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CHILDREN IN GOD'S HOUSE

Teaching Cosmology at a Nazarene University

Stephen Case

When I was in elementary school, my family moved into a new house that my father, a carpenter, had built largely on his own. As a third-grader I didn't appreciate much of this beyond the fact that I suddenly had a larger bedroom. Now that I own a home of my own, however, I realize what an immense undertaking the framing, constructing, and finishing of a house truly is and what an act of love on my father's part it entailed. As my understanding of what makes a house has grown—as I've begun to have some dim appreciation of the complicated network of struts, electrical circuits, drywall, plumbing, and so on—I can now appreciate at a deeper level what my father did and thus *who he is*. A deeper understanding has brought a deeper gratitude and a deeper love.

Cosmology is the study of the large-scale structure and long-term history of the universe. It is often considered a field of astronomy, and it treats some of the largest and most over-arching questions science can address: What is the universe like on large scales? How did it begin? How did it develop? How will it end? The answers to such questions are of theological and philosophical significance. In addition, the contemporary understanding of cosmology has shown great success in explaining the early universe and the formation of all we see today. For these reasons cosmology is an essential topic in higher education. It addresses the universe we inhabit; the methods used to investigate that universe; and, for

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Christians, how we engage with God through these investigations. As Christian educators we have a responsibility to equip our students for scientific literacy and to give them the ability to engage and analyze modern assumptions and conclusions about the universe.

As Nazarenes, we affirm God as Creator of the cosmos. In some sense, then, we are children in our Father's house. Understanding the structure, intricacy, and immensity of the universe in which we find ourselves is an act of worship that engenders deeper love for the Creator. The tools of this investigation are all around us, and cosmology is the practice of using these tools to address the big questions relating to the structure, origin, and eventual fate of this enormous universe.

The paradigms of contemporary cosmology can often be challenging, and it is the role of a Christian educator not to simply present the data and observations but to come alongside the students and help them form their own conclusions. By relying on our Wesleyan heritage, which places confidence in the evidence of the senses, instructors can lay out the various observations that point to certain cosmological conclusions. A primary example of this would be the evidence for the Big Bang Theory, in which observations, such as the expansion of the universe, cosmic microwave background radiation, and relative abundances of elements in the universe, support this central assumption about the formation of the universe. While Christian professors should proceed with humility, understanding, and communication that the conclusions of science are never final, they should also have the freedom to follow the evidence of observation with the tools of reason.



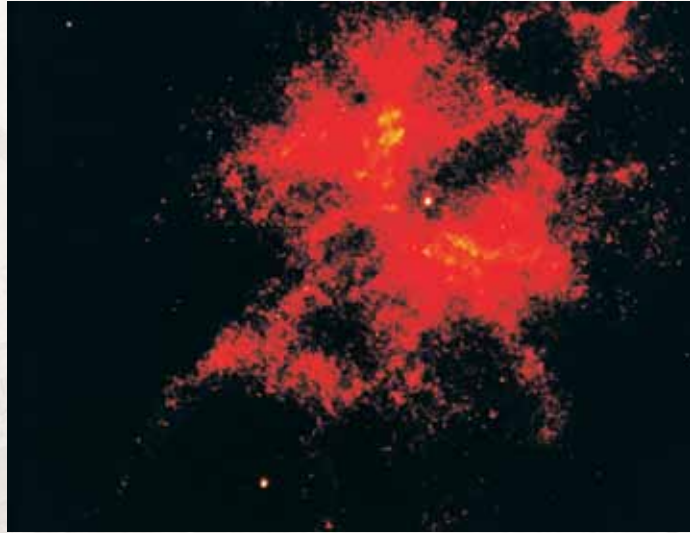
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Cosmology need not challenge (and need certainly not deny) Christianity's affirmation of God as Creator. Discussion of the questions raised by cosmology offers immense scope for exploring the boundaries of science, theology, and philosophy. It is the place of higher education to bring these questions to the fore. Sometimes they may be challenging, and in many cases they may bring about a certain level of discomfort or even misunderstanding. However, discomfort is often only a sign that students are reaching the boundary of their own personal knowledge. A Christian professor will not simply leave students to struggle with these questions alone but will help them understand that an awareness of the limits of one's own knowledge is one of the aims of education and Christian maturity. Always these questions should be pursued honestly and in a spirit of grace and humility.

For students at a Nazarene university, two significant aspects of the scientific endeavor common to all the physical sciences are especially well-illustrated by an understanding of cosmology. One is the way in which the methods of science itself reflect upon the goodness of God. The fact that we are made in God's image as rational beings is what makes any theory about the properties of the universe possible and is in harmony with the Wesleyan view that the Spirit of God is active throughout creation. Cosmology in particular shows powerfully the ways in which observation and experiment lead us to staggering perspectives on the natural world. Through cosmology we realize how insignificant we are in the wide field of space and time, but we also understand that we are uniquely gifted with the ability to engage the universe as thinking beings. Through cosmology the Christian finds opportunity to worship God using the tools of the scientific method itself.

A second aspect of the practice of science illustrated by cosmology is the vital communal aspect of all scientific endeavors. Far from being vague ideas or guesses of individuals working in isolation, the paradigms of cosmology are built upon the work and inspiration of a huge community of scientists. Just as Christian theologians have confidence in theological tenets arrived at through centuries of dialogue in the context of scripture, experience, and the faith community, so in a similar

way scientists, instructors, and students can have a level of confidence regarding conclusions based on the cumulative work of hundreds of scientists stretching back over the past centuries. Though there is always a place for skepticism, it should engage the work of the community (even through contradiction) instead of simply disregarding all that has gone before. This is, of course, not to say that science and theology develop in identical ways or aim to answer the same questions. It simply shows the importance of community to both. This shared valuation provides a potential means of scientists and theologians to both cultivate a deeper appreciation of the other. Cosmology, like theology, is a communal endeavor.



Instruction in a field as far-ranging as modern cosmology, where questions of universal origin and eschatology are openly engaged, should provide learners with a broader scope for understanding the nature of God's universe. Understanding and engaging with contemporary theories regarding the formation and origin of the universe need not be a challenge or an affront to faith. Instead, instruction in cosmology should illustrate the immensity and intricacy of God's creation and show that the very act of scientific exploration attests to the goodness of God. Ultimately, cosmology at a Nazarene institution should cultivate the development of minds such that deeper understanding leads to deeper worship. We're all living in a house that God lovingly crafted for us; as His children, we can better know and love our Father by using the tools He gave us to understand His world. ■

RECOMMENDED READING

- Campbell, Heidi, and Heather Looy, eds. *A Science and Religion Primer*. Grand Rapids: Baker Academic, 2009.
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