

Locating Heaven: Modern Science and the Place of Christ's Glorified Body

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It seems only fitting to respond to mysteries of faith with awe and astonishment, but there is something dangerous about being embarrassed by them. Unfortunately, when it comes to the mystery of the Ascension, Christians sometimes cannot help but gravitate toward the latter response. There are those nagging “why” questions, as we wonder if things would not have been better off if Christ had stayed on earth. On top of that, there are the dumbfounded “where” questions by which we wonder where Christ went when he left the Apostles’ sight and where he actually is right now, if anywhere. These are not new questions, of course, and the tradition of the Church offers a great deal of reflection to guide us, reflection which seems quite apt at answering the “why” questions, but which can appear inadequate to answer the “where” question.¹

Every Sunday, Catholics profess: “He ascended into heaven and is seated at the right hand of the Father.” The Church has always been clear that the “right hand of the Father” should not be understood physically, for the

¹ As a brief look into the “why” question, we can use Thomas Aquinas’s responses. In *Summa theologiae* [ST] III, q. 57, a. 1, resp., he argues, first, that it was not fitting for Christ’s glorified body, now living an “immortal and incorruptible life,” to remain in a “place of generation and corruption.” (He goes further to argue that “Christ’s Ascension into heaven, by which his bodily presence was removed from us, was more useful to us than his corporeal presence would have been” (ad 3). In expounding this benefit, he quotes from Augustine and Leo the Great. Unless otherwise noted, all English translations from the ST are from the Benziger edition of the Dominican Father translation.

Father has no body, no physical hands; but does that mean we should understand everything about the Ascension in some non-physical sense, too?² If Christ is “in heaven” only in a sort of spiritual sense, not a physical one, is he somehow non-physical too? If so, is he still human? If not, where is this body of his? It is hard—arguably impossible—to conceive of any physical body that is not in some place, let alone a living human body that is not in a place. What would it mean for a body to exist completely disconnected from any relation to other physical things? These would seem to be pressing questions for the mystery of the Ascension, but they are questions that, like the Ascension itself, are little talked about by theologians. A recent scholar has summed it up curtly by saying of the Ascension: “Once it was seen as the climax of the mystery of Christ. . . . Today it is something of an embarrassment.”³

Doubt and embarrassment about where Christ’s glorified human body is breeds doubt and embarrassment about the present existence of Christ’s human body, and there are a whole host of theological problems which arise if we deny the present existence of that body. In this paper I will first look at the theological importance of Christ’s glorified body, from Scripture, the theological tradition, and particularly from the mystery of the Eucharist. Then, I will consider where ancient and medieval theologians thought Christ’s glorified body was and point out the contemporary difficulties of their positions. Finally, I will argue that contemporary physics presents new avenues for a reasonable imagining of where the glorified body of Christ could be.

The Importance of the Glorified Body

The Scriptures make it quite clear: even though there was something new about Christ’s body after the resurrection, it really was a human body, and specifically the same human body he had before his death, identifiable most

² See St. John Damascene, *De fide orthodoxa* 4.2: “By ‘the Father’s right hand’ we understand the glory and honor of divinity, where he who exists as Son of God before all ages, indeed as God, of one being with the Father, is seated bodily after he became incarnate and his flesh was glorified” (quoted in the *Catechism of the Catholic Church* [CCC], §663; immediately before the quoted text, Damascene explicitly states that “we do not hold the right hand of the Father is an actual place. For how could he that is uncircumscribed have a right hand limited by place?” (trans. from *Nicene and Post-Nicene Fathers*, 2nd ser., vol. 9, revised by Kevin Knight at newadvent.org/fathers/33044.htm).

