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Abington Presbyterian Church

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Psalm 8

Genesis 1:1-2:4a

FAITH AND SCIENCE

Someone asks, “Why is water boiling in that kettle?” One person answers, “Because natural gas that is burning is heating the water in the kettle to 212 degrees Fahrenheit.” Another person answers the same question, “Because we need to cook the spaghetti.” Both answers could be right. Over the last number of centuries, there have been and continue to be some boiling questions about how faith and science relate to one another. This sermon continues a series that focuses on how our Christian faith relates to other entities.

There are some who think that religious faiths only exist because ancient people did not understand what caused certain natural phenomena. There was thunder which sounded like someone vicious up there, so the Norse god, Thor, came into being. There was a question about what caused the moon’s appearance and location to change, so the Roman mythology of the goddess, Diana, was developed. Certainly, there have been questions for which people sought answers from religious leaders that could have been answered better by scientists. But there are also questions for which scientists have no answers because certain queries are not within the realm of what is scientifically verifiable. Is there such a thing as human worth and purpose? If so, and I believe there is, they can’t be discovered scientifically.

Yet, certainly, science has advanced in many ways in just over the last few decades. In particular, through a variety of observations and measurements, along with testing out some theories, it has become fairly well-accepted scientific consensus that our universe began with what is called a big bang slightly more than 13 billion, 798 million years ago. ¹ So how does that scientific story fit with the faith story we find at the beginning of Genesis? Both are an attempt to make sense of our human existence on this planet we call Earth, in this solar system that is a small part of the Milky Way galaxy, which is one of what is estimated to be between a mind-boggling 100 and 200 billion galaxies that are part of this universe. ²

When we look at the first of the biblical creation accounts, it is important to understand that the bible is not a science book. It is addressing other important questions. The account does not tell us when the beginning was, but it affirms that God is before and behind all that is. Using poetic language, this creation account beautifully affirms that we are a part of an orderly existence established by God. This notion that the world is orderly and will support rational, scientific investigation came from a worldview that began with faith in an all-powerful, rational God.

We don't need to pit science against faith or faith against science. Among many questions, science tries to answer the how and when of the beginning. Among many other questions, faith affirms the who and the why of the beginning. Just after the big bang, there was hydrogen and helium, with gravity as a dominant force. But there was also God's artistry and purpose.

There are limitations of both scientific and faith understandings. Increasingly, physicists have become aware that there are fifteen different constants whose values have to be pretty much exactly what they are for the universe to be able to support life — not only life as we know it, but life of any kind.³ I'm basing my comments here on someone who understands the science much better than I. Alan Lightman, a physicist on faculty at MIT, points out that if nuclear force were just slightly stronger than it is, then all of the hydrogen atoms in the infant universe would have fused with other hydrogen atoms to make helium, and there would be no hydrogen left. No hydrogen means no water. On the other hand, if the nuclear force were somewhat weaker than it is, then the complex atoms needed for biology could not hold together. If the cosmic 'dark energy' discovered about 20 years ago were a little denser than it actually is, our universe would have expanded so rapidly that matter could never have pulled itself together to form stars. And if the dark energy were a little smaller, the universe would have collapsed long before stars had time to form. Atoms are made in stars. Without stars there would be no atoms and no life.⁴

Why do these parameters and many others lie in the narrow range that allows for the formation of life? Lightman offers three possibilities: First, there might be some as-yet-unknown physics that requires these parameters to be what they are.

But this explanation is highly questionable — why should the laws of physics care about the emergence of life? Second possibility: God created the universe, God wanted life (for whatever reasons), so God designed the universe so that it would allow life. Third possibility, and the one favored by many physicists today: our universe is one of very many different universes with a huge range of parameters, including many different values for the strength of the nuclear force and the density of dark energy. Some universes are conjectured to have stars and planets, some would not. Some might be able to harbor life, some would not. In this scenario, our universe is simply an accident. If our particular universe did not have the right parameters to allow the emergence of life, we wouldn't be here to talk about it. Unfortunately, it is almost certain that we cannot prove the existence of these other universes. Interestingly, many scientists accept their existence as a matter of faith.

I do not present these scenarios for the beginning of the universe as some proof for God's existence, but there is a rationality to the idea of faith in a God who is our creator. Science has helped us come to know the immensity of the universe and the contrasting tininess and brevity of human life. But there are different ways to interpret that great contrast. I am moved by the way Psalm 8 interprets it: "When I look at your heavens, the work of your fingers, the moon and the stars that you have established; what are human beings that you are mindful of them, mortals that you care for them?" With what science is teaching us about our universe, the work of the Creator is even more amazing than what the psalmist could envision with the highly-limited understanding of the moon and the stars in that era.

Fifty years ago last night, I remember sitting in my family's den, thrilled to get to be staying up late to watch the televised grainy pictures and to listen to fuzzy audio of the first moon walk. My father, who worked for NASA, had his camera on a tripod to try to capture images of this event which was such a scientific accomplishment. As humanity continues to look to the moon and the stars, as being among the areas of human knowledge that have grown through scientific endeavor, we realize that our human place in this universe can't be explored by science alone. Neither science nor faith can tell us everything we need to know about our existence. However, they can work together to inform one another when we are open to such a thing. It doesn't have to be an either/or proposition; for me, it needs to be a both/and one. While the universe and so much can be understood in

impersonal and mathematical ways, it is never just that. There is also purpose, love and human worth, moral right and wrong. There is so much more to God's good intent than science can ever discover by itself. The who and the why behind life are important questions to explore and our faith, informed by science, can do just that. Thanks be to the God who gave us heart, soul, mind, and strength to engage that of which we are a part and from whom we are made.

¹ http://en.wikipedia.org/wiki/The_Big_Bang_Theory

² <http://www.space.com/25303-how-many-galaxies-are-in-the-universe.html>

³ Francis Collins makes a compelling argument about this matter in his book, The Language of God: A Scientist Presents Evidence for Belief, Free Press, 2007.

⁴ This part of the sermon relies heavily on a book review written by Alan Lightman, who is author of The Accidental Universe: The World You Thought You Knew, Pantheon, 2014.