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*One cannot and must not try to erase the past
merely because it does not fit the present.*

GOLDA MEIR, PRIME MINISTER OF ISRAEL, *MY STORY*

SAYS THE INDIAN PHILOSOPHER TO THE FRENCH MISSIONARY,
*Things I intend to communicate to you; perhaps they will at first
appear to you opposite to what is contained in your sacred books,
yet I hope in the end to convince you that they are not really so.*

BENOÎT DE MAILLET, *TELLIAMED*, BY WAY OF RICHARD LENSKI



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CHAPTER ONE

COURAGE, CURIOSITY, EMPATHY



I AM A SCIENTIST IN THE CHURCH and a Christian in science. My goal is to “make room for our differences, even as we maintain our own beliefs and practices.”¹ We all come from different starting points. Some are certain Adam and Eve are a myth. Some are certain evolution is a myth. Whatever the truth of the matter, let us travel together for a moment, seeking a common good.

The question of human origins sits at one fracture in society, where divisions have grown into injuries. There are different stories in the Church and in science. Evolution splinters the traditional account of Adam and Eve along several dilemmas. This splintering brings me to a question: Alongside the scientific evidence, what are the full range of ways in which we could understand Adam and Eve? In what way does evolutionary science press on our understanding of Adam and Eve?

For thousands of years, most readers of Genesis thought Adam and Eve were real people who (1) lived in the Middle East, just several thousand years ago; (2) were the ancestors of everyone; and (3) were created, with no parents, by a direct act of God. This account is not airtight or self-contained, nor is it articulated in the precise language of science. It includes lacunae, or gaps, that are bridged in diverse ways. This is the “traditional” *de novo* account of Adam and Eve on which this book focuses.

There may be valid reasons to object to this definition of the traditional account. Other readings of Genesis are found in history and they might be considered traditional too. It is possible, moreover, that a nontraditional understanding of Adam and Eve might be a faithful reading of Scripture. The traditional *de novo* account described here, nonetheless, is how most people through history read Genesis. This account is intertwined with deep traditions of the Church, and it is the account

¹This quote comes from John Inazu, my colleague at Washington University in St. Louis, founder of the Carver Project. John Inazu, “John Inazu: Why I’m Still Confident About ‘Confident Pluralism,’” *Christianity Today*, August 13, 2018.

that seems disproven by science. The atheist biologist Jerry Coyne succinctly states the consensus:

These are the scientific facts. And, unlike the case of Jesus' virgin birth and resurrection, we can dismiss a physical Adam and Eve with near scientific certainty.²

In agreement, "evolutionary creationists" argued for years,³

The *de novo* creation of Adam and Eve is not compatible with what scientists have found in God's creation.⁴

Is this how evolutionary science presses on the story of Adam and Eve? Does scientific evidence demonstrate the traditional account is incorrect? Maybe not.

This book arises from an ongoing "civic practice" of science "rooted in three aspirations: tolerance, humility and patience."⁵ In humility, we recognize that we cannot convince everyone to agree with us. In tolerance, we make space for those with whom we disagree. In patience, we seek understanding, listening to the concerns of others, taking their questions seriously. The common good is served as we put these virtues into public practice, making room for differences. These virtues also make room for science. Science is driven by the dynamic exchange of disagreement over questions. Here, in science, the question of Adam and Eve followed me for decades.

The question, at first, required *courage*.

The question, eventually, was driven by *curiosity*.

The question, now, is motivated by *empathy*.

The question, here, is to be studied with a genealogical *hypothesis*.

The question is answered with a genealogical *correction*.

This question, already, is a *crossroad*.

As a scientist, and in the spirit of science, I want to take the question of Adam and Eve seriously, engaging it with rigor and honesty. Steeped in centuries of history, the question is storied, but a new conversation might arise around it now. Sitting at a fracture, the question itself is a crossroad for an exchange.

²Jerry A. Coyne, "Adam and Eve: The Ultimate Standoff Between Science and Faith (and a Contest!)," *Why Evolution Is True* (blog), June 2, 2011, <https://whyevolutionistrue.wordpress.com/2011/06/02/adam-and-eve-the-ultimate-standoff-between-science-and-faith-and-a-contest/>.

³See, for example, Scot McKnight and Dennis R. Venema, *Adam and the Genome: Reading Scripture After Genetic Science* (Grand Rapids: Brazos, 2017); Denis O. Lamoureux, "Beyond Original Sin: Is a Theological Paradigm Shift Inevitable?" *PSCF* 67, no. 1 (2015), www.ualberta.ca/~dlamoure.

