

**“Is there room in your heart for science and  
room in your head for religion?”**

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**Guest Speakers: First Church Members  
Eugene Chung and Damon Ragusa**

First Unitarian Church  
536 Linton Street ~ Cincinnati Ohio 45219  
513.281/1564

**Eugene Chung:**

As some of you know, I am a physician with a scientific background, with an interest in clinical research where the greatest enemies are anecdotal evidence and that “gut feeling.” My college major of Molecular Biophysics and Biochemistry is the basis of my belief that all physical and even spiritual phenomena will eventually be explainable by the observation that a positive charge attracts the negative and that like charges repel. I cannot grasp how these positive and negative charges got here; but I believe my grandchildren will be able to do so. I am thankful that the worship committee has given me the opportunity to explore my thoughts in preparation for this talk. In preparing for this talk, I tried various approaches. Dylan Thomas used to lock himself up in a hotel room with a case of beer and two days later, would reappear with a masterpiece. It turns out I’m not Dylan Thomas. I tried reading extensively to prepare a coherent summary sprinkled with compassion and spirituality...but I’m not Sharon. But in the end, it turns out I’ve been thinking about this topic for a decade, and I just needed to crystallize my thoughts onto paper. So here it is.

Can science and religion co-exist? Religion has of course been an important part of human existence for many centuries; in fact, one could argue that it is generally far less meaningful now than ever before. However, in light of the current combination of conflict in the name of religion, destructive power of available weapons, in the setting of mind boggling scientific advances, and the possibility that the sentiments expressed by Sagan in the earlier reading may become true, this question bears urgency and gravity not likely seen before.

However, I would word the question differently, because there is logic that is not strictly scientific and faith that is not religious per se. Can reason co-exist with a set of a priori beliefs? The central tenet of the scientific method is based on the ability to change one’s mind based on evidence and proof, independent of ones biases and prejudices. It would seem that today, as science and reason has the ability to explain more and more fantastic phenomena, even human behavior, and humans learn from history, and communication all over the world is instantaneous, tyranny based on untested, unchallenged faith, stands to lose the most. For the first time in human history, religion has met its match. But this is not an easy battle by any means. I have to accept the word of the anthropologists that the need to worship god is by all accounts, a universal trait of human societies. In evolutionary terms, this trait was likely a part of the package of characteristics that led to

our specie's survival. One can imagine that a group of homo sapiens that naturally felt the compunction to follow a leader, feared authority, received explanations for unspeakable pains, distrusted rivals with different beliefs, behaved aggressively, might win out in the end. This happens at many levels today in the schoolyards, corporate board rooms, the political arena, etc. As an institution, Christianity has benefited from these traits over the past 2000 years. Therefore let's be pragmatic and say religion has a place in human existence, as much as the need to love one's children. It's probably not all bad anyway. In fact, who is to say that development of humanism and ascendance of art and reason did not have roots in these traits?

But, we must recognize that when certain inborn traits become destructive, we should strive to overcome them. It's not impossible; the potential to overcome evolutionary tendencies may define what it means to be human. Men don't drag women around by the hair anymore, do they? And the destructive potential of relapsing as a species, allowing natural discoveries to be dismantled for no good reason in public, is played out on the grandest of stages.

Let me share an example of a NY Times editorial on evolution written by a former candidate for US President, Mr. Brownback. "While no stone should be left unturned in seeking to discover the nature of man's origins, we can say with conviction that we know with certainty at least part of the outcome. Man was not an accident and reflects an image and likeness unique in the created order. Those aspects of evolutionary theory compatible with this truth are a welcome addition to human knowledge. Aspects of these theories that undermine this truth, however, should be firmly rejected as an atheistic theology posing as science." Ah, there you have it. In a world filled with uncertainty, I am amazed that one could be so certain and free of doubt. We've seen this certainty before. William Jennings Bryan never got a chance to make his speech during the Scopes monkey trial: "A bloody, brutal doctrine--Evolution--demands, as the rabble did nineteen hundred years ago, that He be crucified. That cannot be the answer of this jury representing a Christian state and sworn to uphold the laws of Tennessee." In the public eye, when statements of policy tend to be black and white, it appears impossible for reason and traditional religion to co-exist. Within one's own mind however, where Jefferson places the matter of "man and his god", majority of humans are able to live with the inherent conflict and inconsistencies of the relationship between science and religion, between logic and faith. When half of the Americans don't believe in the theory of evolution, and yet take full advantage of the fruits of medical science, they are picking and choosing which parts of the scientific portfolio to accept based on fuzzy logic.

Clearly, there are many scientists of the highest caliber who have firm belief of a deity, even most traditional versions. Francis Collins, the director of the human genome project, who grew up a secular child of intellectuals, clearly states his belief in a "God who is unlimited by time and space, and who takes personal interest in human beings." Collins concludes reasonably, that "the current battles between the scientific and spiritual worldviews need to be resolved-we desperately need both voices to be at the table, and not to be shouting at each other." The question is how to set the ground-rules for this dialogue. When the discussion reaches the irreducible stage, the scientist will insist upon evidence as the final arbiter while the cleric would look toward the source of faith.

