

## 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.”<sup>1</sup> 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.”<sup>2</sup> 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

<sup>1</sup> Alexander Pope, “An Essay on Man” in *An Essay on Man* (Chicago: Ariel Press, 2012; orig. 1734).

<sup>2</sup> *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.”<sup>3</sup> 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.”<sup>4</sup> 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.<sup>5</sup>

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.”<sup>6</sup> Our knowledge of how these proteins ultimately coalesce

<sup>3</sup> N. T. Wright interview “Look at Jesus” by Work of the People: Films for Discovery and Transformation, [www.theworkofthepeople.com/look-at-jesus](http://www.theworkofthepeople.com/look-at-jesus).

<sup>4</sup> *Gaudium et Spes*, 22 (Norman Tanner, trans. 1990), 1081.

<sup>5</sup> Desmond Morris, *The Naked Ape: A Zoologist’s Study of the Human Animal* (London: Vintage Books, 2005), 5.

<sup>6</sup> See National Human Genome Institute, “The Human Genome Project,” September 7, 2003, [www.genome.gov/human-genome-project](http://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.”<sup>7</sup> 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

<sup>7</sup> 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?"<sup>8</sup> 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."<sup>9</sup>

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?

<sup>8</sup> Tertullian, *Prescriptions against Heretics* 7 in *The Complete Works of Tertullian* (Kindle Edition published in Toronto, 2016), loc 7006.

<sup>9</sup> 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."<sup>10</sup>

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.<sup>11</sup> 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."<sup>12</sup> Since the Scriptures say that understanding is sent by God, Clement argues that philosophy is sent by God.<sup>13</sup> 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

<sup>10</sup> Martin Luther, *Table Talk*, William Hazlett, trans. (Philadelphia: The Luther Society, n. d.; orig. 1566), CCCLIII.

<sup>11</sup> Clement, *Stromata* I, 5.

<sup>12</sup> John 1:9.

<sup>13</sup> *Stromata*, VI, 8.

Ghost as bestowing the natural light, and moving us to understand and speak the truth.”<sup>14</sup>

If God is creator of all finite reality, then all truth is God's truth wherever it may be found, and there will be no actual inconsistencies between the truths about any aspects of reality. While there may be challenges “in practice” in attempting to resolve *apparent* inconsistencies or other perceived tensions between the content of faith and the content of secular knowledge, for Aquinas there is no ultimate, “in principle” conflict. The enterprise of putting theological beliefs in interaction with beliefs generated by human reason regarding other aspects of life and the world, far from being detrimental to the faith, has the potential to produce greater understanding of how all truth fits together. Thus, science, biology, and genetics – key areas that contain truths that go beyond the teachings of faith – are all available to contribute to a Christian worldview. This goes beyond faith seeking simply to understand what it already believes; this is faith extending its range to interact with all truth about God's world.

At this point in our discussion, we must specify more precisely what we mean by the terms “faith” and “reason” and remove some ambiguities. Each term can be used three different ways: as an *activity*, as a *disposition* toward that activity, or to name some intellectual *content*. Thus, “faith” can refer to a person's activity of believing (“I have faith that”) or to her virtuous disposition to think in a certain manner concerning the object of faith (“she is a person of strong faith”); or “faith” can also be used to refer to central theological doctrines and teachings that are the conceptual content of what is believed, a content formed by the employment of scripture, tradition, and reasoned argument (“the articles of faith include ...”). In historic Christianity, the term “faith” is used all three ways – engaging in the act of faith, exercising the theological virtue of faith, and the content of faith. By faith (the disposition), one believes (the act) the divine testimony of God that, for instance, he became incarnate in Jesus Christ (the content).

Likewise, the term “reason” can refer to the *activity* or process involving intellectual analysis, synthesis, evaluation, or argument; or it may refer to a *disposition* or to conceptual *content*. A person reasons (the activity) through a math problem. Or one might say a person figures out the math problem by reasoning (the activity). Or one might refer to a *disposition* the person has to act in a certain way – he is a reasonable fellow. Finally, the term

<sup>14</sup> *Summa Theologica*, Part I-II, Question 109, Article 1, Reply to Objection 1.

“reason” can also be used to refer to certain *deliverances* of rational activity, again, to actual conceptual content – such as a scientific theory, a deeply held common sense assumption, a worldview outlook, and the like. When a person has three reasons to believe something, she is enumerating three deliverances of rational activity, arrived at by employing her reasoning faculty.

