When Darwin Comes to Youth Group: Faith, Science, and Missional Youth Ministry[1]

Benjamin D. Espinoza
Doctoral Student & Research Assistant
Michigan State University
bdallasespinoza@gmail.com

Abstract: In his book *You Lost Me* (2011), David Kinnaman writes that while 52% of youth in the church hope to pursue a career in the STEM disciplines, only 1% of youth pastors addressed issues of science and faith in the previous year of the study. This demonstrates the seemingly irreconcilable gap between faith and science in the church, and the need for further reflection on how we reach scientifically-minded youth with the gospel. The purpose of this paper is to explore how scientific engagement can serve as a strategy for a missional youth ministry. The paper will briefly situate this conversation in the context of the ongoing dialogue between faith and science until the present day. After delving into the work of Guy Consolmagno (2007; 2014) on how technically-minded people make sense of religion, the paper will then explore how scientific engagement can serve as a missional strategy for youth ministry through practices such as vocational encouragement toward the sciences, engaging the rational and delightful aspects of Christianity, and involving STEM professionals in ministry efforts.

Introduction

When I was serving in youth ministry, a number of my students expressed a desire to enter into a STEM (Science, Technology, Engineering, and Mathematics) profession. One is currently pursuing a bachelor's degree in computer science, another is taking courses at a community college in neuroscience and hoping to attend an Ivy League university, and several others want to become engineers. I found these students to be thoughtful, critical, and curious. They were curious about the nature of the world, how it functioned, and how the discoveries of modern science meshed with their Christian worldview. We would often debate the finer points of evolutionary theory as well as the effect that consuming too much pizza and mountain dew at a lock-in would have on one's body.

As I began to survey my own approach to youth ministry and teaching, I saw that while I had a number of students hoping to pursue careers in the sciences, I did not engage much with the scientific realm during my teaching. I would cover topics like dating and relationships, books of the Bible, depression, anxiety, and spiritual warfare, but never did I touch on issues related to faith and science. This was a huge oversight on my part, as students were engaging with scientific issues at school and in the TV shows, movies, and books they were reading. Essentially, I failed as their pastor to engage with their culture.

When I recognized my failure in engaging issues of faith and science, I made a change. I began teaching on apologetics, to great success. The conversations were

enlivening, challenging, critical, and educational. The students who believed they had all the answers were quickly humbled, while the students who thought they could care less became the largest stakeholders in the conversation. Students would even bring their curious friends, who, upon their first time visiting our meeting, would ask questions in a respectful way. I began seeing the significance of engaging even the most contentious issues with our youth; doing so serves as an effective strategy for mission, and encourages youth whom God has gifted with a mind for science. From then on, I made it a point to talk about faith-science issues in two series per year, and talk regularly with my students about such topics.

After I began teaching on issues of faith and science to my students, I started to think about how the Christian community, especially the youth workers, was thinking through these issues with youth. Are we discouraging these young people from pursuing scientific vocations? Are we inadvertently diminishing the role that science plays in our faith? Are we being anti-intellectual, and as a result, damaging our witness for the gospel? David Kinnaman, in his ground-breaking book *You Lost Me: Why Young Christians are Leaving the Church,* found that young people perceive the church as being "anti-science."[2] He writes, "Because science has come to play such a defining role in our broader culture, it is shaping young adults' perceptions of the church. It is these perceptions that we must deal well with if we truly desire to make disciples."[3] He points out that 35% of 18- to 29-year-olds believe that Christians are too confident that they know "all the answers" regarding faith and science, and 29% of those surveyed in this group believe that churches are out of step with the scientific world we live in.[4] Perhaps even more distressing is that while 52% of those surveyed hope to pursue a STEM profession, only 1% of youth pastors addressed issues of faith and science in the prior year.[5]

Against the backdrop of these statistics, Kinnaman writes,

> Young Christians who are called into positions of scientific inquiry and pedagogy ought to be encouraged by the Christian community to follow their callings to the utmost of their abilities. We need to help them discover how their chosen field of study and work is closely connected to God's design for the world and for them.[6]

After navigating my own approach to youth ministry, I firmly agree with Kinnaman. The purpose of this paper is to explore how scientific engagement in youth ministry can help us minister to youth and witness to the gospel. To do so, I will first briefly sketch the

---

[2] David Kinnaman, You Lost Me: Why Young Christians are Leaving the Church . . . and Rethinking Faith (Grand Rapids: Baker, 2011): 131 – 148.

[3] Kinnaman, You Lost Me 136.

[4] Kinnaman, You Lost Me 137.

[5] Kinnaman, You Lost Me, 140.

[6] Kinnaman, You Lost Me, 142.

relationship between Christian faith and science in historical perspective, attentive to how the church engaged in and supported the scientific endeavor. After touching on the current landscape of faith and science as it relates to youth ministry I will explore the work of Guy Consolmagno, a Vatican scientist, who describes the way that scientifically-minded people think and behave. Finally, I will draw some practical implications and insights for how youth ministers can engage the scientific realm as a missional strategy.