⁴S. Joshua Swamidass, "The BioLogos Statement on Adam and Eve," *Peaceful Science*, April 24, 2019, https://discourse.peacefulscience.org/t/_/5847. Recently, this claim was removed from their website.

⁵John Inazu, explains these aspirations with legal authority in mind. In the final chapter of this book, I expand them with scientific authority in mind. Inazu, "John Inazu: Why I'm Still Confident."

A QUESTION OF COURAGE

How much does evolutionary science press on our understanding of Adam and Eve? This question, at first, required courage. I was raised as a young earth creationist, believing that the Earth was just six thousand years old, following a literalistic interpretation of Genesis. I was taught that all humans descend from Adam and Eve. By a direct act of God, Adam was created without parents, from the dust of the earth, and Eve was created from his side. They lived just six thousand to ten thousand years ago in the Middle East. This is who we are and how we got here.

My parents were immigrants from India. We were not tightly connected to the history of conflict in the West over evolution and Genesis. Instead, we read Genesis, and it left us with a strong impression that we all descend from Adam and Eve, who lived recently in the past. We trusted Genesis, so this is what we believed. This was the first origin story I learned, understanding it as historical fact, but the story was still alive with mystery. I did not pretend to understand all the details. Like many readers before me, I wondered about Nephilim. “Who was it outside the Garden that interbred with Adam and Eve’s lineage?”

At the same time, I was drawn to science. I learned of another origin story, that of human evolution. “Humans arise from common ancestors with the great apes, and we seem to arise as a population, not a single couple.” How was I to resolve the conflicts between these two accounts? At question were my loyalties, and the right answer was clear. I trusted Scripture more than evolution. The clarity was comforting.

As we will soon see, I was mistaken. Whatever one believes about Adam and Eve, evolutionary science does not require us to reject the Genesis narrative. Adam and Eve, ancestors of us all, could have lived as recently as six thousand years ago in the Middle East. They could have been *de novo* created, the first “humans” of Scripture, free of death in a sinless environment. Ripped from the comforting clarity of conflict, we will see that evolutionary science could be true, even as our loyalties remain with Scripture.

There will be several twists and turns in this conversation. For many readers, those that reject evolution, it will require courage to leave the conflict and engage the question. Uncertainty requires courage. Take this as a thought experiment. Even if you are certain evolution is false, let us imagine together how we might understand Adam and Eve in a fictional world where evolution is true. Let us see how far we can go together. Step into this thought experiment with me.

A QUESTION OF CURIOSITY

The question of Adam and Eve lurked in my mind for years. At first, the question required courage. Eventually, in the mystery, fear gave way to curiosity.



Over several years of study, I was slowly convinced of the evolutionary account, which I understand as the providentially governed process by which God created us. For me, seeing and understanding the evidence for myself was important. I was (and am) still a Christian, and I still trust Genesis. How should I understand Genesis with science in view? Initially my questions required courage. At first, I was fearful. Eventually, however, I found a faith rooted in Jesus, not Adam. Whether or not Adam and Eve were real, there is public and private evidence that Jesus rose from the dead.⁶ On this cornerstone, I came to trust what God did in history to reveal he exists, is good, and wants to be known. Finding confidence here, I no longer feared what I might find out about Adam and Eve.

As my confidence grew, so did my curiosity. Through my scientific education, I often wondered about the questions of Adam and Eve. I wondered about them when I graduated from high school in 1996. When the human genome was first published in 2000, I graduated from the University of California in Irvine with a degree in biology. This question still on my mind, I spent nine years in graduate school to become a computational biologist and a physician. Through my education and early career, curiosity brought me back to this question over and over.

Now, I am a professor at Washington University in St. Louis, authoring a book about Adam and Eve. On a personal level, I do not fear any particular answer to the question. I am, all the same, still curious about how the new knowledge of science interacts with the old stories of Genesis. Through my path, I discovered a curious fact. Everyone was convinced that evolutionary science unsettled our understanding of Adam and Eve, but I couldn't find the evidence that demonstrated this as true.