For the most part, in this book we use both terms “faith” and “reason” to refer to conceptual content. Thus, in asking what Christology has to do with biology, we are essentially asking how the content of classical theological beliefs about Jesus Christ, arrived at through faith, relates to the content of current biological knowledge, arrived at through the scientific method. Our project rationally addresses the intersection of these two content areas.

Under the larger, more positive understanding of the relation between faith and reason championed by Aquinas, we find clear affirmation of the mutual engagement of faith and reason in terms of their respective contents. Specifically, we find affirmation of the interaction of Christological commitments and biological information. Discovering how and to what extent the truth claims from these fields interact is a guiding interest of this study. Indeed, this study may catalyze deeper understanding of the truths involved. Our initial Tertullian-type question, “What has Jerusalem to do with the Galápagos islands?,” now receives an unequivocally positive response: “A whole lot!” If the question is asked, “What concord is there between Jesus and the Genome?,” the answer is the same. Since Christology is central to Christianity in explaining the God–Human, Jesus Christ, and since biology contains remarkable information about our genetic makeup, exploring the intersection of these two areas is clearly justified – and, frankly, overdue.

### Chalcedonian Christology and the Human Genome Project

Our exploration of Jesus and the genome is based on the juxtaposition of classical Christian teaching about Jesus Christ and scientific findings about the human genome. Of course, the central claims regarding Jesus and the human genome are deeply invested with broader intellectual content from their respective fields: Christology and biology, respectively. But productive engagement between Christology and biology requires preliminary clarification of the content of both areas. For one might perceptively ask, “which Christology?” and “which biology?” Exactly which bodies of data are taken as the grounds for our exploration?



This is a vital question since different initial contents of data would lead to different entailments. For instance, an *Arian* Christology, upon which Jesus is not divine in the same sense as the Father, or a *Nestorian* Christology, upon which there are two persons in the incarnation (a divine person – the Word – and a separate, human person – Jesus), would lead to drastically different views of the interplay between Christology and biology. There is seemingly no end to officially declared Christological heresies or to private and sectarian interpretations of who Jesus is. How could we get serious traction relying on these?

Similarly, take a creationist rendering of biology, which minimizes or eliminates the evolutionary character of the genome, including the human genome, again, leading to quite different approaches to our planned Christology–biology interaction. For example, the traditional creationist belief that the earth is 6,000–10,000 years old can hardly account for the deep evolutionary time and connectedness of species reflected in the genome. There is no end to the variety of religious instincts about science generally and interpretations of evolution specifically. Where could we possibly find a viable starting point among such views?

Since different starting points would be prescribed by each variant of our proposed study, our project could lead to drastically different conclusions. Hence, we must indicate explicitly what data we intend to address. We will focus on the teachings of orthodox Christology, as articulated at Chalcedon in AD 451, and mainstream science, as defined by peer-reviewed research published in leading scientific journals such as *Nature*, the platform in which the initial findings of the Human Genome Project were carried. We embrace Chalcedonian Christology because it is intimately embedded in that great system of orthodox doctrine framed by the Seven Great Councils of the Church during the first eight centuries. If any theology of the Incarnation deserves to be called *the doctrine of the Incarnation*, it is the Christology found in those councils. No other understanding of the Incarnation has nearly as much consensus, either across the globe or through the ages.

Similarly, we accept the data published in peer-reviewed, mainstream, scientific journals since they reflect the scientific consensus in the world today and are grounded in well-established evolutionary biology. If any biology of the origins of humanity deserves to be called *the consensus biological view*, it is certainly that which is presented by biologists working in the field today. In the remainder of this section, we provide brief justification for our decision to concentrate on mainline Christology and mainline biology in structuring the project before us. We preserve the full presentation of these bodies of data, respectively, for Chapters 3 and 4.

Chalcedonian Christology follows the orthodox theological position on the person of Jesus Christ formulated with painstaking precision by the Council at Chalcedon in AD 451. Consider the following striking statement:

We all with one voice teach the confession of one and the same Son, our Lord Jesus Christ: the same perfect in divinity and perfect in humanity, the same truly God and truly man, of a rational soul and a body; consubstantial with the Father as regards his divinity, and the same consubstantial with us as regards his humanity; like us in all respects except for sin; begotten before the ages from the Father as regards his divinity, and in the last days the same for us and for our salvation from Mary, the virgin God-bearer, as regards his humanity; one and the same Christ, Son, Lord, only-begotten; acknowledged in two natures which undergo no confusion, no change, no division, no separation.<sup>15</sup>

This statement from the fifth century is accepted by all major Christian traditions and thus reflects consensual historic orthodox belief regarding Jesus Christ. The above statement from Chalcedon's Definition of Faith makes the almost unimaginable claim that the Second Person of the Godhead, the divine Son, took on human nature, becoming a real human, Jesus of first-century Nazareth. The doctrinal formulation is meant to assert that Jesus was not God merely pretending to be human; rather, in Jesus, the divine nature became bound to human nature. Jesus, then, is one person in two natures.