³ Douglas Farrow, *Ascension and Ecclesia: On the Significance of the Doctrine of the Ascension for Ecclesiology and Christian Cosmology* (Edinburgh: T&T Clark, 1999), 9.

especially by the very wounds of his crucifixion.⁴ While the senses could be fooled in the resurrection appearances, the sense of touch in particular was used to confirm both the reality of his body and its identity, most memorably when he told Thomas to probe his wounds.⁵ Aquinas argues in the *Summa theologiae* [*ST*] that, for a “true resurrection of Christ, it was necessary for the same body of Christ to once more be united to the same soul.”⁶ If these resurrection appearances are not a manifestation of the continuity between the body that was crucified and the one in this new glorified state, then they seem to be mere parlor tricks used to assuage the disciple's fears or, worse, mislead them.

While Christ took pains to manifest that he had the same human body, it clearly operated under different rules from the corruptible physical world we are so familiar with, disappearing from sight, entering locked rooms, even ascending into the air.⁷ Nevertheless, it could and did interact with “normal” corruptible bodies physically and by contact, even if it was not meant to do so for long.⁸ Mary Magdalene was told to “stop holding on to me” because, while it was possible to touch the Lord, his new body was not meant to stay in this world.⁹ To summarize this scriptural witness, after the resurrection, Jesus Christ is the same human being with the same human body, even if that human body has acted differently at times.¹⁰

⁴ Luke 24:39–43; John 20:19–20, 24–29; Matt 28:9; Acts 1:9 (all quotations from Scripture in this article will be taken from the *New American Bible*). See also CCC, §645; *ST* III, q. 54, aa. 1 and 4.

⁵ Luke 24:15–16, 30–31, 36–43; John 20:14–16, 24–29. See also CCC, §645; *ST* III, q. 55, aa. 5 and 6.

⁶ *ST* III, q. 54, a. 1, resp.

⁷ Luke 24:31, 51; John 20:19, 26; Acts 1:9–10. See also CCC, §645–46, 659. Interestingly, Aquinas divides the various strange occurrences after the resurrection into, on the one hand, those that are powers of the glorified soul commanding the glorified body, like disappearing from the apostles' sight (*ST* III, q. 54, a. 1, ad 2) or ascending upwards from the earth (q. 57, a. 3, resp.) and, on the other, those that are properly miracles, like passing through a locked door (q. 54, a. 1, ad 1; *ST* III Supp, q. 83, a. 4) or passing through the impenetrable heavenly spheres on the way to the empyrean heaven (*ST* III, q. 57, a. 4, ad 3).

⁸ *ST* III, q. 54, a. 2, ad 2.

⁹ John 20:14–18. See also *ST* III, q. 55, a. 6, ad 3.

¹⁰ Various patristic sources attribute a number of special qualities or powers to the resurrected body of Jesus Christ. By the time of Aquinas, the standard four were clarity, agility, impassibility, and subtlety. Notably, unlike some other authors, Aquinas does not attribute these new qualities to some material change in Christ's resurrected body or any significant change in the bodily powers. Rather, they are the natural bodily powers that are now completely subservient to Christ's glorified soul and empowered by supernatural grace (*Summa contra gentiles* [SCG] IV, ch. 86). For other Scholastic

The mystery of the resurrection brings about a significant and perceptible change in Christ's human body, a foretaste of the resurrection we are all promised. The mystery of the Ascension is not the end of the resurrection or of his glorified body, but the end of its physical presence in this world. It is not some further physical transformation; rather, as Christ explains, he is taking his resurrected body and "going to my Father and your Father, to my God and your God" to "prepare a place for you," and as described in Hebrews, he will now "appear before God on our behalf."¹¹ Aquinas argues explicitly that, "by the fact that Christ ascends to heaven, nothing is added to him [in regard to his already resurrected glory] as far as that which is of the essence [*essentia*] of glory, either according to the body or according to the soul, nevertheless something is added to him according to the fittingness of place, which is for the greater existence [*esse*] of glory."¹² If the Ascension does not fundamentally change Christ's mode of existing, of living, then his glorified body is still very much a body right now, which necessarily means it has some size and shape, and by that very fact has a place proportioned to that size and shape.¹³

The physical reality of Christ's humanity, here and now, is not simply a matter of taking seriously the truth of the resurrection and the meaning of the Scriptures. His Ascension "in the flesh" and continued existence as a living glorified human being played a significant role in anchoring the Church Fathers through controversies over Gnostic rejection of bodily creation, Arian denials of divinity, and later attempts to drive a wedge in the hypostatic union.¹⁴ Temptations towards a more "spiritual" or dismissive understanding of Christ's humanity were checked by the ancient creedal belief in the Ascension "in the flesh." The dichotomy of the absent fleshly

theories on the resurrected body see, e.g., Marilyn McCord Adams, "The Resurrection of the Body according to Three Medieval Aristotelians: Thomas Aquinas, John Duns Scotus, William Ockham," *Philosophical Topics* 20, no. 2 (1992): 1–33.

