As an astronomer, are you ever still bowled over by the vastness of the universe, its sheer size, and how small we are in comparison?**

There are two ways to react to that. You can say, I’m so small and insignificant, how could God possibly notice me? Therefore, there can be no God. Or you can say, I’m so small and insignificant, the fact that God does notice me tells me just how immensely big God is.

### **How can we make a claim on the creator in such a vast universe?**

We don’t, we can’t. The creator makes the claim on us, and that’s the important thing to remember, just

as it wasn't my idea to be a Jesuit, and it wasn't my idea to be born. The creator has made the claim on us, the invitation to us, and we have to be prepared-whether the invitation was what we were expecting or not.

The one thing about science is that it makes you humble. You'll find some types who want to turn science into religion. Usually these are not true scientists. They think science has all the answers. Anyone who actually does science knows that science doesn't have all the answers. A scientist's life is a life of constantly learning you were wrong, that you had underestimated what was going on. And that kind of humility can be a good thing.

**Some people think that if we discovered life on other planets, that would throw our whole Christian belief system up for grabs.**

A fellow named Stephen Dick wrote a book on the history of human attitudes toward extraterrestrial life. He says that the people who say discovering life on other planets would mean the end of religion are already atheists. In fact, religious people don't believe that would be a problem at all. I think we recognize that if they're from Alpha Centauri or from the next galaxy over, they're still God's creation. It's all God's creation! If we ever find intelligent life, we'll have an interesting dialogue about the nature of the Incarnation. Alternatively, it could be that we're the only ones out there. I don't know which would be scarier.

**Do you think there could be some form of Jesus on other planets?**

I don't know. But I'll take a few hints from what I know about Jesus. John's Gospel says that Jesus, the Word of God, existed in the beginning. Now it's curious that in the universe, the beginning is the one point where we're all joined together. So it's clear that whatever version of Jesus they've got, it's the same Jesus, the same Word. But certainly it would be a word in a different language, to match whatever culture, whatever situation those aliens have to deal with.

Recent discoveries have shown that the universe is expanding at exactly the rate to allow for life. If it expanded any faster or slower, we wouldn't exist. Some people say this is a proof for the existence of God. What do you think?

This is called the "anthropic principle," and one version of it says that the fact that the universe is so finely tuned is evidence of a design, of a creator. I have a real problem with that, speaking as a devout believer. I don't base my beliefs on these clever sorts of logic games.

You can't use your logic to prove or disprove God, because logic starts with an assumption. If you start with the assumption that the universe is nothing but random chance, you'll end up proving your own assumption. If your assumption is that there is a God, you'll end up proving that. As logic, it doesn't work.

As poetry, it's beautiful. As poetry, you can say, "Not only did God design this universe, but he was really clever about it." And you can begin to see God's personality-assuming there is a God, what can we deduce about the way this God operates? This God makes lovely things. Of the 100,000 images from the Hubble space telescope, I don't know of one that's ugly. The universe is a glorious piece of art. And when the scientist studies how the art was done, he or she becomes closer to God. But, you see, that all starts with the assumption of a God.

**So why do people make this claim?**

Partly I think it's a lack of faith. These folks are looking for a religion substitute because they're scared of real religion. Why do I believe? Why do any of us believe? Ultimately I believe in God for the same reason I believe in my parents: because I've experienced them. Having experienced that love, I can recognize that God and religion give me a way of making sense of what I've experienced, putting some sort of order to it. But it's not because of some logical proof. It comes ultimately out of prayer.

**But if we do believe that truth is one, and that God created it all, doesn't it make sense to think that if we look hard enough we will find proof on a strictly scientific basis?**

The basic misapprehension there is that science deals with proofs. Science, in fact, doesn't deal with proofs. Science proves nothing. It demonstrates and explains but it never proves, because one principle of science is that every explanation is up for review. The referee never stops looking at the play over and over again.

**Just as the church is always in need of reform, too?**

Exactly, because we aren't perfect. We can't get ourselves back to the garden. There's one interesting difference in science and religion in this: Both science and religion are trying to get a grasp on something that is beyond anything we can comprehend completely. The difference is, science takes an ineffable universe and comes up with human explanations for it, which can be perfectly understood but which are never totally true because humans are always limited.

Religion has truths that are totally true, but never perfectly understood. I know the truth of the experience that said I should be a Jesuit brother, but I sure don't understand it. I know the truth that Jesus Christ, this person who walked in Galilee 2,000 years ago, was something more than a man and yet a man. And yet I'll never be able to completely pin it down, because such words don't exist.

**Just like the Eucharist is not a physics problem.**

Right, and Genesis is not a book of physics. A demonstration: I have a big thick book on gravitation that is 20 years old and completely out of date. A good chunk of what's in there we know isn't right anymore. Parts of the Bible are 3,000 years old, but the truths in it are just as true today as they were 3,000 years ago. If you try to turn the Bible into a science book, you're not doing it any favors.

**Many people are surprised to learn that the Vatican has an observatory. Doesn't the Catholic Church have a reputation for being against science?**

The idea that science and religion are at war first arose 100 years ago. People think it goes back to Galileo, but really it's fairly new. The problem was that there were scientists who thought that to be good scientists, they had to abandon religion. So the Vatican observatory was established in the 1890s to show that religion was not anti-science.