A QUESTION OF EMPATHY

In this book, I do not press my personal beliefs, focusing instead on explaining how science interacts with the questions put forward by others. For many pastors, theologians, parents, and students, the question of Adam and Eve is the central question of origins. Over the years, my empathy grew, as did my skepticism of the conflict. I was raised believing the traditional *de novo* account of Adam and Eve. As I studied science, I never found any evidence that gave reason to doubt this account. Even if Genesis was a myth, the story itself was compatible with what I saw in science. Still, others were caught in this avoidable conflict. My empathy grew.

A salient example of the conflict is an exchange in 2017 between a scientist and Tim Keller. A well-known pastor in New York, Keller agrees with mainstream

⁶See appendix I.

science on most things. He agrees that the Earth looks old because it is old. He makes no objection to evolution among plants and animals nor does he insist Adam and Eve were in recent history.⁷ At the same time, he also believes that Adam and Eve were specially created, by a direct act of God.

Before God I'm trying my best to read this as I think what the Scripture says. Right now, it says to me, you know, there is an Adam and Eve, and everyone came from Adam and Eve, and they were a special creation, and so even though I don't have an answer to my scientist friends, that is where I stand.⁸

Keller states his honest reading of Genesis, explaining what is non-negotiable for him, personally, without drawing a line to exclude others.⁹ He accepts the evolutionary origin story, except on Adam and Eve. This is the point beyond which he goes no further.

Deborah Haarsma is one of Keller's scientist friends. In alignment with the scientific consensus, she confronted Keller, rehearsing the evidence commonly cited against the *de novo* creation of Adam and Eve.¹⁰ We share common ancestry with the great apes, and we arise a population, not an individual couple. This evidence, it seems, conflicts with Keller's confession. As we will see, however, the conflict is an illusion. Keller's confession is compatible with evolutionary science. In confrontations like this, my empathy for the pastor grows. Scientists speak with scientific authority, but sometimes incorrectly. The conversation ends. The conversation need not end this way.

This is the impasse. It has been the impasse for over a century. A pastor explains his honest understanding of Genesis. A scientist objects. The conversation ends. A fracture.

THE GENEALOGICAL HYPOTHESIS

From the sidelines, I listened closely for years, growing ever more skeptical of the conflict. Now, I want to explain what I have found by testing a hypothesis, a precise

⁷Tim Keller, "Sinned in a Literal Adam, Raised in a Literal Christ," The Gospel Coalition, June 6, 2011, www.thegospelcoalition.org/article/sinned-in-a-literal-adam-raised-in-a-literal-christ/.

⁸Tim Keller, Russell Moore, and Ligon Duncan, "Keller, Moore, and Duncan on the Non-Negotiable Beliefs About Creation," The Gospel Coalition, August 29, 2017, www.thegospelcoalition.org/article/keller-moore-duncan-non-negotiable-beliefs-about-creation/.

⁹Stating one's personal belief of essential doctrines, in common ground with others, is not equivalent to "drawing a line." Neither Keller's church nor The Gospel Coalition's belief statements require affirmation of the *de novo* creation of Adam and Eve.

¹⁰Recently, this response was silently edited. Deborah B. Haarsma, "Essentials of Creation: A Response to the Gospel Coalition," BioLogos, September 12, 2017, <https://biologos.org/blogs/deborah-haarsma-the-presidents-notebook/essentials-of-creation-a-response-to-the-gospel-coalition>; S. Joshua Swamidass, "BioLogos Edits Their Response to Keller," Peaceful Science, February 24, 2019, https://discourse.peacefulscience.org/t/_/4798.

claim that may or may not be true. I will attempt to falsify this hypothesis with evidence. If I cannot falsify it, the hypothesis may still be false, but the evidence itself does not tell us either way. Scientific inquiry often progresses by careful hypothesis testing of just this sort.

Entirely consistent with the genetic and archeological evidence, it is possible that Adam was created out of dust, and Eve out of his rib, less than ten thousand years ago. Leaving the Garden, their offspring would have blended with those outside it, biologically identical neighbors from the surrounding area. In a few thousand years, they would become genealogical ancestors of everyone.¹¹

