Introduction

Could there be any new topic in the already extensive discussion between science and religion that is worthy of yet another book? Have the major camps settled for repeating their familiar refrains that simply appeal to their committed constituencies? Despite some indications that our culture is experiencing science–religion fatigue, we contend that there is still exciting virgin territory to explore at a particular overlap between Christianity and science – namely, where the doctrine of the Incarnation intersects with modern evolutionary biology. Specifically, this intriguing overlap occurs where the belief that God became human in Jesus Christ meets evolutionary genetics and the relatively new field of genomics, the study of genomes, an organism's complete set of DNA. That exploration is the purpose of this book.

Clearly, the doctrine of God's incarnation in Jesus Christ is deeply embedded within the whole fabric of Christian theology, just as modern evolutionary genetics is deeply embedded within biology and the rest of science. Thus, by charting this new territory, we intend to shed new light on familiar Christianity–evolution issues as well as broader Christianity–science issues. But we most centrally intend to identify and analyze numerous important issues that arise at the exact point of contact between Christology and genomics.

Since much of the ongoing debate in culture concerns the general compatibility or incompatibility of Christianity and science, we first seek to determine whether Christology and evolutionary biology are compatible or incompatible. Then, second, if they can be shown compatible, we will seek to determine whether Christology and evolutionary biology might be important parts of a coherent overall worldview. We call this perspective evolutionary Christianity – a worldview we intend to be intellectually competitive with other worldview perspectives at play in the

science–religion space. While the term "evolutionary Christianity" here is meant to accent our stance within this defined area of the science–religion discussion, it signals no departure either from historic orthodox Christianity or from the established findings of evolutionary biology. Indeed, we embrace both bodies of knowledge and put them into fruitful interaction.

To examine the relation of evolutionary biology, particularly genetics, to the classical Christian doctrine of the Incarnation, we engage the robust content of both disciplines. Avoiding oversimplifications and caricatures that make easy targets, we put full-strength biology and full-strength historical Christian orthodoxy in interaction. On the one hand, contemporary biology traces from its Darwinian beginnings to the New Synthesis and to modern genetics and genomics, which has discovered DNA and mapped the human genome. On the other hand, Christian orthodoxy, which is shaped around classical Chalcedonian Christology, affirms that God was incarnate in Jesus Christ, who was truly divine and truly human. When Christian orthodoxy meets what we might call scientific orthodoxy, an unexpected, high-level study, not previously available in science–religion circles, unfolds.

Opinions differ over the feasibility, desirability, and propriety of such a study. The reader might wonder: What exactly is the authors' aim here, and why should they be the ones to undertake this task? Fair questions. Our basic aim is to develop a critical and constructive way of thinking about the fertile area at the intersection between Christology and biology; it is not to pretend that highly detailed answers to all questions can be prescribed.

Still, this is a huge interdisciplinary topic in which no single person has all the needed expertise. Covering the topic well requires knowledge of the science–religion debates in culture and academia, knowledge of the theology of the classical doctrine of Incarnation, and knowledge of evolutionary biology. Who could have such sweeping expertise? It is a question we asked ourselves. Indeed, we know of no *one person* who could do this work well. But the reader has already noticed the plural pronouns – "we" – and it is not the majestic plural. Our interdisciplinary team consists of a philosopher with background and publications in the science–religion discussion, a scholar of classical Christology, and a molecular ecologist (who wrote some of these words while doing research in the Galápogos Islands, a major site for Darwinian evolution). Our intent is to frame a significant exploration with philosophical, theological, and scientific precision, located in this neglected spot in the science–religion area. We aim for important outcomes along the following lines: a positive perspective on science–Christianity interaction broadly, an understanding of the symbiosis

between Incarnation and evolutionary genetics, and more holistic insight into our humanity from the interplay of theological and biological perspectives.