That's not a problem anymore. Scientists of my generation are churchgoers in the same proportion as the general public. Most scientists have a pretty sophisticated understanding of religion, but the reverse unfortunately is not true.

Today the war of science and religion has taken hold among religious people, who know religion and don't know much about science. So what I'm hoping to do is persuade my fellow religious believers that science is not anti-religion, that you don't have to be an atheist to be a scientist. And that on the contrary, science is the root of getting to know God better.

Our faith says, God so loved the world that he gave his only son to it. *Loved the world*. Not just the people in it, but the world. That means the world is good. Understanding how this world works is something God wants us to do. Scientists understand this, but religious people often don't.

### **How did the church get its bad reputation on science?**

When people tell me about the long fight between religion and science, I'll say, "Name three cases." And they'll say, "Galileo and, um . . ."

They might mention Darwin's theory of evolution, but in fact the official stance of the church on that is "Let's wait and see." We're not fundamentalists. Sure, some church statements from the turn of the century sound anti-evolution, but you can find church statements saying anything under the sun. The church is not one person. The church is a body of people, all seeing God from a slightly different direction. To get a good picture you have to put them all together.

### **What went wrong with Galileo?**

The sad thing is that when I talk about Galileo, people think of Galileo the myth, and they don't know the real history.

There are three points to remember about Galileo. First, he was a devout Catholic, even after the punishment he received from the church.

Second, he was operating in the middle of a war, in a world where the Vatican was both a religious power and a temporal power. His sponsors were suspected, probably rightly, of secretly supporting the wrong side. So political issues were at stake.

The third thing to remember is that the church was wrong. Wrong not necessarily in accusing him of disobedience, because frankly he was guilty of that technicality. But that's not the point. They were wrong to go after him, to use the church's religious power to support philosophical or political acts.

### **So how has the church viewed science throughout history?**

Even among the earliest theologians you find a strong belief that when the Bible talks about creation, it is not to be taken literally. Our church has long recognized that the Incarnation meant that the physical world was worth studying, that it was blessed.

In the early Middle Ages, John Eriugena wrote a scientific treatise explaining why science was a way of getting to know God. In the 1100s and 1200s, the monk Roger Bacon did work that led him to be called the father of chemistry.

Albert the Great, the doctor of the church who taught Thomas Aquinas, is called the father of geology because he wrote a book on mineralogy. Copernicus was encouraged by a cardinal to write his book. The church started the universities that studied science and astronomy. We aren't afraid of the truth, even when we don't have a complete picture of it-which we never do.

### **But the church gets bad press for opposing in vitro fertilization, embryo research, cloning. Don't you think the church often comes across as saying "Stop!" to science?**

First of all, the church never doubts that what scientists say is true. The question is: Is it a good idea? That's a question not enough scientists are willing to ask, especially in the world of biology.

Physics, you see, was humbled by the advent of quantum physics, and the recognition that all the things we thought were true aren't. Biology hasn't come to that point yet; it's still an immature science right now. Some scientists say, "Yes, it's possible to clone, let someone else worry about the consequences." Well, that somebody is the church.

In genetic engineering, there are worries as well as tremendous opportunities. The biologists are forcing us to ask questions we never really asked before: What is life? What is personhood? Why is human life sacred? And that always raises the possibility that maybe life isn't sacred, maybe we *can* do whatever we want. We know that's a false answer, because people who've tried that have ended up in places we don't want to be.

**You talk about scientists as not coldly rational. But what about the popular image from *Star Trek*, for example: Spock, the scientist, is the cold, rational guy.**

Captain Kirk is driven by emotion and instinct and rarely uses logic. More people have learned their astronomy watching *Star Trek* and other science fiction TV shows than have ever learned it from Carl Sagan, much less from textbooks. That's OK, but it means science and especially astronomy are wrapped up in the needs of the storyteller.

*Star Trek* is a very optimistic view of the future, one that thrills in discovery. In the popular mind, astronomy thus becomes a positive, optimistic science.

Since the days of Captain Cook in the 18th century, exploration has been in the hands of the Navy, so we put the space guys on "starships" with guns and phasers. And suddenly, astronomy is also associated with the military. And the military is associated with the right wing. So now to be optimistic about the future and to love astronomy means you're militaristic and right wing. Whoa! How did that happen? It comes from the medium through which we get the message, to quote Marshall McLuhan.

The conflict between Kirk and Spock makes great theater. You can find Kirk and Spock characters in Shakespeare, because they express the conflict that goes on inside every human being. It would be nice if they could show Kirk not only as a good starship captain, but as a good scientist. Then you'd realize how much of science is devoted to and based on intuitions, a sense of elegance, a sense of rightness.

**Is there anything in science that you're afraid to find out?**

Although it's not a real fear, I'd be afraid of any final answer. I'd be afraid of ever thinking we've run out of things to discover. Because the act of discovery is the fun of science. It's not the answers that are important, it's the fun of discovery-almost like doing a crossword puzzle. The fun is in doing it. When you're done, you toss it away. In a universe made by an infinite God, I'm confident he'll always have another trick up his sleeve.