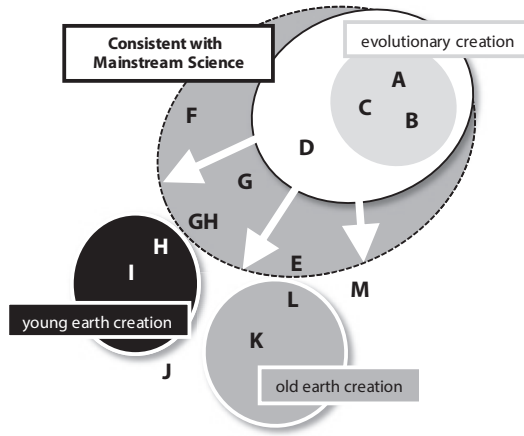
As written here, this hypothesis matches the traditional account of Adam and Eve, but it leaves out details required for a scientific analysis. Who were the people outside the Garden? How did they arise? This is an ancient mystery, unstated in Scripture, but we need details specified to test the hypothesis. In this book, I hypothesize that God created everyone outside the Garden through a providentially governed process of common descent, a process legitimately described by evolutionary science. The genealogical hypothesis, with details filled this way, is entirely consistent with the findings of evolutionary science. The DNA of our ancestors, their genetics, would still arise from a population, not a single couple. We would all still share common ancestry with the great apes. None of this is scientific proof that Adam and Eve existed. Evidence that Adam and Eve existed would lie outside our genomes, outside our scientific view, dependent on our understanding of Scripture. We are not reading evolution into Scripture. Evolution would be progressing in the mystery outside the Garden, outside the view of most theological discourse over the centuries. The two accounts, that of evolutionary science and of Scripture, would be taking place alongside one another, outside each other's view. I am not reading evolutionary science into Scripture, where it cannot be properly found. This, instead, is a precise and testable hypothesis, consistent with Scripture though not found within it, expounding the ancient mystery outside the Garden.

Most of the details in this hypothesis are flexible from a scientific point of view. Adam and Eve could have been *de novo* created or chosen from a larger population. They could have been in the Middle East, or some other part of the world. They could have been in a supernaturally created Garden, free of death, or in an environment much like our own. Those outside the Garden could be in the image of God, or not.

¹¹This is an edited self-quote of the first published articulation of the hypothesis. S. Joshua Swamidass, "A Genealogical Adam and Eve in Evolution," *Sapientia*, Carl F. H. Henry Center, June 26, 2017, <https://henrycenter.tiu.edu/2017/06/a-genealogical-adam-and-eve-in-evolution/>.

This hypothesis, therefore, contains within itself many variants of the traditional account, all of which fill the mystery outside the Garden in this one particular way. There are alternative ways of filling the details too. Depending on the details, each alternative may or may not be in conflict with the evidence. We, however, are testing the extent to which the traditional account of Adam and Eve is challenged by evolutionary science. With this goal in mind, we fill in the gaps with the findings of evolutionary science.

Table 1.1. The genealogical hypothesis (GH) holds three claims together: (1) *de novo* created, (2) recent Adam and Eve, (3) ancestors of us all. It is very close to a young earth creationist understanding of Adam and Eve (H). If this hypothesis survives scrutiny, it returns territory to theology (E, F, G, GH). The letters represent different understandings of Adam and Eve, as detailed in the table.



Creationist Camps	Elements of Adam and Eve Account				Status in Mainstream Science
	<i>de novo</i>	recent	universal ancestors	others outside garden	
evolutionary creation	A			X	consistent with evidence
	B			X	
	C			X	
	D			X	
	E	X		X	
young earth creation	F	X		X	tested by hypothesis
	G		X	X	
	GH		X	X	
	H	X	X	X	
	I	X	X	X	
old earth creation	J		X	X	ruled out by evidence
	K	X	X	X	
	L	X		X	
	M		X	X	

GH = The Genealogical Hypothesis

THE GENEALOGICAL CORRECTION

As we will see, the genealogical hypothesis is entirely consistent with what we find in science. If Adam and Eve are understood this way, there is no scientific evidence

for or against them. We start from two well-known findings of genetic science, thought to demonstrate that the theology of Adam and Eve must be reworked in light of evolutionary science.

1. We arise genetically from a population, and our ancestors never dip down to a single couple within the last five hundred thousand years.¹²
2. We share ancestors in common with the great apes: chimpanzees, gorillas, bonobos, and orangutans.¹³

We genetically arise as a population, not a single couple; we also share ancestors in common with the great apes. This is the story our genomes appear to tell, and it is the starting point of this conversation. I understand that some readers do not agree with one or both of these points. Questions here are legitimate, and perhaps I will one day author a book to explain what I have seen. For now, however, I want to set these questions aside. Let us, for the purpose of discussion, suspend any disbelief and proceed as if the evidence guides us to these two findings. From this starting point, we make two clarifications, two corrections.