Indeed, the line that Jesus is "consubstantial with us as regards his humanity" – meaning that he is of the same substance as we ourselves – has traditionally been understood by theologians to affirm that God in Jesus was actually human in the same sense as any of us are human. In the Chalcedonian quotation, a human being is said to be a combination of rational soul and body, which draws from the Aristotelian view that a human being is a compounded ("hylomorphic") unity. It is clearly implicit here that our physical body is an "animal body," since it is not a plant or other type of material body. Thus, a complete human being, as Aristotle taught, is a "rational animal" – which is, essentially and necessarily, constituted by rationality and animality in intimate relationship.

Just as Chalcedonian Christology has become foundational for orthodox studies of Christ's humanity, discoveries in molecular biology, including the Human Genome Project, have, in recent decades, become the touchstone

<sup>15</sup> *Decrees of the Ecumenical Councils*, 86.

for biological study of humans. Biology (from Greek *bios* for “life” and *logos* for “rational account”) is the science of the living world, the study of the structures, functions, and interactions of all organisms. While scientific understanding of the physical world has advanced over many centuries, understanding of our biology greatly accelerated from the Darwinian Revolution onward. Darwin’s theory of evolution, as expounded in his 1859 book, *On the Origin of Species*, provided the key to species change – what he called “descent with modification” – across the living realm. Simply put, natural selection acting on heritable variation causes populations to become adapted, or increasingly well suited, to their local environments over time. Further, Darwin’s evolutionary principles entail that all living things share a common ancestor.

When Darwin published *The Descent of Man* in 1871, it was clear that he thought that humanity was subject to evolutionary explanation as well. Darwin states, “Man, wonderful man, must collapse, into nature’s cauldron, he is no deity, he is no exception.”<sup>16</sup> Studied biologically as an animal, a modern human was for Darwin a product of the evolutionary process, with a common ancestor in the primates and more distant common ancestors on down the evolutionary line.

From Darwin to the present, evolutionary theory has been combined with other important theoretical advances to become a powerful theoretical framework, replete with extensive empirical grounding. Work in Darwin’s day by Gregor Mendel eventually gave evolutionary theory genetics, which explains genes as units of inheritance. In the late nineteenth century, the molecule that contains genes was discovered and called deoxyribonucleic acid, or DNA. The term “genome” was soon coined to refer to the total biological inheritance of any given organism. Population genetics arose in the 1920s to study gene frequency dynamics in populations in quantitatively precise ways. The development of molecular genetics led to Watson and Crick’s famous discovery of the double-helix structure of DNA in 1953 and eventually to the ability to map complete genomes.

Modern molecular biology provides great insight into evolutionary biology. Indeed, biology may be viewed as a kind of consensual scientific orthodoxy that enjoys overwhelming theoretical support and empirical confirmation. Of course, evolutionary biology, like any science, advances as disagreements are settled and a high degree of consensus occurs. While there are controversial areas in any growing science, and there are such

<sup>16</sup> Quoted in Adrian Desmond and James Moore, *Darwin* (New York: W. W. Norton, 1991), 243.

areas in biology, our point is to recognize the factual nature of evolutionary biology as crucial to the integrity of our discussion. The famous biologist and Russian Orthodox believer Theodosius Dobzhansky made the point well in the title of his 1973 essay: “Nothing in biology makes sense except in the light of evolution.”<sup>17</sup> The biology we have – the only biology that works – is evolutionary biology. From Darwin’s inclusion of humanity in the evolutionary process to the mapping of the human genome, we now possess more knowledge of our own biology than ever before.

The stage is now set for fuller investigation of the intersection of Christology and biology – historic orthodox Christology and mainline evolutionary genetics in interaction. Theologically, we know that the infinite and eternal God entered his physical creation, truly becoming a concrete biological human. In no way did this union with our humanity diminish or change essential divinity, and in no way did it diminish or alter essential humanity. Scientifically, our extensive knowledge of our humanity allows us to explore what it could mean – and even *must* mean – in biological and genetic terms for Jesus Christ to be “fully human.” If he is indeed “consubstantial with us as regards his humanity,” constituted by a rational soul and animal body, then theology’s connection with biology is deep and profound. Common sense biology tells us that Jesus had a specific height, weight, hair color, skin color, and the like. Elementary biology would tell us a bit more technically that Jesus would have had to display the vital processes of locomotion, nutrition, growth and repair, blood circulation, respiration, and so forth. Unsurprisingly, then, familiar gospel accounts record that Jesus walked, got tired, rested; that he ate and replenished himself; and that he cried, bled, and died, gasping his last breath. For God to become human was to become subject to human biological realities.