¹¹ John 20:17; 14:3; Heb 9:24. See also *ST* III, q. 57, a. 1, resp. For further scriptural references to the Ascension see Farrow, *Ascension and Ecclesia*, 275–80.

¹² *ST* III, q. 57, a. 1, ad 2.

¹³ *In III sent.*, q. 3, a. 3, qa. 1, arg. and ad 1. Aquinas considers the objection here that Christ cannot be "above the highest heaven" because he must "necessarily be in a place" but above the heavens in "not a place" according to Aristotle's cosmology. Aquinas simply seems to accept the first premise without comment and argues that Christ is not outside all of the heavens, but is in the highest part of the empyrean heavens.

¹⁴ For a fuller discussion of the role of the Ascension in the writings of the Church Fathers and the councils and arguments that some of these developments result from a failure to fully embrace difficulties inherent in the "ascension in the flesh," see Farrow, *Ascension and Ecclesia*.

reality of Christ's humanity and the present spiritual reality of his divinity raised a certain tension and required a certain balance to avoid slipping into various Christological heresies. Arguably, no doctrine brought this dichotomy and tension more to the forefront than the doctrine of Christ's presence in the Eucharist.

The Eucharist and the Glorified Body

In the *Catechism of the Catholic Church* we read that Christ is present

in his word, in the Church's prayer, "where two or three are gathered in my name," in the poor, the sick, and the imprisoned, in the sacraments of which he is the author, in the sacrifice of the Mass, and in the person of the minister. But "he is present . . . most *especially in the Eucharistic species*."¹⁵

We see that the Eucharist stands out amongst a variety of particular circumstances where we rightly want to call Christ present. According to Aquinas, the Church attributes the language of "being present" and "being in" to Christ in three distinct ways. As a person of the Holy Trinity, Jesus Christ, along with the Father and the Holy Spirit, is in all things by "essence, presence, and power" because all things are present to God and are held in existence by him in whom "we live and move and have our being."¹⁶ This presence pertains to the Trinity as Creator of all that is, present to all that God sustains in being. Furthermore, God the Son is present in a second and distinct way when grace, a participation in the very life of the Trinity, is at work in rational creatures who know and love him.¹⁷ Aquinas argues, further, that there is a third presence of the Son of God in the world in virtue of the hypostatic union. God the Son renders himself present in a distinct way precisely in virtue of his union with our humanity. All human beings can come to know of this personal presence of the incarnate Son, by the grace of Christ. He offers all this grace insofar as he is Head of the Church, one who offers union by grace to all persons, expressed by the gifts

¹⁵ CCC, §1373. The last sentence of this quotation is a quote from the Second Vatican Council's *Sacrosanctum Concilium*, §7, with the emphasis added in the CCC. The earlier parts of the quotation reference Rom 8:24 and Matt 18:20 and 25:31–46, as well as §48 of Vatican II's *Lumen Gentium*.

¹⁶ Acts 17:28; CCC, §300; *ST* I, q. 8, a. 3.

¹⁷ CCC, §1997; *ST* I-II, q. 100, a. 1.

of faith, charity, and finally glory.¹⁸ It is by these second and third types of presence, in the grace the works in individual people and in Christ as Head of the Church, that we are able to recognize Christ in our neighbors, in the Church at prayer, and in the sacraments.