Faith and Science in Church History

The Bible continually celebrates God as the Creator of the heavens and the earth. Hebrews 11:3 affirms that "By faith we understand that the universe was created by the word of God, so that what is seen was not made out of things that are visible" (ESV). In doxological fashion, Revelation 4:11 notes, "Worthy are you, our Lord and God, to receive glory and honor and power, for you created all things, and by your will they existed and were created." Not to mention the fact that the Psalmist exclaims in Psalm 19:1, "the heavens declare the glory of God, and the sky above proclaims his handiwork." References in the books of Job, Isaiah, and the Psalms revel in the beauty, complexity, and majesty of God's Creation--the vast mountains, the endless skies, the human body, and the creatures of the sea. While many modern Christians prefer to affirm God as a loving Father, the Bible consistently recognizes God as the Creator of the universe, known and unknown.

The first line of the Apostle's Creed, "I believe in God the Father, Creator of Heaven and Earth," recalls to mind the first two chapters of Genesis, which invite the church to ponder the mystery of God's relationship to His creation and the role we play within the created order. To the rich, poetic narrative of Genesis 1-2, the humble churchman will exclaim, "amen," while the inquiring philosopher or theologian will inquire, "why?" However, to the scientist, the first two chapters of Genesis beg the question, "how?" Since the church believes that Christ was intimately involved in the act of creation and is currently involved in its redemption and restoration, then every effort to explore how the created order functions will confirm God's handiwork and majesty in creation. The function and order of creation leads to a posture of worship unto the One whose mind imagined the universe before its existence. To explore the created order is to explore the mind of God Himself. As Duane Litfin puts it, "*everything* we discover—whether about chemical compounds, or our own DNA, or the human mind, or the universe itself—is an insight into the mind of Christ."[7]

Up until the nineteenth century, the church actively supported the pursuit of understanding how God created the heavens and the earth, as well as how he designed the creation to function and flourish. Religion and scientific exploration served complementary purposes. For centuries, the church commissioned scientists to investigate the mysteries of the universe so that they may shed light on the grandeur of

[7] Duane Litfin, Conceiving the Christian College (Grand Rapids: Eerdmans, 2004): 162.

God's created order.[8] From the middle ages into the Renaissance period, theology served as the "queen of the sciences," wherein it was the disciplinary lens by which to interpret other disciplines. As a result, scientists possessed a deep reservoir of theological and philosophical knowledge that enabled them to interpret empirical findings and situate such findings into a cohesive framework. This deep well of knowledge enabled scientists to even compose works of rigorous theology. One such thinker was Hugh of St. Victor, who firmly believed that nature was a handbook written by the living God. For Hugh, every scientific discovery testified to God's handiwork in creation and strengthened the witness of Scripture.[9] Apart from his own contributions to science, Hugh also penned works of theology and exegesis, including *On the Sacraments of the Christian Faith* and *Commentary on Ecclesiastes,* among others.[10]

Another thinker along this vein was Thomas Bradwardine, also known as *Doctor Profundus* ("profound doctor"). Bradwardine was the epitome of the "renaissance man," having contributed in the areas of science, physics, mathematics, and theology. His work *Tractatus de Proportionibus Velocitatum in Motibus* ("Discussion on the Ratios of Speeds in Motion") tested time-honored theories of celestial motion and called into question the notion of atoms, though we now know that his theory was wrong.[11] Alongside his strong contribution to the sciences, Bradwardine was a capable theologian. Ascending to the rank of Archbishop of Canterbury, Bradwardine is often considered a forerunner of the Reformation as he celebrated the theology of grace and championed the supremacy of Scripture.

Case in Point: Robert Boyle

Perhaps the best example of a Christian scientist who readily engaged in matters related to science and theology during this time was Robert Boyle, often considered the father of modern chemistry. Boyle's achievements include the articulation of "Boyle's Law" relating to the volume of gas, the formalization of the scientific method, and the popularization of science. He authored a plethora of books that advanced new developments in science, and was known as one of the leading scientists of his day. Boyle was also a devout Christian; He learned ancient languages in order to read the

---

[8] For a broad scope of the history of science and religion, The History of Science and Religion in the Western Tradition: An Encyclopedia, ed. Gary Ferngren (New York & London: Routledge, 2000) remains a top resource on the issue. While the Roman Catholic Church (RCC) has been a long-term patron of scientific endeavors, there are moments in its history where church leaders were at odds with scientists. For more information on this, consult Don O' Leary's monumental work, Roman Catholicism and Modern Science: A History (New York: Bloomsbury Academic, 2007).

[9] Boyd Taylor Coolman, The Theology of Hugh of St. Victor: An Interpretation (Cambridge: Cambridge University Press, 2010); Paul Rorem, Hugh of Saint Victor. (Oxford; New York: Oxford University, 2009);

[10] Franklin Harkins, Reading and the Work of Restoration: History and Scripture in the Theology of Hugh of St. Victor (Brepols, 2009).

[11] Dan Graves, "Thomas Bradwardine (c. 1290 – 1349): Student of Motion," in Scientists of Faith: Forty-eight biographies of Historic Scientists and their Christian Faith (Grand Rapids: Kregel, 1996): 29-32.