While based on academic expertise, this project is aimed at interested general readers as well as professional academics. Some of the topics may be a stretch for some readers, but the information and insights here will repay careful attention. All are invited to a fascinating discussion of the issues that arise at the intersection of Christology and biology. We believe that the reader will find this interdisciplinary exploration to be both educational and important.

In this interdisciplinary treatment, we encounter science generally as well as biology and genetics specifically and pull from the broader history and philosophy of science as well. While not pretending to be a dedicated science or biology book, it is still supported by scientific expertise, and the reader will learn a lot of science along the way. While this book is not a treatise on the history or philosophy of science, it teaches a lot of both. We investigate Christian theology generally and Christology especially, while not offering a tome on either one, such that the reader will better understand what Christian belief really is. So, we will bring many specialties into interaction on the issues and offer our best analysis. Since we have no space to pursue the many secondary topics that arise, the reader may take this book as a first step in a longer intellectual journey. All the interdisciplinary discussions here are guided by philosophy, an inherently interdisciplinary field, and all discussions reflect philosophical concern for consistency, coherence, truth, credibility, and explanatory adequacy.

Our discussion of Jesus and the genome unfolds in eight chapters. We spend the first four chapters carefully setting up the Christology–biology interaction as a basis for the coming interdisciplinary investigation. This is work that must be done to establish the factual basis for our discussion that will unfold. Then, we devote the last four chapters to treating the numerous issues that are generated by the interaction of these disciplines. The book, then, falls into two halves.

The first half is straightforward. In Chapter 1, the topic of Christology and biology gets initial traction from the most obvious point of contact between the two disciplines: their claims regarding human nature as codified in the ancient Chalcedonian formulations and expressed in the contemporary findings of the Human Genome Project. In Chapter 2, we trace the historical dialectic between Christianity and science and provide a taxonomy of different models for interpreting their relationship. Then, in Chapter 3, we articulate and explain the traditional doctrine of the

Incarnation. We turn in Chapter 4 to laying out the findings of evolutionary biology regarding life on this planet, particularly human life. Both the classical Christological claims and the contemporary genetics claims are extraordinary in their own ways, such that together they generate the important issues covered in the rest of the book.

In the latter half of the book, the issues are plentiful. In Chapter 5, we examine whether the virgin birth of Jesus is compatible with genomic science. In Chapter 6, we widen our approach to look at whether various issues surrounding the Incarnation, such as truth and love, are made problematic given evolutionary biology. Then, widening our approach even further, in Chapter 7, we analyze how some familiar issues in the science–religion debate – such as cosmic origins, the first humans, and the problem of pain – are impacted by our interest in Jesus and the genome. In Chapter 8, we argue for the importance of evolutionary biology to a Christian worldview that has greater explanatory power than the naturalist worldview that claims biology and the rest of science as its allies. We follow with a brief Epilogue to encapsulate the gains we made in the project.

We trust that our sense of great excitement about the significance of this effort is contagious to you the reader. Our tone throughout is not that of a speculative dialogue that titillates the imagination but is unconcerned for credibility and truth. Rather, by taking classical Christology and contemporary genetics very seriously as making important claims to truth, we construct a robust engagement that is driven by concern for truth and credibility. Since *Jesus and the Genome* creates a new angle of approach, this project, perhaps unexpectedly, offers fresh insight into both new and familiar issues. Further, the unfolding discussion seeks to transcend many other approaches by explicitly recognizing that all the issues that may seem discrete and separable must ultimately be evaluated by their worldview implications. So, as you work through the book, continue to ponder this underlying question: What if Christian orthodoxy and evolutionary biology were both true – what kind of world would this be? Our goal is to answer this question.

CHAPTER 1

What Has Christology to Do with Biology?

Why would anyone ask such an odd question about a possible connection between Christology and biology? Of course, here we mean the classic Christian doctrine of the Incarnation and the best information in contemporary biology. But why would anyone be interested in pursuing answers to this very specific question?