The interdisciplinary nature of our exploration is of great value. Scientifically, we see how empirical discoveries shed light on our common humanity and apply, in general, to Jesus, thus providing theology with important material for reflection. Theologically, we draw out the themes that both positively embrace our created biology and set it in new perspective in the Incarnation. We remain alert throughout to the Christian theme that in Jesus Christ we get the clearest glimpse of what humanity is meant to be. Philosophically, we carefully navigate the issues to distinguish scientific facts from philosophical interpretations of them and to differentiate genuine Christian orthodoxy and its implications from other, often

<sup>17</sup> Theodosius Dobzhansky, “Nothing in Biology Makes Sense Except in the Light of Evolution” *The American Biology Teacher* 35 (March 1973): 125–129.

popular, versions of Christian teachings. Adding to the significance of this project is our dedication to the integrity of the fields of knowledge involved, an integrity that is only protected on a realist view.

### Realism in Christology and Genetics

Our treatment of the intersection of theology and biology is essentially philosophical since philosophy is inherently interdisciplinary and thus suited to handle our obviously interdisciplinary topic. Philosophy asks questions about the meaning, consistency, truth, and implications of various statements and positions; it is concerned with precise expression and correct argumentation; and it seeks the best comprehensive worldview framework for a total range of phenomena. Thus, we will raise critical questions about the two key content areas involved – their internal consistency, their mutual compatibility, their implications for our humanity, and whether their central claims can be synthesized in a credible way.

Furthermore, the philosophical discussion ahead will rest on realist metaphysical and epistemological assumptions about both theology and science, and thus about Christology and biology. Metaphysical realism simply acknowledges that there is a world of real things, with their own properties and relations, that are not created by human thought. Metaphysical realism is of course domain specific and pertains to phenomena within a given domain – say, realism about the mental, the moral, the physical, and the like. The authors here are just mature enough to be anti-realists with respect to the domain of comic book superheroes, although we remember fondly our exuberant youthful realism regarding this subject. For present purposes, then, our *metaphysical realism about theology* asserts that there are theological phenomena and that statements that are really true or false may be formulated about them. We also assume *epistemological realism about theology*, which affirms our actual ability to have cognitive contact with and know something about theological objects, to make judgments of truth or falsity about them. Theological statements, then, can be objects of knowledge, as much as any statement made in science or ordinary life.

For this project, the importance of realism as a meta-theological position about the nature of the theological enterprise cannot be underestimated.<sup>18</sup> Since the Enlightenment, a contagious non-realism or even anti-realism

<sup>18</sup> See Michael Slater, “Theology, Metaphysics, and Realism about Truth” *Modern Theology* 35, no. 2 (2018): 244–267. doi.org/10.1111/moth.12454.

has infected many who move in the theological circles, underwriting radical revisionism regarding the theological task. Various theologians implicitly or explicitly deny the reality of theological objects, and others deny that we can rationally know anything about theological objects – in either case, there is no genuine theological knowledge. Versions of anti-realism are easily found among religious thinkers: Ludwig Feuerbach's theory that God is a projection of the human mind, Rudolph Bultmann's interpretation of faith as existential decision, and Tillich's unknowable Ground of Being. These and other writers embrace what we are calling meta-theological anti-realism: objects in the theological realm are mental projections, created by language, products of culture, or the like. By contrast, our meta-theological realism harkens to a more ancient approach to theology – when doctrinal statements had ontological objects and these objects were knowable to some extent through human inquiry and reflection on both natural and biblical sources.

We also assume scientific realism. Our *metaphysical meta-scientific realism* holds that scientific statements and theories are about a mind-independent physical realm and thus can be either true or false about the structure and operation of objects in that realm. "Yes, Virginia," not only is there a real physical world, but its constituents and structures can be the object of true or false statements, whether they be atoms, energy fields, or habit strength in pigeons.<sup>19</sup>

Moreover, we endorse *epistemological meta-scientific realism*, which holds that human epistemic capacities and procedures are generally reliable for discovering, evaluating, and confirming empirical theories such that the theories can become bona fide scientific knowledge. Thus, we assume a confident epistemic position regarding the content of our best theories and models about both observable and unobservable aspects of the world described by the sciences. What we might call our "critical realism" here is not infallibilism but rather acknowledges that the inductive and probabilistic knowledge science achieves is subject to further confirmation (or disconfirmation) by further observations, experiments, relations to other theories, and consensus in the professional community.