Bible in its original form, donated large sums of his income to help impoverished farmers, began each day with prayer, and supported Bible translations that could bring the gospel to unreached people groups. Boyle firmly believed that Christianity and science were compatible, and that science testified to God's handiwork in creation. He writes,

> When with bold telescopes I survey the old and newly discovered stars and planets when with excellent microscopes I discern the unimitable subtility of nature's curious workmanship; and when, in a word, by the help of anatomical knives, and the light of chymical furnaces, I study the book of nature I find myself oftentimes reduced to exclaim with the Psalmist, How manifold are Thy works, O Lord! In wisdom hast Thou made them all![12]

Elsewhere, in an essay entitled, "The Excellency of Theology, Compared with Natural Philosophy," Boyle exclaims, "The vastness, beauty, orderliness of heavenly bodies; the excellent structure of animals and plants; and other phenomena of nature justly induce an intelligent, unprejudiced observer to conclude a supreme, powerful, just, and good author."[13]

Boyle believed that science served as a means to worship the Creator and gaze into His mind and attributes. One of the last books he wrote was *The Christian Virtuoso* (1690), in which Boyle explored the relationship between science and religion and detailed his life as a Christian scientist. He believed that nature served as the temple of God, and the scientist was its priest. Boyle described his understanding of God to be that of a "clockmaker" who creates the world and then leaves it alone, a view championed by the deists of the 19th century. Davis concludes, "The Christian virtuoso, said Boyle, was to be known for personal honour and trustworthiness; devotion to one's work as a divinely ordained vocation, even a religious duty; and reliance on the testimony of nature, not human opinion."[14]

Boyle also proved himself to be a capable theologian, having authored numerous works of a theological nature, some of which were not related to his vocation as a scientist. In *Of the high Veneration Man's Intellect owes to God, peculiar for his Wisdom and Power* (1684), Boyle argues that the mind of God is superior to the mind of humans, considering the fact that God is the creator of even the most intelligent humans. Other works, such as *Some Considerations touching the Style of the Holy Scriptures* (1661), and *Discourse Of Things Above Reason, Inquiring Whether a Philosopher Should Admit there are Any Such* (1681), examine biblical genres and philosophical approaches to reason. Boyle's status as a theologian *par excellence* garnered him an invitation to serve as a bishop in the Church of England. Boyle declined the offer, as he believed that his primary calling was as a scientist. In his will, Boyle endowed a series of lectures on science and religion. The specific aim of such lectures was to promote the Christian faith over against

---

[12] Robert Boyle, Seraphic Love, 1660.

[13] Robert Boyle, The Excellency of Theology, Compared with Natural Philosophy," 1665.

[14] Edward Davis, "Robert Boyle's Religious Life, Attitudes, and Vocation," Science and Christian Belief 19 (2007): 137.

other religions and challenges to the Christian faith from science. The lectures were held every few years from 1692 until 1965 and were revived in 2004.

Faith, Science, and Youth Today

Since the modern period, however, there has been consistent friction between science and religion. Owen Gingerich writes that "The relationship between the arena of science and the religious domain has been tense going back to the time of Galileo and beyond, but it has been particularly fraught in the twentieth-century America, with issues relating to the age of the cosmos and the rise of life on earth."[15] The late Harvard scientist Stephen Jay Gould believed that science and religion occupied two separate "magisteria," wherein the two, possessing their own language, structures, and goals, should not interact with one another (he labeled this "non-overlapping magisteria," or "NOMA").[16] However, as Gingerich has pointed out, science and religion have been in conversation since their origins as disciplines in the academy.[17] A litany of science and religion textbooks have lent credence to Gingerich's claim and encouraged dialogue between the two disciplines, particularly on the part of evangelicals related to the age of the earth and evolutionary theory.[18]

As one can imagine, religiosity among scientists both in the academy and workplace differs from that of the general public. While 83% of the general public profess a belief in God, only 33% of scientists do so. In addition, 12% of the general public believe in a "universal power," while 18% of scientists do so. While only 4% of the general public don't believe in either God or a higher power, 41% of scientists surveyed do not believe in either. As we can see, the differences are rather disparate. However, when we zero in on the difference between the general public and scientists in terms of religious affiliations or labels, the difference becomes more drastic. The largest population of the general public identifies as Evangelical Protestant (28%), while only 4% of scientists adopt

---

[15] Owen Gingerich, in God's Planet (Cambridge, MA: Harvard University Press, 2014): 3.

[16] Stephen Jay Gould, Rock of Ages: Science and Religion in the Fullness of Life (New York: Ballantine Books, 1999). While his proposal is met with criticism from religious scholars, surprisingly, New Atheists such as Richard Dawkins have vigorously critiqued him. For his critique on the matter, see Dawkins' "When Religion Steps on Science's Turf," Free Inquiry 18(2).

[17] Gingerich, God's Planet. In order to demonstrate that science and religion have always enjoyed a tangled relationship, Gingerich explores the circumstances regarding the work of Copernicus, Darwin, and Hoyle.