I fear that while we are all capable of cutting ourselves a break, able to live with inconsistencies and hypocrisies, we do not tend to tolerate them well in others.

Our constitution's treatment of the relationship between Church and State appears in the first amendment in order to protect freedom of religion by keeping government out. Jefferson refines this belief in a letter to a minority Baptist group in Danbury: "Believing with you that religion is a matter which lies solely between man and his god, [the people, in the 1st Amendment,] declared that their legislature should make no law respecting an establishment of religion, or prohibiting the free exercise thereof, thus building a wall of separation between church and state." This of course is the phrase that we know. Why did Jefferson build this wall? At the time, he built it to protect individual religious freedom from government. His genius is that I suspect he knew that at some point, we would need to reinforce this wall to protect the government from the individuals. Until ground-rules for public discussion between reason and faith are widely recognized, this tenet remains one of the most important aspects of the Constitution we must protect.

Yes, there is a place for both reason and faith; but they do not belong at one table, as they appear fundamentally incompatible amidst public discourse. Rather, reason and faith should reside on entirely different planes, only meeting in the privacy of one's own mind.

**Damon Ragusa:**

Good morning. For those who don't know me my name is Damon Ragusa and my wife, Holly and I and our children, Jamison and Delaney, have been attending First Church for the past two years. We became members a year ago. I'm pleased to be here to share some thoughts and experiences with you regarding my experiences with intersection of science and religion.

I forget who came up with the idea for this service first. But I remember that at the time it struck me as a simple enough idea. I thought since I've studied various kinds of science, primarily applied mathematics, psychology and evolutionary sciences...and I've made a point to learn about others religions as I, myself, am not a religious person, that this would be a piece of cake. Well, I have to admit I had trouble with this. I had trouble figuring out my angle. What did I want to accomplish and how. I thought one really easy route would be to go after all the people on the extremes of the science and religion debate. There are plenty of atheistic evolutionary biologists who believe with unbending certainty that there is no god and we don't have to look far here in Cincinnati to find young earth creationists who build whole museums in direct conflict with 200 years of science. I could call them out into the public square and do some good old fashion flogging. But that didn't seem very Unitarian. What is my purpose here? You see my work revolves around understanding human behavior and what I focus on most is not the behavior itself but the root causes. I needed to understand more about the root cause of the conflict between science and religion. So I began to channel Socrates. I spent several hours in my hotel room in NY two weeks ago wrapped up in a sheet resembling the finest toga pacing the room, stroking my chin very pensive-like. And it worked. This debate between science and religion it is just a symptom. The friction between the two is the effect but what is the cause?

## INQUIRY

Why do we have science? What is science? I typed in science into dictionary.com. Jeez, there are eight definitions. I'll paraphrase. Science is a branch of knowledge or study dealing with a body of facts or truths about the natural or physical world. What is religion? I type in religion – 9 definitions. I'll paraphrase: religion is a set of beliefs about the nature and purpose of the universe. Shockingly they don't sound too far off. They both seem to be about building an understanding of our world, about gaining knowledge. So you have two institutions, for lack of a better word, that have similar objectives but so often compete and clash. Religion and Science are the same but different.

The same but different and the cause of a lot of tension over some very broad issues. I've learned that it is really easy to form strong opinions and make impassioned arguments around broad topics: freedom is good, global warming is bad, killing is murder, the New England Patriots will win by 12. The same can be said about scientific theory: the Earth is round and it does revolve around the sun, an object in motion will tend to stay in motion until acted upon and mass and energy can be converted but will remain constant. I get that. But it gets much more difficult to break a broad topic down into pieces in order to understand both the core of an issue as well as its thin edges. And science is full of thin edges. Have you ever heard someone say "that's bad science"?

But religion seems different or is it? Religion is about beliefs; it's an attitude and a lifestyle as much as it is a doctrine. And with many people it is simply a part of them, inseparable. But I know people dedicated to science in the same way religious people are dedicated to religion – inseparable. Again, same but different.

## SCIENCE

Now before I continue to ramble on let me give you a little background on me for some perspective. The work I do takes me into this place that I think is well suited for the topic. I'm trained as a statistician & mathematician. The very first part of my career was spent analyzing rather mundane data. Then starting in the early '90s I started getting into some really interesting work where I was trying to solve very complex human problems mathematically like why a person buys this brand of cheese instead of that brand of cheese. Should I watch NBC or CBS? Is the McDonald's value meal really a good deal? Or the ultimate human dilemma: Pepsi vs. Coke. My career path began to sound like a bad joke: a mathematician walks into a grocery store...of course the punch line of this joke is that my wife of 13 years still doesn't know what I do for a living. The point here is: that part of my world is spent in the realm of the observable, the verifiable, the quantifiable. And as time went on the problems I was asked to solve continued to get more and more complex...it became less about understanding the outcome and more simulating it. At this point a lot of the traditional statistical and mathematical techniques no longer would suffice. So I began to explore new technology, tapping into different disciplines. I began using neural networks, genetic algorithms and evolutionary computation techniques – all drawn from analogues to the natural world. Now I am able to solve problems that we were not able to solve previously. So I have seen firsthand how science can take our ability to understand, interpret and draw out cause and effect to new levels.