The reasons for having interest in this question may be surprising. For one thing, our leading question falls squarely within the science–religion discussion in our culture, which means that it promises insights from a unique angle of approach. For another thing, the interplay between the central claims of Christology and those of genomics accents, perhaps unexpectedly, the many points of contact between Christian theology and evolutionary biology.

Engaging Christology and biology within the science–religion landscape promises rich benefits. This study should fascinate those who are generally intellectually curious but should also offer helpful insights to those who are especially interested in these two subjects. Speaking broadly, producing a biologically informed Christian theology – as well as achieving a worldview perspective for understanding biology and the rest of science – would be great accomplishments. Speaking more narrowly, achieving new insights into our own humanity would also be a great advance. Human nature itself is a topic of perennial reflection and happens to be the exact point of convergence between Christology and evolutionary biology. Classical theology declared long ago that God in Christ became human, but evolutionary biology has since discovered aspects of our humanity never envisioned in that Christian doctrine.

The science–religion discussion has never included this topic – and never in a way that invited sustained analysis. However, by taking Christology and biology seriously, we intend to reveal important

connections, previously unnoticed, between the two fields. And these connections have far-reaching worldview implications, shedding new light on what it means to be human, and thus on what it means for Christ to have assumed our humanity, and thus on the kind of reality we inhabit.

In Search of Our Humanity

What is the nature of our humanity? According to Alexander Pope, this is "the riddle of the world" – not knowing whether we are "god or beast."[1] Pope asks, is a human being a godlike thing, pure mind or spirit in a perishable physical shell? Or is a human like a beast, the result of biological processes in a purely physical world? While neither extreme view captures the totality of our humanity, Pope presciently points to two very different ways of seeing human nature that persist today.

Through the ages, philosophers, poets, and religious thinkers have tried to solve the riddle of human nature, approaching it from many different perspectives – psychological, sociological, economic, and more. Interdisciplinary studies seek to find relationships and resolve apparent tensions across academic fields to gain a more comprehensive picture of what it means to be human. Much progress has been made as we continue to learn about the many different dimensions of our humanity.

Yet two of the most amazing claims about our humanity – one from the field of theology and one from the field of biology – have never been explicitly juxtaposed and explored together. One of these claims, the theological one, found in the Nicene Creed from the first Ecumenical Council in AD 325, states that Jesus Christ was "true God" – that in him God "became incarnate, became human."[2] The other claim, the biological one, is that our shared humanity rose up from the animals by way of Darwinian natural selection.

The first claim – that God became human in Jesus Christ – implies that humanity has somehow been united with, indeed, taken up into, divinity. The clear but surprising understanding here is that the God of the universe, the maker of all that is or was or will be, became one of us, like you and me. But not only that. Christians go further, claiming that Jesus is the paradigmatic human – the true exemplar of humanity. For example, when

[1] Alexander Pope, "An Essay on Man" in *An Essay on Man* (Chicago: Ariel Press, 2012; orig. 1734).
[2] *Decrees of the Ecumenical Councils*, Norman Tanner, trans. (Georgetown: Georgetown University Press, 1990), 5.

N. T. Wright, renowned New Testament scholar, was asked what he would tell his children on his deathbed, he remarked, "If you want to know what it means to be human, look at Jesus."[3] And the Second Vatican Council states, "It is Christ, the last Adam, who fully discloses humankind to itself and unfolds its noble calling by revealing the mystery of the Father and the Father's love."[4] Thus, Christianity believes that we know our own humanity best by looking upward, so to speak, to the divine.