[18] Ian Barbour in When Science Meets Religion: Enemies, Strangers, or Partners (San Francisco: Harper, 2000) points out that "the average number of books published per year shown under the library of congress subject heading 'Religion and Science,' tripled from 71 during the 1950's to 211 in the 1990's' (p. 1). While his statistic is obviously dated, a multitude of books on science and religion continue to be published at a high rate.

the label.[19] The gap shrinks when one analyzes the gaps between Catholics and mainline Protestants. We can make a number of assumptions regarding religious self-identification between the general public and scientists, such interpretations are outside the purview of this paper.[20]

While youth in the United States report some of the highest rates of religiosity in the world,[21] youth workers nonetheless struggle to engage them in issues of faith and science. Andrew Root and Erik Leafblad, with a grant from the Templeton Foundation, found that approximately one-third (32%) of youth pastors never teach on scientific issues, while only 13% teach about science at least quarterly.[22] However, these youth workers have at least one conversation related to faith and science with a student each month.[23] 82% of youth workers who teach on faith and science prepare their own lessons, indicating that the resources available are inadequate. I would add that in addition to completely lacking resources, few youth workers possess the knowledge of *how* technically-minded students approach faith. As Root and Leafblad found, while the youth workers they surveyed agree that faith and science need not be at odds, very few (6%) majored in sciences as an undergraduate, and only 59% took the bare minimum of

---

[19] David Masci, "Scientists and Belief," Pew Research Center's Religion Public Life Project RSS. 2009. Accessed September 15, 2016. http://www.pewforum.org/2009/11/05/scientists-and-belief/.

[20] Despite occupying a minority share of the scientific community, some evangelicals have become thought leaders in their discipline. In 2009, President Barack Obama appointed Francis Collins, an evangelical, as the director of the National Institute of Health. Collins, former director of the Human Genome Project and author of the best-selling The Language of God (New York: Free Press, 2007) is outspoken about his evangelical convictions, as they shape his approach to science and worldview. His appointment as director of the NIH was met with sincere praise from many in the scientific community. Elaine Ecklund, who conducted a national study on the religiosity of STEM professors, labels Collins as among the few who are "boundary pioneers," those scientists who have successfully "reconciled" their discipline with religion (Science vs. Religion: What Scientists Really Think, 46). The ability to reconcile the two is viewed positively by the scientific community, despite the low levels of religiosity some of their colleagues espouse. Regarding an evangelical like Collins, Ecklund found that no scientist she interviewed had anything negative to say about him. She concludes that this is most likely because Collins is a scientist of the highest caliber, and therefore commands the respect of those in his professional community. She writes, "Collins' respected scientific identity ushers in acceptance of his religious identity. Even his public endorsement of religion is received well by scientists because of his legitimacy within science" (Science vs. Religion, 47). By contrast, however, Ecklund writes that scientists "would not have nearly as much respect for a Christian pastor who spoke at their university about how science and religion might be compatible" (Science vs. Religion, 47).

[21] Laura H. Lippman and Hugh McIntosh, "The Demographics of Spirituality and Religiosity Among Youth: International and U.S. Patterns," Child Trends Research Brief 21 (Spring 2010): 5-6. This publication provides a summary of research projects from the National Study on Youth and Religion, Spirituality and Higher Education, and the Monitoring the Future Study.

[22] Andrew Root and Erik Leafblad. "Youth Leader Survey." Science for Youth Ministry. 2015. Accessed September 15, 2016. http://scienceym.org/youth-leader-survey/.

[23] Root and Leafblad, "Youth Leader Survey."

science requirements for their degree(s).[24] While we can look upon these statistics as negative, they are rather symptomatic of the current fractured landscape of the faith-science divide.

Guy Consolmagno on How the Scientifically-Minded Make Sense of Religion

In order to bring scientific engagement into youth ministry, we must begin by understanding how our scientifically-minded youth make sense of faith-science issues. Guy Consolmagno, a member of the Society of Jesus (Jesuits), is an astronomer with the Vatican fortified with degrees from the Massachusetts Institute of Technology (MIT) and Arizona State University (ASU). He frequently writes on his exploits as an astronomer at the Vatican, and explores some rather interesting issues of faith and science.[25] In *God's Mechanics: How Engineers and Scientists Make Sense of Religion*, Consolmagno explores how the technically-minded integrate religion into their understanding of science.[26] For Consolmagno, in order to talk theology with a "techie," one must first understand the particular attitudes and orientations of the technical mind--an endeavor which few pastors or religious educators have undertaken. Consolmagno writes,

> Indeed, to people who don't understand the scientific or engineering mind-set, the questions a techie would ask and the techie manner of asking them can often sound threatening or dismissive, even though such questions are nothing of the sort. . . To the extent that there is still a rift between science and religion among my fellow scientists and engineers, it's because most religion teachers and writers are woefully inept at explaining religion in terms that make sense to a techie. Certainly, this is true of most of our Sunday school teachers![27]

Thus, those who seek to speak spiritual truth to the technically-minded must first understand how the technical mind works. This is especially true when it comes to engaging science in youth ministry. For Consolmagno, the classic adage, "seek first to understand, then to be understood" rings true.

Consolmagno demonstrates that the technically-minded have a need for understanding truth that is grounded in factual reasoning. They have little interest in participating in something that cannot be tested. He writes,

---

[24] Root and Leafblad, "Youth Leader Survey."

