

## Young Scientists' Corner

### Knowledge and Loving God: Reflections on Faith and My Graduate Experience

By Johnny Lin, ASA Student Member, [jlin@alumni.stanford.org](mailto:jlin@alumni.stanford.org)  
3637 Clarington Ave #204, Los Angeles CA 90034



When asked at dinner parties about my job, I reply that I am a sixth-year Ph.D. student in atmospheric sciences at UCLA, working on theoretical models to help explain tropical climate variability on time scales of a few months. "Stuff like El Nino, but quicker," I say. This is usually enough to end the conversation, unless the person I am talking to happens to be curious about tomorrow's weather. We graciously move on to other topics, with the assumption that I reasonably enjoy whatever it is that I do.

Of course, the "rest of the story" is more complicated, for the most exciting aspect of my time in graduate school has been the way God has worked to draw me closer to himself. However, in this testimony of what God has done for me, I would like to do something a little different. Instead of describing my entire spiritual journey from my conversion as a child, or even describing the spiritual lessons God has taught me while in graduate school, I would like to focus particularly on how God has used the acquisition of knowledge during my graduate studies to "grow me" spiritually. Knowledge, in and of itself, is enriching. But God has also been using knowledge to draw me deeper into worship, to help move me from certainty to faith, and to teach me to exchange control for patience. By focusing on how God has used my studies to help change me, I hope to offer at least some small encouragement that our intellectual labors may also bear spiritual fruits.

#### Knowledge

Some say that the purpose of a graduate education in the sciences is to learn how to learn. Primarily through hands-on experience with an advisor's coaching, a graduate student learns what questions are worth asking, what qualifies as a believable demonstration of an idea, and what level of perseverance is required en route to a publishable result. At the end, the student has learned how to work as a scientist.

While this may be true, there is more. My advisor at Stanford University, where I did my first masters degree, once told me, "When you're an undergraduate, you don't know enough to know you don't know anything. It's only once you've become a graduate student that you learn enough to know that you don't know anything." Graduate school teaches perspective, a sense of the limits of what one knows.

Sometimes this comes through humiliation, when in conversations with your advisor you repeatedly wonder, "Why didn't I remember reading that?" Or sometimes this comes through frustration, when months fly by with cells repeatedly dying, or with computer programs repeatedly going unstable. And finally, sometimes the limits of what one knows come from realizing how ad hoc and incompletely we currently understand the creation.

But more fundamentally, the graduate experience teaches perspective not through ignorance, but through knowledge. Knowledge provides the food that nourishes perspective. This is a bit paradoxical, given that we often see knowledge as the root of arrogance; indeed, it often is. Feelings of humiliation, frustration, and surprise may help control tendencies toward pridefulness. There is, however, another level in which we cannot have a healthy sense of limits without a robust base of knowledge. Recognition of the limits of what you know requires recognizing both what is inside, as well as outside, the limits.

Thus, over the last five years of graduate work, what I have most appreciated about the academic life has been the freedom to gain knowledge—not to just lap it in, but to slurp it down in large gulps. This has occurred not just in the atmospheric sciences, but also in a variety of other fields of study, including theology, poetry, business, and history. In some of these areas, like business, the learning was formalized through course work. In others, I just read books. Although the breadth of my graduate experience might be unlike the experience of others, the focus on gaining knowledge is probably not. The knowledge that I gained has yielded a harvest of perspective.

*... the graduate experience teaches perspective not through ignorance, but through knowledge.*

### Worship

While knowledge has helped me gain perspective, it has also been used by God to help "grow me" spiritually. God has used knowledge to lead me deeper into worship. Often, we in the sciences talk about how our study of the creation gives greater testimony of the grandeur of God. "For since the creation of the world," says Paul to the church in Rome, "God's invisible qualities—his eternal power and divine nature—have been clearly seen, being understood from what has been made."<sup>1</sup> My mind has long accepted this idea; only recently, through the knowledge from my studies, has this hit me at the level of awe.



*Johnny Lin graduated from Stanford University with a B.S. in Mechanical Engineering and a M.S. in Civil Engineering – Water Resources. After working for two years as an environmental engineer, he returned to school to pursue a Ph.D. in Atmospheric Sciences at UCLA, where he is currently a sixth year graduate student studying tropical climate variability. Having grown up in Seattle, he appreciates the sunshine in LA, but misses the presence of green plants. When he is not lamenting the lack of certainty in his world, he enjoys eating a double scoop of daiquiri ice and French vanilla ice cream from Baskin-Robbins.*