The second claim – that a human being is the product of organic evolution – implies that we emerged, in Pope's terms, from the beasts. In this vein, many thinkers assert that the sum total of what it means to be human is found in our identity as animals that have developed through the process of evolution. For instance, famous zoologist Desmond Morris opens his book *The Naked Ape* with this statement:

> There are one hundred and ninety-three living species of monkeys and apes. One hundred and ninety-two of them are covered with hair. The exception is a naked ape self-named *Homo sapiens*. . . . [His] old impulses have been with him for millions of years, his new ones only a few thousand at the most – and there is no hope of quickly shrugging off the accumulated genetic legacy of his whole evolutionary past. He would be a far less worried and more fulfilled animal if only he would face up to this fact.[5]

Clearly, from this perspective, the study of our biological origins is crucial to knowing what it means to be a human being.

With the successful completion of the Human Genome Project of the 1990s, the theme that biology is crucial to understanding our identity as humans was given added impetus: we possessed the sequence of the human genome, which is the complete set of genetic data found in humans, in fact, in every cell of every human. The National Institutes of Health triumphantly announced in April 2003 that the Human Genome Project had given us "the ability, for the first time, to read nature's complete genetic blueprint for building the proteins that collectively form the cells of human beings."[6] Our knowledge of how these proteins ultimately coalesce

[3] N. T. Wright interview "Look at Jesus" by Work of the People: Films for Discovery and Transformation, www.theworkofthepeople.com/look-at-jesus.
[4] *Gaudium et Spes*, 22 (Norman Tanner, trans. 1990), 1081.
[5] Desmond Morris, *The Naked Ape: A Zoologist's Study of the Human Animal* (London: Vintage Books, 2005), 5.
[6] See National Human Genome Institute, "The Human Genone Project," September 7, 2003, www.genome.gov/human-genome-project.

to form humans keeps growing by the day – particularly regarding how nonheritable alterations in the DNA impact phenotype, a phenomenon known as epigenetics. It is no overstatement that we now have in our possession the most comprehensive description of ourselves at the genetic level that we have ever had. General culture has since reverberated with metaphors of extensive maps, blueprints, and libraries, all exuding a sense that, at least in principle, we are gaining a mastery over our biology – or, put more profoundly, that DNA reveals "the secret of life."[7] On this view, we know our humanity best and most fully by looking downward, so to speak, at our natural origins.

So, here are two fields of knowledge – theology and biology – advancing claims that, if true, are of astounding importance and converge at a common point: human nature. The Christological claim is that

(1) *God became a human being in Jesus Christ,*

and the biological claim is that

(2) *a human being is the product of organic evolution.*

Yet, surprisingly, and regrettably, the intersection of these two claims has never been investigated. At the very least, the conjunction of the two claims entails that we have the most extensive and detailed knowledge of the genetic makeup of the kind of biological organism that God is said to have become when the Second Person of the Trinity became human. And, at the very most, relating these biological insights to the realm of Incarnational doctrine awakens us to aspects of the physical Jesus that probe the content and parameters of orthodox Christology.

Obviously, the interaction of these core claims will involve broader engagement with the body of theological doctrines comprising Christian orthodoxy as well as the well-established theories and key findings of mainline biology. Pursuing Christological insights in light of biology, for example, reveals the impact of biology on other important doctrines such as Trinity, Atonement, Virgin Birth, and Original Sin. On the other hand, a theological perspective must come to grips with scientific matters such as evolution, the genomic evidence of human connectedness with all life, the role of the inherent randomness of genetic processes, and much more. It should be no surprise, then, that this study ultimately raises worldview

[7] James D. Watson and Andrew Berry. *DNA: The Secret of Life* (New York: Alfred A. Knopf, 2003).

questions regarding what kind of world it is in which these two bodies of knowledge, Christianity and biology, can both be true.

Tertullian's Question, Updated

Eighteen centuries ago, the early church father Tertullian asked, "What indeed has Jerusalem to do with Athens? What concord is there between the Church and the Academy?"[8] His answer can be summarized as, "Very little." Tertullian here argues for a divide between faith, as symbolized by Jerusalem, and reason, as symbolized by Athens, the commonly accepted birthplace of philosophy. Tertullian was warning believers against heresies supported by various philosophies. Bad philosophy, not philosophy per se, was the root difficulty, and it was dangerous to faith in that era. Yet Tertullian's question remains as much alive today as when he posed it in AD 198: What does the Christian gospel (indeed, the entirety of Christian theology) have to do with the various academic disciplines that seek truth and understanding in their domains of inquiry?