The presence of Christ in the Eucharist builds off of this last presence, or is in fact a sacramental mode of that same presence of Christ as Head of the Church. In this Eucharist, the incarnate Son of God is present, body, blood, soul, and divinity, a point the Church has emphasized repeatedly in the strongest terms. In it we find not a presence by power or grace, but “the body and blood, together with the soul and divinity, of our Lord Jesus Christ,” and “therefore, *the whole Christ is truly, really, and substantially contained*.”¹⁹ In the celebration of the Eucharist, the Church takes Christ at his word. When he said “this is my body” and “this is my blood,” we believe that he really meant it, and when we “do this in remembrance of [him],” his body and blood truly become present.²⁰ This doctrine of transubstantiation implies not the presence of divine power or grace, nor simply an affinity to Christ’s humanity, but the actual presence of Christ’s human body and human blood. He who has become human, and who is now exalted in heaven—that is to say, whose humanity has obtained a glorified state—is rendered truly present to us in the Eucharist. If these claims are to have real significance, then the doctrine must require certain truths about Christ’s body and blood if they are really going to be present in the Eucharist. To make sense of this, it will be helpful to look into some of the details of Aquinas’ treatment of transubstantiation and the Eucharist to make clear exactly what those truths about Christ’s body and blood are.

Present under the Species of Bread and Wine

One of the first objections Aquinas presents to the very idea that Christ is truly present in the Eucharist is that “no body can be in several places at the one time. . . . But Christ’s is a true body, and it is in heaven. Consequently, it seems that it is not in very truth in the sacrament of the altar.” In response, he does not redefine or compromise on the way that Christ’s glorified body exists and is in a place, but instead argues that “Christ’s body is not in this sacrament in the same way as a body is in a place, which by its dimensions is commensurate with the place; but in a special manner which is proper to

¹⁸ CCC, §771–776; ST III, q. 8, a. 3.

¹⁹ CCC, §1374 (quoting the Council of Trent’s 1551 *Decree on the Sacrament of the Eucharist*, from Denzinger-Schönmetzer [DS] no. 1651).

²⁰ Mark 14:22–25; Luke 22:19–20. Cf. Matt 26:26–29; 1 Cor 11:23–25.

this sacrament.”²¹ This special manner in which Christ's body is made present in the sacrament is that, “by Divine power, . . . the whole substance of bread is changed into the whole substance of the body of Christ, and the whole substance of the wine in the whole substance of the blood of Christ,” but with all of the accidents of bread or wine remaining and none of the accidents of the body or blood of Christ present in their usual natural mode.²² Importantly, while Aquinas will refer to the body and blood of Christ being “under” the species, or accidents, of the bread and wine respectively, he makes clear that “these accidents are not in the substance of the body and blood of Christ as in a subject.”²³ This is impossible: because “the substance of the human body cannot be affected by such accidents,” a human body cannot actually be the subject of the accidents of bread; it cannot look, and taste, and feel like bread, and still be a human body. Further, the body of Christ is “glorified and impassible,” making it impossible for it to be altered in a way that would allow it to receive these accidents. From this, we see that the consecration of the bread and wine do not in any way change the inherent properties of Christ's glorified body, including its proper place. Nevertheless, looking at the mode in which Christ is present in the Eucharist reveals just how central his glorified body is to this sacrament.

Aquinas addresses an entire question in the *ST* to the “mode in which Christ exists in this sacrament,” and the most important question, for our purposes, is the first, “whether the whole Christ is under this sacrament.”²⁴ While he unsurprisingly answers affirmatively, he makes an important distinction, namely, that there are two different ways in which different aspects or parts of Christ are in the sacrament.

Present “by the Power of the Sacrament”

The first way that a part of Christ is present in the Eucharist is that the things named in the words of consecration are made present “by the power of the

²¹ *ST* III, q. 75, a. 1, obj. and ad 3.

²² *ST* III, q. 75, aa. 2–6. The “whole substance” would normally naturally include not just the composite of prime matter and substantial form that is the substance, but also any accidents that exist in the substance: the size, weight, taste, smell, etc. In discussing the Eucharist, with its unique mode of change, possible only by divine power, Aquinas uses the “whole substance” to refer specifically and only to the composite of prime matter and substantial form, not to any accidents. This means that neither the matter nor substantial form of bread and wine remain, only their accidents. He devotes the entirety of question 77 to justifying how these accidents can exist, by divine power, without a subject to exist in.