[25] Among his many works are Brother Astronomer: Adventures of a Vatican Astronomer (McGraw-Hill 2000) is his most recent, entitled, Would You Baptize an Extraterrestrial . . . and Other Questions from the Astronomers' Inbox at the Vatican (Image, 2014).

[26] Guy Consolmagno, God's Mechanics: How Engineers and Scientists Make Sense of Religion (San Francisco: Jossey-Bass, 2007).

[27] Consolmagno, God's Mechanics, 3.

> First of all, we always recognize that we could be wrong. Logic can be flawed. . . Next, we allow our beliefs to be tested by results. If we get an answer that works, it confirms our trust in the data, and it strengthens our perceptions the next time we're looking for a hunch. We all our beliefs to be confirmed by our experience. And finally, we're a whole lot more comfortable with our results if there is more than one line of evidence leading to the same conclusion.[28]

For techies, it is important that these facts be verified by trustworthy resources. Science is a communal discipline that relies on the peer-review of others to ensure quality, objectivity, and accurate interpretation. As Consolmagno points out, the technically-minded are more interested in discovering the correct answer than stroking their own egos.[29] This same dedication to the scientific method and subsequent verification by the scientific community can be applied to questions of faith. As Consolmagno writes, "the same techniques can be applied by a scientist or engineer to understanding what God is or at least what God might be. The techie credo is to keep an open mind but trust your common sense. Compare what you hear with what you've actually experienced of how the universe works."[30] Thus, techies seek truth in the form of rational facts and solutions that have been verified through the scientific method and supported by the broader scientific community at large.

The technically-minded tend to be pragmatists as well; the theoretical needs to be tangible and functional. Speaking of the idea of religion, Consolmagno writes, "But a techie might well ask, is there any evidence that this God, should it exist, wants any interaction with the created universe, with inhabitants of Earth, or with me in particular?. . . Is there something I'm supposed to be doing here?"[31] Religion *must* be responsive because that is what *makes sense*. If God is the creator of the universe, then he must be expecting some response from his creation.

> And even if there is something I should be doing, why should I need religion to do it? Why do I need to involve anyone or anything else in order to be in a relationship with the transcendent?. . . What is the function of an organized religion? And how well do the ones out there perform that function?[32]

---

[28] As he says, "It is illogical to assume that you're always smarter than everyone else (even if, alas, it's an all-too-common techie failing)" (God's Mechanics, 17).

[29] Consolmagno, God's Mechanics, 1

[30] Consolmagno, God's Mechanics, 17.

[31] Consolmagno, God's Mechanics, 47.

[32] Consolmagno, God's Mechanics, 47.

For the techie, religion should serve a functional purpose. If it does not, it is not worth pursuing, nor is it worth engaging on any serious intellectual level. In theological terms, to the techie, if God "doesn't want to engage with us, our reasons for believing in him are useless."[33] In other words, if God is a "clockmaker" who created a universe that governs itself while he removes himself from involvement in His creation, then any attempt to reach out to him is futile, as he has not made an attempt to reach out to us. He may be a "Creator" but he would be far from a "Father."

Consolmagno summarizes the purpose of religion for techies (in general), by noting that its purposes are "to record and systematize our collective experience of the transcendent; to help us recognize and make sense of it; and to give us something we can do to participate in it while avoiding its dangers."[34] This approach to understanding religion is certainly rooted in the need for the rigid structure and order that often characterizes the technically-minded. The natural implication of this religious approach is the tendency for the technically-minded to understand religion as inherently *legalistic*, reducing religion to a set of rules and regulations to embrace. Consolmagno writes,

> Given [techies'] 'how does it work?' functional mindset, what a religion is can become equated with what a religion does. And if the only thing we see religion doing is presenting a set of rules and regulations, a technically oriented person might think that the sum total of belonging to a religion is learning the rules and following them.[35]

The logical outflow of this tendency then is the belief that salvation can be attained simply by following the rules and regulations set forth by a religion. Failing or succeeding in living up to the standards of a religion leads to either judgment of others or judgment of oneself. Both are wrong and operate under the false assumption that religion automatically entails legalism. In ministering to and with techies, we must take every opportunity to say that the Christian faith means embodying the Gospel of Jesus Christ through many rich avenues, and not simply through rule-following. For Consolmagno personally, science provides him an avenue to understand God's creation, and as a result, grow closer to God Himself.

> In creation, I see a Creator who loves to produce amazing complexity from the interplay of a few simple rules. . . And I see a creator who puts a high value on elegance and beauty. There have been, I'd guess, a hundred thousand images returned by the Hubble space telescope; I don't know a single one that's ugly."[36]

---

[33] Consolmagno, God's Mechanics, 49.

[34] Consolmagno, God's Mechanics, 51.

[35] Consolmagno, God's Mechanics, 73.

[36] Consolmagno, God's Mechanics, 170.

To summarize, according to Consolmagno, techies are fact-driven pragmatists who desire a religion that makes sense of the world and everything in it, and requires an embodied response. While the tendency of some technically-minded youth would be to view religion as an antiquated exercise in seeking to answer the questions that science has already solved, religion can play an important role in the lives of the technically-minded. Youth interested in faith-science issues approach the topic with great curiosity, and as youth workers, it is imperative that not quash their curiosity but encourage it.