## RELIGION

The other side of this equation we're trying to understand is religion. Here, I have a completely outsiders view. The fact that I'm standing here, in a church, one that I actually belong to, is quite astonishing to me. But I've always been curious about religion.

And when I speak of religion – I had to ask myself “what of religion is the issue when compared to science.” Is it about the institution of religion? Although there is plenty of criticism that can be lobed at religious institutions, that didn't seem right. Is it about religious people? Do they discount all science? Of course not. You don't hear people refuse to get on an airplane because gravity is “just a theory.” So I spent like three weeks thinking about it. And here is what I came up with: People associate with religious institutions so that those institutions can in turn validate explanations of things that are beyond their understanding. This is a perfectly human trait. We need to understand. We need explanations. And when the explanations of things become so entrenched there will naturally become tension.

But let's face it we also can be lazy. So the simplest, most well packaged explanation typically wins out. And any evidence, suggestion or hint that runs contrary to those things we believe so strongly will create tension. Psychologists refer to this as cognitive dissonance. It's a powerful thing. It was actually first described by Leon Festinger, a social psychologist, who was studying the conflicts arising within a cult as the cult leader's prophecies continued to not come true. Basically the UFO that was supposed to come pick them up was running late.

Now there are two ways to reduce cognitive dissonance: rationalization or change. (I personally can't get through the day without a couple really good rationalizations.) When faced with information (even direct evidence) that runs contrary to a belief we as humans will either ignore or counter that information (even if seemingly irrational) or we will start to change our beliefs. It is sometimes hard to rationalize, though, isn't it? We get ourselves into trouble trying to make excuses for our behavior or others...and it's no different for our beliefs.

The other cause I want to explore is our collective ignorance of the laws of probability. Probability is an often well misunderstood science. We've all experienced coincidences or unlikely events in our lives. And in fact many of us may tell stories about absolutely fantastic coincidences...maybe a chance meeting with someone whom you hadn't seen in 20 years and for some reason, can't remember why, you thought of that person just the night before. We tend to draw conclusions from these types of events and give them names: Serendipity, God, Cosmic Energy, and Karma. I always think of the devastation left behind by a tornado. And I've heard people on the news describe how the tornado tore apart the two houses on either side of theirs but spared their home...and in these situations often God is the explanation. It had to be the work of a greater power...it is simply too improbable. The star athlete who can do amazing things that the rest of us can only admire gives all the credit to God.

Most people view probability through a very narrow lens. They think about the chance of something happening based on their own life experiences. But the events that play out in

our lives are events that also take place across all time, all people and all places. The combinations and permutations of the events in our lives are remarkably huge but we only see a fraction of them that lead to the coincidence that we experience. What seems like a coincidence has a very long tale of probabilities that fell together in just the right way. Rare events happen much more than people consider. So next time you see a likeness of Jesus Christ in your grilled cheese sandwich, just stop and think of all the grilled cheese sandwiches that came before yours throughout the history of time, all over the world. That's a lot of grilled cheese. And then resist the temptation to put it on EBay.

Probability is a powerful tool for understanding. When used properly it can produce intricate and complex outcomes. I've built graphical representations of fairly simple probability rules that resemble complex sea shells or mathematical functions called fractals that when mapped create beautiful landscapes. Probability is force. However cognitive dissonance is a powerful thing as well.

In 1999, the Kansas board of education removed references to evolution from their science curriculum. It was reversed a year later but in 2005 they mandated that counter arguments to Darwin's theory of evolution had to be taught, essentially stating that there are doubts among scientists about evolutionary theory. These doubts were brought to the school board by the Discovery Institute – a group funded by religious conservatives that promotes Intelligent Design, a theory that certain features of our natural world are too complex to have occurred naturally and that, in and of itself, is evidence of a designer. They are careful not to suggest the designer is God but the meaning is obvious. The only problem is that the lack of science that goes into Intelligent Design is remarkable. It is a thinly veiled attempt at resurrecting the teaching of creationism as science.

Has anyone heard this line often cited by people as to why evolutionary theory cannot be believed? It usually goes something like this: "No one can tell me that my distant relative was an ape!!" There is a profound lack of understanding of evolutionary theory in that statement. But at the same time how can we expect people to sit around and think critically about esoteric scientific theory when, in the other ear, they are getting the easily digestible sound bite. Science is hard. It is difficult. It requires thoughtful study. Should we not condemn an individual for accepting scientific theory without understanding it just as we might condemn one for rejecting it? Blind faith is not the sole domain of religion. In the end, I believe the resistance to scientific theories and breakthrough resides in the thin edges of both science and religion. Reasonable people when presented with potable evidence will adapt their beliefs. Good scientists will build their hypothesis with open minds and point out bad science when they see it.

As Gene indicated, there is something distinctly evolutionary about religion. And clearly something rather religious about science. Again, the same but different.