Tertullian's point is twofold. For one thing, he held that continually "seeking the truth" was irrelevant once one accepts the Scriptures and embraces faith. At that point of commitment, one's search ends – the truth is found. For another thing, he did not think that Christian beliefs needed to engage with or appear reasonable by secular intellectual standards. The stereotypical picture of faith and reason painted in Tertullian's remarks is one of disjunction and opposition: "After Jesus Christ we have no need of speculation, after the gospel no need of research. When we come to believe, we have no desire to believe anything else; for we begin by believing that there is nothing else which we have to believe."[9]

A modern-day Tertullian would ask, "What has Jerusalem to do with the Galápagos islands? What concord is there between Jesus and the Genome?" The most obvious answer from those advocating a faith–reason divorce would be, "Nothing – there can be no concord between Jesus and the Genome, between Christology and biology." However, a divorce between faith and reason immediately threatens to preempt the project of this book. How, then, can we think about the viability of the current study, which assumes that it is intellectually legitimate and worthwhile to look for beneficial relationships between Christology and biology?

[8] Tertullian, *Prescriptions against Heretics* 7 in *The Complete Works of Tertullian* (Kindle Edition published in Toronto, 2016), loc 7006.
[9] Tertullian, *Prescriptions* 7.

The problematic position attributed to Tertullian's famous question, labeled *fideism* (from the Latin, *fides*, translated into English as "faith"), insists that faith is self-sufficient and not subject to rational evaluation, such that no equitable interaction with reason is productive. Other Christian thinkers who seem to express fideistic views include Luther, Pascal, and Kierkegaard. Protestant Reformer Martin Luther bluntly stated that "reason is the greatest enemy that faith has" and that human reason would judge the articles of faith to be "sheerly impossible, absurd, and false."[10]

Historically, we must emphasize, fideism has never been the majority opinion in Christian thought; in fact, fideism has been strongly rejected by many prominent Christian philosophers and theologians. One way of rejecting fideism can be seen in the contrasting remarks by Clement of Alexandria (AD 150–215), Tertullian's contemporary, who taught that Greek philosophy is preparatory to a fuller Christian understanding.[11] After all, Clement argues, all that is good comes from God, and there is a measure of truth in Greek philosophy. Clement appeals to the prologue of the Gospel of John, where the divine Logos – the Word of God – is described as "the true light that enlightens every person."[12] Since the Scriptures say that understanding is sent by God, Clement argues that philosophy is sent by God.[13] Clement urges Christians to press forward from the truth they know to grasp a more comprehensive understanding of the truth with the aid of Greek philosophy, although they must discern that Greek philosophy may have falsehoods mingled in.

Indeed, by far the majority opinion in Christianity is that, conceptually, the content of Christian theology does not necessitate a fideistic position. Medieval philosopher and theologian Thomas Aquinas argued for the harmony of faith and reason in agreement with a Clementine approach. For Aquinas, while God has made specific important theological knowledge available only through special revelation in scripture, God has also made a significant amount of knowledge widely available to us via the rational study of his creation. Aquinas held that, since God himself is unified, all knowledge of him would be consistent, and thus believers can operate on the assumption that there is no conflict between faith and reason, between theological doctrine and knowledge of the world. As Aquinas writes, "Every truth by whomsoever spoken is from the Holy

[10] Martin Luther, *Table Talk*, William Hazlett, trans. (Philadelphia: The Luther Society, n. d.; orig. 1566), CCCLIII.
[11] Clement, *Stromata* I, 5. [12] John 1:9. [13] *Stromata*, VI, 8.