Scientific Engagement in Missional Youth Ministry

Youth workers are the primary shapers of a church's youth ministry culture. The priorities, passions, and vision of youth pastors often dictate the shape of the ministerial culture. If youth workers are to minister well with technically STEM-minded students, the dominant ecclesial culture must be one that welcomes questions related to how science and theology interact with an aim toward sharing the gospel. Not because science is an inherently good endeavor, but because it leads the technically-minded to understand God and share their understanding with others. Duane Litfin writes, "As Christians, we do our chemistry with a deep reverence for what we study, not merely because it is fascinating and important in its own right, which it is, but because it is the craftwork of our Savior and Master."[37] Conversations that perpetuate the cultural gap between science and religion should have no place within the church, for the same One who raised Christ from the dead is the one who created the heavens and the earth, and desires for his people to know Him better in every way. For centuries, this is how the church understood the scientific task.

How can we birth a missional youth ministry culture supportive of science-related questions and those students who are interested in them? Deborah Haarsma, who served as co-director of The Ministry Theorem, a project at Calvin Theological Seminary in Grand Rapids, from 2008 to 2012, posits four primary practices that pastors and ministry leaders should engage in to foster a science-friendly congregation. First, pastors should inform their congregation that there is more than one Christian perspective on the origins of life. Second, pastors need to articulate evolution is not the only scientific issue that the church should be exploring. Other issues such as climate change, bioethics, and appropriate use of technology should be considered in theological perspective.[38] Third, "It is essential to balance such conversations [about evolution and science] with positive

---

[37] Litfin, Conceiving the Christian College, 160.

[38] Colin Gunton, in The Triune Creator: A Historical and Systematic Study (Grand Rapids: Eerdmans, 1998), writes "The created order comes from the gracious hands of God; it is good, but participates in different ways in the structures of fallenness. As God's project, it is upheld and directed by him while those made in his image are placed in such a relationship to the world that they are called to play some part in its perfecting. What constitutes the proper perfecting of any particular created being is not clear, and subject to much argument" (229). Congregations can and should wrestle with how they should relate to the created order and participate in its "perfecting." STEM professionals can serve as guides in these endeavors.

responses to God's creation," such as singing creation hymns and referring to scientific developments in sermons and lessons.[39] Finally, we must remember that a love of science is more "caught than taught." Thus, youth workers should be encouraging capable young people to pursue scientific vocations.

There are several congregations in the United States and abroad who exemplify a science-friendly ecclesial culture. In 2011, the John Templeton Foundation funded Scientists in Congregations, an initiative aimed at fostering the dialogue between science and theology in 35 local churches in the United States, Canada, and France. These congregations have creatively formed ecclesial cultures which catalyze the dialogue between science and Christianity in ways unique to their cultural locations. For instance, not only did First Presbyterian Church of Boulder, Colorado seek to build relationships among those STEM professionals in their congregation, they also built inroads among STEM professionals in the Boulder community through adult education initiatives, conferences, and luncheons. Another congregation, Trinity Lutheran Church in Moorhead, Minnesota implemented curriculum designed to educate all of their members, Kindergarten through adults, in matters of science and Christianity.[40] These congregations serve as exemplars to other congregations desiring to form an ecclesial culture that regularly dialogues on matters related to science and faith.

Speaking of his experiences in the Scientists in Congregations project, Greg Cootsona, a pastor in Chico, California, writes of an encounter he had with a graduate student in the sciences:

> Among the enthusiastic attendees was a member of our church and graduate student at the University of California at Davis—which is about 100 miles from our church in Chico—who drove to the conference in order to hear how faith and science relate. She came bounding up at the end of one talk, saying: "This is great stuff, and these are issues I'm wrestling with. Why don't you bring more of that material into the pulpit?" As I walked off, I wondered to myself, "Why don't I? Why have I resisted bringing these insights into my ministry as a pastor?"
>
> I realized that the two responses I once would have given no longer applied. I wasn't always sure I had the right answers, and I was afraid most people wouldn't be interested in hearing them. Now I know that the interest is there—inside and outside the church. And we don't have to have perfectly produced solutions—we just have to start the conversation. A whole lot of "nones" are waiting.[41]

---

[39] Deborah Haarsma, "Engaging Science in the Life of Your Congregation," BioLogos Forum, accessed July 1 2015. http://biologos.org/blog/engaging-science-in-the-life-of-your-congregation.

[40] "Model Churches." Scientists in Congregations, accessed July 7, 2015. http://www.scientistsincongregations.org/model-churches/.