Realism about science, its objects and procedures, is crucial to a correct understanding of science and thus to the project of exploring its intersection with theology. In the first half of the twentieth century, anti-realism about science was dominant. Logical positivism, which was an extreme

<sup>19</sup> Francis Church [published first anonymously], "Yes, Virginia, there is a Santa Claus," *The Sun* (September 21, 1897). This article launched the famous phrase used here.

form of empiricism, became the regnant view of science. Positivist Rudolf Carnap held that theoretical terms had cognitive meaning only if they were explicitly tied to empirical observation conditions, thereby ruling out vast stretches of important scientific theorizing that a robust realism validates. In the middle of the twentieth century, historicism and constructivism arose. Thomas Kuhn's historicism emphasized that scientific practice occurs under a certain shared "paradigm" – constituted by prevailing metaphysical beliefs, values, preferred research methods, and the like – such that all observations are "theory laden" and not objective. Constructivism even pressed further, emphasizing that what we call "fact" and "knowledge" are determined by social factors, such as the prevailing political climate and the like. While historical and sociological factors are relevant, philosophy of science these days has come to realize that such considerations do not overturn a realist interpretation of science. Indeed, in the past few decades, anti-realist perspectives in philosophy of science have given way to a revival of realist positions in contemporary philosophy of science.

Adopting metaphysical and epistemological realism about both theology and science greatly raises the stakes of the present project. Theological claims are treated as though they could (if consistent) really be true and as though theological method (which relies on scripture, tradition, authority, and reason) can be a genuine source of knowledge about divine reality. Similarly, well-supported scientific claims are treated as reliable (though revisable) descriptions of a real, discoverable physical world that are delivered by appropriate epistemic methods.

Such realist assumptions are crucial for a fruitful discussion here. If we assumed some kind of non-realism, for instance, about either science or Christian theology, our pressing concerns about the relationship of these two areas would largely be dissolved. If science offers theories that are at best useful calculational devices detached from any thought that they are somehow rooted in physical reality, Tertullian-type questions about the relation of science to theology would be far less urgent. Similarly, if Christology were simply a tale meant to draw out our best selves in community, then it would be hard to see how any worries about its intellectual consistency with the findings of biology would be of much concern. Simply put, any non-realist meta-scientific or meta-theological assumptions would make this a boring and relatively unimportant project.

However, under a realist construal of our task, the way is open for perceiving important interdisciplinary relationships and even cross-fertilization as we approach a larger, more unified view of reality and our knowledge of it. Thus, our investigation of the intersection of Christology

and biology will be much richer and much more serious on realist theological and scientific assumptions than it could ever be on any non-realist construal.

### Launching the Project

Thoughtful persons have always asked about whether their various beliefs fit together. In this study, we ask this question regarding particular beliefs grounded in theology and beliefs grounded in biology, considering their compatibility from both angles. Our Tertullian-type question concerns the intersection of evolutionary biology and Christian faith. Can Christology and genomic science be consistent? That is, can we determine that there is no logical inconsistency between them? If consistent, how might evolutionary biology and Christian faith interact? Are they entirely separate – or can they be related in some way? Furthermore, might their interaction contribute significantly to an integrated, coherent worldview? And could such a worldview be intellectually competitive with other extant worldviews? In the following chapters, we will be seeking answers to these questions.

In this chapter, we made several methodological points to describe how we will conduct the unfolding study. First, we affirmed the rigorous engagement between faith and reason, which will be reflected in our analysis of the relationship between classical Christology and contemporary biology. Second, we indicated that we intend to engage orthodox, Chalcedonian Christology with mainline evolutionary biology, which involves drawing from the teachings of Great Councils as well as from the findings of modern science, particularly genomic data acquired in recent decades. Third, we stated that we will assume both theological and scientific realism, which gives us full-strength theology and full-strength science in that we take seriously the intent of these disciplines to be making factive claims about what reality is actually like – particularly, about Christ and about the human genome. Moreover, we treat the sources and methods of theology and science, respectively, as adequate and appropriate for producing truth claims about their stated subjects. Thus, our approach to this study is confident and high-minded, aiming at charting out what can be discovered at the intersection of Christology and biology.

In the next three chapters, we set the table for robust discussion of the intersection of Christology and biology by outlining different models for interpreting the Christianity–science relationship and then further establishing the set of claims made by Chalcedonian Christology and evolutionary biology.