4 Dec

*God has used  
knowledge to lead me  
deeper into worship.*

Earlier this year, I taught a physical science class for nonscience majors at Biola University. During the unit on astronomy, we saw the video, *Power of 10*,<sup>2</sup> which uses microscope imagery, satellite imagery, and animation to show the different structures in the universe ranging from the components of a carbon nucleus to galaxy clusters. In the span of a few minutes, the film moves through some forty orders of magnitude of scale. As an undergraduate, I had seen this video in my introductory physics class, and had enjoyed it. Seeing it again, my response was quite different. I was literally shaken by awe. At the end of the film, I felt drained of energy, and would have collapsed to the floor if I did not feel it unseemly. I was in awe of God and his incredible power, because I understood, with a knowledge I did not have as an undergraduate, what each of those orders of magnitude in scale meant. "Oh, the depth of the riches of the wisdom and knowledge of God!"<sup>3</sup> The impact of this awe continued with me for several hours after class. Through the knowledge base I had gained beforehand, God deepened and enriched my experience of his glory.

### Faith

I grew up in a conservative, moderately fundamentalist church. I feel privileged to have experienced the leadership of pastoral staff persons who were, and still are, devoted followers of Christ. But, as is characteristic of a more fundamentalist culture, I do not remember much discussion of the role of uncertainty and mystery in faith. This suited me just fine, since I have always had an allergic reaction to uncertainty. I want to be sure. Throughout my early undergraduate days, this showed itself in a desire to master logical demonstrations of God's existence to form a lock-tight case for faith. On the positive side, this desire for certainty pushes me to be more conscientious in my work. On the negative side, sometimes it makes me quite inflexible.

God has been helping me break my addiction to certainty by drawing me instead to rest deeper in faith. On one level, the two do not contradict. We have trust in our Savior because we are confident he has risen from the dead. Yet, on another level, certainty poisons faith. Certainty demands that an infinite God fit into categories a finite human being can grasp and understand. Certainty saps the ability of the heart to say, "not my will, but yours." To marry trust, one must first be a widow of certainty.

Curiously, God has used knowledge as an antidote for my need for certainty. As the years have passed, one of the recurring themes in my studies is a vision of the world as incredibly complex. Everywhere I look, I see many levels of activity, each differing in complexity, each not fully explained by their constituent parts. In my field of research, I find that the atmosphere is both inherently chaotic and unpredictable as well as embedded with modes of regularity. There are no simple systems, only a tangle of causes and effects that leads me to regard almost every solution as provisional. I see no easy answers. For some, the response to a world of seemingly contradictory answers is relativism. Is not postmodernism, on one level, an attempt to make sense out of chaos by abandoning any requirement for order? In myself, however, God has somehow used the knowledge of uncertainty to draw me to trust him more. I see chaos and order in-

*Curiously, God has  
used knowledge as an  
antidote for my need  
for certainty.*

tertwinced, and my appreciation of the mystery of God grows. I struggle to find the right solution for a problem, and the intractability of the situation somehow points me to trust God, not just in a fatalistic manner, but to trust him for good. On one level, I find it hard to explain how God uses this uncertainty to draw me to faith. Yet, at the core of my being, it has the ring of truth to it. For it would seem strange if the purpose of God's existence, or that of creation, was to be merely understood.

## Patience

Patience is often associated with inactivity. This is a tragic mistake. Donald McNeill, Douglas Morrison, and Henri Nouwen explain: "True patience is the opposite of a passive waiting ... Patience means to enter actively into the thick of life and to fully bear the suffering within and around us."<sup>4</sup> Why? Because, "patience requires us to go beyond the choice between fleeing or fighting ... patience is a willingness to be influenced even when this requires giving up control and entering into unknown territory."<sup>4</sup> At its heart, patience is deeply connected with surrendering one's authority, the insistence for circumstances to conform to one's will.

Patience of this variety has been somewhat of a rare commodity for me. Even more than one who desires certainty, I am the type of person who desires control. Not so much control of others (although I have had more than my share of problems with that), as much as control of myself. I want all my thoughts and actions to have a reason and purpose, preordained and guided by myself. Why do I feel a certain way? Should I feel that way? How should I react? All this results in a lifestyle of order and analysis, but severely limits spontaneity and joy.

The story of God's work in weaning me from my need to control is a fairly recent one; much of my progress has occurred in the last year or so. It is a complicated story, involving personal traumas, heartache, sorrow, and the crushing of hope. As the details are not that pertinent to the question of how God has used my graduate studies to grow my faith, I leave them for another time.