[41] Greg Cootsona, "When Science comes to Church" Christianity Today Online, accessed July 8, 2015. http://www.christianitytoday.com/ct/2014/march-web-only/when-science-comes-to-church.html

While the prospect of delving into the thorny debate between science and religion can be daunting for some youth pastors, the evangelistic and missional opportunities abound. While in our colleges and seminaries we describe the sociocultural shift from modernity to postmodernity and how it has impacted our churches, we forget that the primary voices of New Atheism (Sam Harris, Richard Dawkins, and the late Christopher Hitchens) are essentially modernists who see little reasonable evidence for theistic belief. As modernistic tendencies abound, youth workers must be able to engage students whose interest in the sciences has led them to an agnostic or atheistic position. As Haarsma writes, "Minor technical errors made in good faith are forgivable, but a sermon that argues that mainstream science is wrong on some point can be devastating" especially to students interested in pursuing careers in the sciences.[42]

Intellectual Encouragement

As mentioned previously, Christians are a minority in STEM fields. Therefore, the need to encourage STEM-oriented students in their vocational pursuits becomes all more apparent to the youth worker. Historian Michael Hamilton perceives that Christians engaging in STEM disciplines rarely receive encouragement in their pursuits. While this could be attributed to the perception that the goal of rigorous scientific research directly challenges Christianity, a primary reason is most likely a lack of appreciation for how God's creation functions and how scientific pursuits can be an act of worship. Grounding the need for intellectual encouragement in the sovereignty of God, Hamilton writes,

> We need to encourage Christians to study things that have no apparent connection to Christianity. We need to give them Christian reasons for studying the chemical processes of algae growth, or methodology of interpreting Babylonian pottery shards, or hunter-gatherer kinship patterns. Why? Because it just may be that God has called them to the task, for reasons only he knows, and for outcomes one he can foresee.[43]

It is the task of the evangelical scientist or engineer to explore the contours of God's creation and how it works. This is the way that they steward their gifts, such as the way an exegete stewards his linguistic skills when he interprets Scripture, or when a violinist flawlessly performs a Paganini solo to the glory of God. However, youth pastors bear the responsibility of empowering those gifted in particular skills or disciplines to pursue vocations where they can exercise their gifts and talents regularly.

Involving Practitioners in the Educational Ministry

---

[42] Haarsma, "Engaging Science in the Life of Your Congregation."

[43] Michael Hamilton, "Reflection and Response: The Elusive Idea of Christian Scholarship," Christian Scholar's Review 31, no. 1 (Fall 2001): 21.

A key way to reach out to youth interested in the sciences is to involve STEM professionals in youth ministry. STEM professionals are naturally oriented toward intellectual pursuits, and involving them in educational ministries enables them to participate in the life of the church through sharing and discussing topics they enjoy researching and studying. In addition, STEM professionals can "inspire" students to pursue a career in the sciences while maintaining a critical, vital, robust faith.
In a society that spreads toxicity between religion and science, STEM professionals in the church can become the "boundary pioneers" of their congregation, as they are open about their ability to harmonize their religious devotion with their chosen vocation.

STEM professionals can play a role in students' understanding of scientific issues and their relationship to the Christian faith. Since matters of science and religion often come to the fore in public life such as the teaching of intelligent design in public schools or embryonic stem cell research, STEM professionals in the church have can dispel myths that often surround these controversial topics and speak truth into the lives of students.
Involving STEM professionals in apologetics presentations or curriculum development also signals to scientifically-minded students that their vocational giftings and Christian faith are highly compatible.

One of previously mentioned Templeton-funded congregations, Berkeley Covenant Church, developed a course entitled "Considering God's Word: Exploring the Interface between the Christian Faith and the Natural Sciences," co-taught by pastors and resident scientists.[44] The syllabus for the course notes that

> With the help of the ever-attentive eyes of the natural sciences we will explore the majesty of the material reality that God has created and continues to create. Learning what science is and is not, we will discover how theological and scientific truths interrelate, and how specific areas of scientific knowledge interact with, challenge, and uphold key areas of Christian belief.[45]

Teaching through a series such as this in the local church could serve as an example to young people traditional dichotomies that society perpetuates are false, and that to have a robust faith means to integrate faith with intellectual pursuits, especially STEM disciplines.

Over time, involving STEM professionals in educational ministry can serve to foster a youth ministry culture keen on understanding the relationship between science and religion, as well as how the church can respond to scientific developments in our society.

---

[44] "Berkeley Covenant Church." Scientists in Congregations, accessed July 7, 2015. http://www.scientistsincongregations.org/model-churches/berkeley-covenant-church/. Note how this was part of 3 phases of integration the church experience in forming a science-friendly ecclesial culture.

[45] Joshua Moritz "Considering God's Word: Exploring the Interface between the Christian Faith and the Natural Sciences," (Syllabus, Berkeley Covenant Church), accessed July 5 2015. http://www.scientistsincongregations.org/media/4-Berkeley%20Covenant%20Church%202-Syllabus-CGW.pdf

Moreover, this can lead a positive witness in our communities, as the church can reposition itself to be a community of people who seek to integrate scientific knowledge with biblical faith, as opposed to perpetuating false dichotomies. As churches describe the beauty and complexity of the created order that testifies to the One who brought everything into existence, people will need to respond to what they have seen. As William Dyrness writes, "Observation and analysis will remain essential because scientific knowledge has intrinsic value, but they alone will not be enough. The student will be called to *respond* to nature as well as understand it; indeed, the one will not be finally possible without the other."[46]

Engaging the Rational and Delightful Aspects of Christian Faith

As Guy Consolmagno has noted, the scientifically-minded possess a strong orientation to understand the mechanics of religion and understand its usefulness and practicality. Thus, in ministering to and with them, youth workers need to articulate the rational dimension of the Christian faith. It is not enough to believe on blind faith in the existence of God or the resurrection of Jesus Christ. Scientifically-minded youth need to understand the rationales that undergird these beliefs and practices. In teaching and ministering with them, claims to truth must be grounded in reality and in logic. Otherwise, Christianity loses its credibility as a religion that "makes sense."