1. Genealogical ancestry is not genetic ancestry. If genealogical ancestry is most important, then Adam and Eve could have been ancestors of us all as recently as six thousand years ago.
2. *Human* is a multivalent term, with many definitions. In theology, the term *human* can be defined with theological precision and it need not correspond with the scientific usage.

The first correction, on ancestry, settles the scientific question of the genealogical hypothesis. Much like the Virgin Birth of Jesus, there is no evidence for or against the *de novo* creation of Adam and Eve, ancestors of us all, a historical couple who lived recently in the Middle East.

The second correction, on *human*, opens up “breathing room for real theological reflection, development, and genuine intellectual progress.”¹⁴ Latitude in

¹²See, for example, this representative publication, with a discussion of the limits of this analysis: Stephan Schiffels and Richard Durbin, “Inferring Human Population Size and Separation History from Multiple Genome Sequences,” *Nature Genetics* 46 (2014): 919-25, <https://doi.org/10.1038/ng.3015>; S. Joshua Swamidass, “Heliocentric Certainty Against a Bottleneck of Two?,” unpublished paper, February 28, 2018, <https://doi.org/10.5281/zenodo.1328247>.

¹³Common descent is the only known scientific theory that mathematically explains why humans and chimps are more genetically similar than mice and rats. The rodents separated in the more distant past and they mutate more quickly; this is why, it seems, they are more different than humans and chimps. S. Joshua Swamidass, “Evidence and Evolution,” Peaceful Science, April 19, 2016, <http://peacefulscience.org/evidence-and-evolution>.

¹⁴Clinton Ohlers, as quoted in S. Joshua Swamidass, “Three Stories on Adam,” Peaceful Science, August 5, 2018, <http://peacefulscience.org/three-stories-on-adam/>.

theological definitions of *human* reopens an exchange with traditions of the Church. Historically, the lacunae of the traditional account are filled in many ways. Acceptable speculation, nonetheless, fell within guidelines established by a multi-century tradition.¹⁵ As I will explain in the coming chapters, this tradition already includes definitions of *human* that affirm the doctrines of monogenesis and sole progenitorship within the genealogical hypothesis.¹⁶

Ending at a beginning, I offer a speculative narrative of origins that contains the traditional *de novo* account of Adam and Eve alongside evolutionary science. Recovering the traditional account without revision, evolution expounds the mystery outside the Garden. Theological questions arise, but these questions are no more challenging than historical speculation about Genesis. In this way, the speculative narrative flows out of the traditions of the Church, perhaps now unthreatened by evolution.

CROSSROAD AT A FRACTURE

Genetics, archaeology, anthropology, theology, philosophy, history, art, and literature intersect around the question of Adam and Eve, in a dynamic exchange between worlds. My civic practice is located here, at the intersection of science, society, and the Church.

Personally, I am a Christian, affirming both evolutionary science and the Lausanne Covenant. But I am neither an “evolutionary creationist” nor am I a “theistic evolutionist.” The American Association for the Advancement of Science (AAAS) recently published *Scientists in Civic Life*, articulating best practices in communicating science with the public. The two-way exchange of civic dialogue, which I follow here, embodies the principles, values, and practice from which my work arises.¹⁷ I confess my personal beliefs because transparency builds trust, and “scientists cannot take trust . . . for granted.” My intention, however, is to advocate for public understanding of science. I want to understand the values of others, take questions seriously, and clarify what science does and does not say, without pressing my personal beliefs.

This book is a dialogue between science, theology and history, but I write with societal concerns in mind. I contemplated the mystery outside the Garden

¹⁵This book also follows the Chicago Statements on Inerrancy and Hermeneutics and the Lausanne Covenant.

¹⁶How these terms are commonly understood in science is beside the point. I mean them, here, as theological terms, with meanings recovered from historical theology.