However, what is pertinent is that the knowledge gained during my graduate studies has drawn me to desire a controlling lifestyle less and to move to engaging life more. Knowledge created conditions making me receptive for God's use of the personal trauma that came to me. Knowledge was the personal trainer that built up the strength I needed when I was suddenly thrust into a race. What happened was this: somehow, through all the reading and learning over the past five years, a space in my heart was slowly and imperceptibly being banged out. By this, I do not mean that I was becoming more compassionate. Rather, I mean that the capacity of my heart to hold "more" was increased. This resulted directly from the uncertainty I have previously mentioned, generated by the growth of knowledge. To properly hold the uncertainty, I had to expand the dimensions of my heart; my heart had to become more accepting. But as a side effect, I found I had more heart available for God to stretch and fill up with himself when the personal problems began about a year ago. I had more heart to enable me to ask God for help to fully enter into the joy and the pain I was feeling. I had more heart to ask him to

*At its heart, patience is deeply connected with surrendering one's authority, the insistence for circumstances to conform to one's will.*

*Knowledge was the personal trainer that built up the strength I needed when I was suddenly thrust into a race.*

4 Dec

*In learning how to love God with my mind, it turns out that God has also been using my mind to show his love to me.*

grow in me a heart of flesh, not of stone. Thus, paradoxically it was "book learning," usually associated with dry intellectualism that helped make this "heart surgery" possible during my time of trouble.

My advisor thinks I can probably finish up by June of next year, so it looks like my days as a graduate student are numbered (knock on wood)! As I reflect on these last five years, and the way God has used my graduate studies to draw me closer to him, I am heartened by how much God sees the boundaries between the various "parts" (heart, mind, etc.) that make up "me" as porous and violate. Instead of compartmentalizing, God appears to use each and every part of my being to work together to "grow me" spiritually. Thus, the knowledge gained through my studies, far from being valuable only for its usefulness in getting me a job, instead has been interconnected with the very core of my person as I grow in worship, faith, and patience. In learning how to love God with my mind, it turns out that God has also been using my mind to show his love to me. \*

### Notes

<sup>1</sup> Romans 1:20 (NIV).

<sup>2</sup> Charles and Ray Eames, *Powers of Ten* (Santa Monica, CA: Pyramid Film and Video, 1978).

<sup>3</sup> Romans 11:33 (NIV).

<sup>4</sup> Donald P. McNeill, Douglas A. Morrison, and Henri J.M. Nouwen, *Compassion: A Reflection of the Christian Life* (New York: Image Books, 1982), 93.

### Books Received and Available for Review

(Please contact the book review editor if you would like to review one of these books. Please choose alternate selections.) Contact Richard Ruble, Book Review Editor, *Perspectives on Science and Christian Faith*, 212 Western Hills Drive, Siloam Springs, AR 72761 or [ruble@tcaineternet.com](mailto:ruble@tcaineternet.com)

C. S. Carnell, *Bright Shadow of Reality: Spiritual Longing in C. S. Lewis*, Eerdmans, 1999

David Clark, *Dialogical Apologetics: A Person-Centered Approach to Christian Defense*, Baker, 1999

Eugene d'Aquili & Andrew B. Newberg, *The Mystical Mind: Probing the Biology of Religious Experience*, Fortress Press, 1999

Ken Gnanakan, *God's World: A Theology of the Environment*, SPCK, 1999

R. S. Gottlieb, *A Spirituality of Resistance: Finding A Peaceful Heart and Protecting the Earth*, Crossroad, 1999

John Hitchcock, *Healing Our Worldview: The Unity of Science and Spirituality*, Chrysalis Books, 1999

Ruth & Elijah Hubbard, *Exploding the Gene Myth: How Genetic Information Is Produced and Manipulated*, Beacon Press, 1999

Max Jammer, *Einstein and Religion*, Princeton Univ. Press, 1999

Michael Molnar, *The Star of Bethlehem: The Legacy of the Magi*, Rutgers Univ. Press, 1999

John Oswalt, *Where Are You God? Malachi's Perspective on Injustice and Suffering*, Evangel, 1999

Ted Peters, ed., *Science and Theology: The New Consonance*, Westview, 1998

Richard Petersen, *New Insights to Antiquity: A Drawing Aside of the Veil*, Engwald, 1998

Paul Rabinow, *French DNA: Trouble in Purgatory*, Chicago Univ. Press, 1999

Ronald J. Sider, *Just Generosity: A New Vision for Overcoming Poverty in America*, Baker, 1999

Tom Sine, *Mustard Seed versus McWorld: Reinventing Life and Faith for the Future*, Baker Book House, 1999

Brian Swimme, *The Hidden Heart of the Cosmos: Humanity and the New Story*, Orbis, 1996

Ray Tallis, *The Explicit Animal: A Defence of Human Consciousness*, St. Martin's Press, 1999

Arne Wyller, *The Creating Consciousness: Science As The Language Of God*, MacMurray and Beck, 1999