This can take the form of discussing apologetics and the science that supports the truth of the Christian faith. However, demonstrating the philosophical and logical reasons for Christianity may make the more compelling case. The work of ancient thinkers such Origen, Tertullian, Augustine, Anselm of Canterbury, and Thomas Aquinas, as well as modern thinkers such as Alvin Plantinga and William Lane Craig become all the more important when discussing matters of faith with scientifically-minded students. Their arguments (tailored to the developmental phase of youth) can serve as a means to demonstrate the rationality of Christian belief toward religiously skeptical youth and and scientifically-minded Christian youth seeking to strengthen their witness among their peers.

It is then incumbent upon the youth worker to engage the philosophical and scientific arguments on why one should hold to the Christian faith. Gerald Hiestand and Todd Wilson contend that a pastor should not function as an academic specialist but rather a pastoral generalist.[47] They write, "Like their academic counterparts, ecclesial theologians have a focus, an area of expertise. . . But as a pastor, there is a need for the ecclesial theologian to broader beyond any one particular area of expertise."[48] This entails knowing and understanding a myriad of theological disciplines--Old Testament,

---

[46] William A. Dyrness, "The Contribution of Theological Studies to the Christian Liberal Arts," in Making Higher Education Christian: The History and Mission of Evangelical Colleges in America, ed. Joel A. Carpenter and Kenneth W. Shipps (Grand Rapids: Christian University Press, 1987): 178.

[47] Gerald Hiestand and Todd Wilson, The Pastor Theologian: Resurrecting an Ancient Vision (Grand Rapids: Zondervan, 2015): 96-97.

[48] Hiestand and Wilson, The Pastor Theologian, 96.

New Testament, systematics, pastoral theology, etc.--and being "motivated to synthesize and issue prophetic calls."[49] I would add apologetics and philosophy to this array of disciplines youth pastors should embrace. Youth workers, in an effort to minister to skeptical students, need to saturate their ministry, especially their preaching and teaching, in logical reasoning, demonstrating the "why" of Christian faith.

As Consolmagno has shown us, religion must be more robust and richer than simply "following the rules." Despite a proclivity toward technicality and objectivity, we should not view technically-minded youth as solely rational beings devoid of experiencing great beauty or emotion. Putting forth an alternative theological anthropology, James K.A. Smith perceives of people primarily as *lovers* first, and *thinkers* second.[50] Smith proposes that Christian practices, those activities that Christians exercise over time that shape their ways of being and orient them toward a *telos*, actually serve to shape our affections. Therefore, "we are what we love." For the youth interested in science, practicing science serves as a means to love and worship the Creator. Karl Giberson, describing the jubilation that comes with exploring the science of creation, writes, "My belief in God provides a framework for this celebration. In some way that I cannot articulate, I praise God for each new day, dimly aware that I am sharing the experience with the artist who put it all in place and put me here to enjoy it."[51] Andy Crouch writes of the sense of worship and awe that scientists, both Christian and none, experience in their work.

> To be sure, many if not most scientists do not see this wonderful world in the way that most Christians would hope for. For us, wonder is a stepping-stone to worship — ascribing our awe for the world to a Creator whose worth it reveals. For many scientists, wonder is less a stepping-stone than a substitute for worship. Yet they stop and wonder all the same.[52]

The youth worker carries the responsibility of imparting wisdom, insight, and excitement to those under their care. This is especially true when working with students who are especially gifted in the sciences and anticipate a career in a STEM field.

Conclusion

While the cultural gap between science and religion will continue to increase, youth ministry can function as a space where science and faith do not compete, but

---

[49] Hiestand and Wilson, The Pastor Theologian, 97.

[50] James K.A. Smith, Desiring the Kingdom: Worship, Worldview, and Cultural Formation (Grand Rapids: Baker, 2010).

[51] Karl Giberson, "The Beauty of Being a Scientist and a Christian," The Huffington Post, accessed July 6 2015. http://www.huffingtonpost.com/karl-giberson-phd/the-beauty-of-being-a-sci_b_546062.html

[52] Crouch, "What I Wish My Pastor Knew."

complement one another in revealing who God is. Youth workers bear the responsibility of empowering their Christian students to pursue a STEM profession, and drawing skeptical youth in with a message that brings faith and science together. More work needs to be done in this area. I think of the many students our ministries may have inadvertently turned away because we have embraced apathy or plain rejection of science in our teaching. As we move forward in this area, our focus must continually be on reaching students with the life-changing power of the gospel, for the same Lord who designed the invisible inner-workings of the atom also designed us to find our ultimate joy, satisfaction, and fulfillment in Him.