¹⁷Matthew Nisbet, *Scientists in Civic Life: Facilitating Dialogue-Based Communication*, American Association for the Advancement of Science 2018, www.aaas.org/programs/dialogue-science-ethics-and-religion/resources-engaging-scientists-project.

with Lutheran theologians at Concordia Seminary in St. Louis in 2017, the five hundredth anniversary of Martin Luther's Reformation. The year ended with police clashing with protestors on Delmar Boulevard just hundreds of yards from my home in St. Louis. In the shadow of Ferguson, a group of us met at the seminary to read Dr. Martin Luther King Jr.'s work as 2018 began.¹⁸ This was the fiftieth anniversary of King's assassination, and the year I published the first peer-reviewed article on the genealogical hypothesis.¹⁹ The final draft of the book was delivered to the publisher, then published, in 2019, the 160th anniversary of the *Origin of the Species* by Charles Darwin. This book is to be published in December, just weeks after the anniversary of Darwin's book, the book that began a controversy about human evolution that lasts till today.

My civic practice included professional risk. When I first went public with this work in 2017, I was an untenured professor at a secular institution.²⁰ Then, in October 2017, I published a defense of Tim Keller's confession of the *de novo* creation of Adam,²¹ along with "Eight Genealogical Theses."²² Perhaps it was unwise to take this forward before tenure, but the moment seemed to require it. In 2018, nonetheless, I was awarded tenure. As I have come to understand it, "secular" means "fair," not atheistic or anti-Christian. My secular colleagues were fair to me.

A multiyear interdisciplinary exchange grew out of my practice.²³ I am a scientist, but the question touches on fields far outside my expertise. Scientists, theologians, philosophers, historians, and exegetes (those who interpret Scripture in the original language and cultural context) have been working through questions about Adam and Eve for a long time. Groundwork was laid by several before me.²⁴

¹⁸S. Joshua Swamidass, "Grieve the Segregation of Science," *God and Nature* (Winter 2018), <https://godandnature.asa3.org/essay-grieve-the-segregation-of-science-by-s-joshua-swamidass.html>.

¹⁹S. Joshua Swamidass, "The Overlooked Science of Genealogical Ancestry," *Perspectives on Science and Christian Faith* 70 (2018).

²⁰Swamidass, "Genealogical Adam and Eve in Evolution."

²¹S. Joshua Swamidass, "In Defense of Tim Keller," *Peaceful Science*, October 1, 2017, <http://peacefulscience.org/defense-tim-keller/>.

²²S. Joshua Swamidass, "A Genealogical Rapprochement on Adam?," *Peaceful Science*, October 24, 2017, <http://peacefulscience.org/genealogical-rapprochement/>.

²³Matthew Nisbet, *Scientists in Civic Life: Facilitating Dialogue-Based Communication*, American Association for the Advancement of Science, 2018, www.aaas.org/programs/dialogue-science-ethics-and-religion/resources-engaging-scientists-project.

²⁴Andrew Ter Ern Loke, "Reconciling Evolution and Biblical Literalism: A Proposed Research Program," *Theology and Science* 14 (2016): 160-74, <https://doi.org/10.1080/14746700.2016.1156328>; Gregg Davidson, "Genetics, the Nephilim, and the Historicity of Adam," *Perspectives on Science and Christian Faith* 67 (2015): 24-34; Kenneth W. Kemp, "Science, Theology, and Monogenesis," *American Catholic Philosophical Quarterly* 85, no. 2 (2011): 217-36, <https://doi.org/10.5840/acpq201185213>; Edward Feser, "Monkey in Your Soul?," *Edward Feser* (blog), September 12, 2011, <http://edwardfeser.blogspot.com/2011/09/monkey-in-your-soul.html>; David Opderback, "A 'Historical' Adam?," *BioLogos*, April 15, 2010, <http://biologos.org/blogs/archive/a-historical-adam>; Douglas L. T. Rohde, Steve Olson, and Joseph T. Chang,

Well before this book was published, several scholars already interacted with my thesis. In the spring of 2018, theologian Ken Keathley arranged a dialogue at a Baptist seminary between several scholars and me. Summer of 2018, I presented to about seventy scholars at a theological conference organized by the Creation Project. Written responses from two theologians, an exegete, and a philosopher, all from the Creation Project, are included in the online appendixes to this book.²⁵ In fall of 2018, I presented again at a university in Hong Kong, alongside theologian Andrew Loke and historian Clinton Ohlers. Finally, early in 2019, nearly forty scholars gathered in two workshops to discuss and comment on my thesis. Altogether, perhaps as many as one hundred different scholars shaped the content in this book with feedback, conversation, and review.

This interdisciplinary crossroad included atheist, agnostic, Jewish, and Christian scientists, along with other types of Christian scholars that do and do not affirm evolutionary science, and that do and do not affirm a historical Adam and Eve. This conversation is already encouraging contributions from other scholars. Interacting with the science here, theologian Andrew Loke is concurrently publishing a book, reconciling literalism with evolutionary science.²⁶ The theologian Jon Garvey is also publishing a book, contending that biblical theology grows more coherent with the people outside the Garden.²⁷ I expect more to follow. The philosopher William Lane Craig is in the middle of a two-year project, studying the science and theology of Adam and Eve, intending to publish a book of his own.²⁸ Based on this narrative too, the exegete Richard Averbeck intends to develop his own biblical theology.

The question, also, sits at a fracture, and injuries are found on all sides. Making space for a traditional understanding of Adam and Eve sometimes provokes

“Modelling the Recent Common Ancestry of All Living Humans,” *Nature* 431 (2004): 562-66, <https://doi.org/10.1038/nature02842>; Steve Olson, *Mapping Human History: Genes, Race, and Our Common Origins* (Boston: Mariner Books, 2002).

²⁵I presented this thesis to the Dabar Conference, summer of 2018. My discussion group included exegetes Richard Averbeck, C. John Collins, Richard Schultz, philosopher William Lane Craig, and theologian Ken Keathley. At this conference, Andrew Torrance and C. John Collins offered written responses to an early draft of this book (appendixes 2 and 3). In summer of 2018, John Hilber also gave a public response (appendix 5). In early 2019, William Lane Craig published his thoughts about this proposal too (appendix 4). Appendixes 2–5 are available at www.ivpress.com/the-genealogical-adam-and-eve.

²⁶Andrew Ter Ern Loke, “Reconciling Evolution and Biblical Literalism: A Proposed Research Program,” *Theology and Science* 14 (2016): 160-74, <https://doi.org/10.1080/14746700.2016.1156328>.

²⁷This expands on blog posts Jon Garvey has written over several years. “Genealogical Adam,” category archive, *The Hump of the Camel* (blog), <http://potiphar.jongarvey.co.uk/category/genealogical-adam/>. I am very grateful to Garvey’s feedback and support over the last several years in pursuing this work. Many of the ideas here have been refined with his input.

²⁸It is not clear if Craig will adopt a variation of the genealogical Adam or not.

fears of exclusion among Christians who understand Genesis in non-traditional ways. There are injuries at this particular fracture, and I do not mean to add to them. Though this work flows out of traditions of the Church, its purpose is inclusion, not exclusion. My goal is to open up new territory, making room for one another, even as we maintain our own beliefs and practices, whether they be traditional or not.

AN EXCHANGE BETWEEN WORLDS

With inclusion in mind, this book is an exchange at the crossroad of the question. It lays a scientific foundation for a speculative narrative, designed for others to take and develop further. My hope also is that it might allow a different sort of community to arise. In addition to this first chapter, there are three parts to this book, and a concluding chapter.

1. *Fracture*: The question of Adam and Eve in evolutionary science calls out courage, curiosity, and empathy.
2. *Ancestor*. Approaching the question in science, we test the “genealogical hypothesis.” Does scientific evidence rule out a recent Adam and Eve, ancestors of us all, *de novo* created in the Middle East? No. The evidence does not tell us one way or another.
3. *Human*. The exchange between science and theology began centuries ago, asking the question, What is *human*? What of the mystery outside the Garden?
4. *Mystery*. A new conversation in theology begins as we consider together the ancient mystery of the people outside the Garden, the splintered account of Adam and Eve rebound.
5. *Crossroad*. Secular scientists, traditionalists, and nontraditionalists might find civic practices at this fracture, making space for one another in tolerance, humility, and patience.

I conclude on a starting point, a new narrative of origins, flowing out of deep traditions of the Church. This narrative contains within it the findings of evolutionary science alongside the traditional account of Adam and Eve. The theologian C. John Collins is in the same denomination as Keller, with similar theological concerns as he. He writes in response to this narrative starting point,

Sometimes, if we wait, new light will come in the scientific thinking. And sometimes, as well, someone with enough imagination will propose a workable scenario that helps us past the apparent hump. I still want to do some more thinking . . . but it looks like



Dr. Swamidass has indeed provided an imaginative and serviceable tool for our toolkits, to promote “peaceful science.”²⁹

Some of us think evolution is a myth. Some of us think that Adam and Eve are a myth. Whatever our personal beliefs, many societal questions converge at this starting point, an exchange at a crossroad.

²⁹See online appendix 3.

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