²³ *ST* III, q. 77, a. 1, resp.

²⁴ *ST* III, q. 76, a. 1.

sacrament” or “by the power of the conversion.”²⁵ Thus, by the words “this is my body,” the whole substance—matter and form—of the body of Christ is made present under the accidents of bread, and by the words “this is my blood,” the whole substance of the blood of Christ is made present under the accidents of the wine.

Yet, a reasonable objection to this first claim is that, if Christ is truly alive right now, there is no separate physical substance of his body or his blood, and if we were to identify the actual formal principle of either, we would look to the soul of Christ, which is the proper substantial form of a living human being and all of its parts. To this objection, Aquinas notes that, while “the soul is the form of the body giving it the whole order of perfect being, namely being, and corporeal being and animated being, and so on,” what is made present in this sacrament is “the form of the body of Christ insofar as it gives corporeal being, but not according as what gives animated being such as the soul.”²⁶ The body of Christ and the blood of Christ are each currently only a material part of the full living human being, Jesus Christ, but they are each at least potentially divisible from it. This is made clear from the fact that, in Christ’s Passion and death, his blood was separated from his body and his soul from them both, meaning each had (or, in the case of the soul, was), at least temporarily, a separate independent substantial form.²⁷ Thus it is not incoherent to take seriously the idea that the terminus of the conversion of the sacrament is the whole substance of Christ’s body, because we are not claiming that this is being removed from the rest of Christ or somehow instantiated anew and independently. Neither is there any addition to or subtraction from the glorified body of Christ. Rather, focusing on the words of consecration spoken over the bread, a potentially separable part of Christ—namely, his body—is made present “by the power of the sacrament” as a whole substance, under the accidents of bread by divine power. That sacramental power has no direct bearing or effect on the parts not named, the blood, or the soul, for instance. This happens without removing this part, the body, or changing it in any way.

²⁵ Aquinas uses the phrase *vi sacramenti* or “power of the sacrament” throughout his corpus when discussing the Eucharist, beginning with the *Sentences* commentary, and it is the only phrase used in most works. He uses the phrase *vi conversionis* of “power of the conversion” only rarely, but throughout the corpus as well; for instance, it shows up once in the *Sentences* commentary. The second phrase does not appear in the *ST* but is the primary term used in discussing transubstantiation in the *SCG*. It does not appear that he intends the two to have a significant difference in meaning.

²⁶ *ST* III, q. 75, a. 6, ad 2.

²⁷ *ST* III, q. 81, a. 4, ad 2 and ad 3.

In particular, it does not change the way this part is properly related to and dependent on those other material and formal parts of Christ, his blood, and his soul. The body of Christ in its glorified living state is not altered, but it is rendered truly present to us in its very substance.²⁸

Present by "Natural Concomitance"

The fact that Jesus Christ, the living glorified human being, is in no way changed when his body is made present "by the power of the sacrament" leads directly to and underlies the second type of presence Aquinas identifies in the Eucharist, "natural concomitance" or "real concomitance."²⁹

Because Jesus Christ is a living human being, his body and his blood are actually naturally physically united at this very moment, with blood pumping through his circulatory system and interspersed throughout all of his organs. In every place we find his body, we also actually find his blood, and in every place we find his blood, we actually find his body, each contributing to the natural functioning of the other.³⁰ Furthermore, the natural formal principle of both his body and blood, by which they actually exist as body and blood with all of their properties and powers, is Jesus Christ's human soul, which is present throughout his physical human body.³¹ There is no place that we actually find Christ's body or that we find Christ's blood that is not actually informed by his soul.

Because of this natural unity between the body, blood, and soul in the living glorified Jesus Christ, Aquinas argues that, when any one part or aspect of Jesus Christ is made present "by the power of the sacrament," nothing has changed about the natural union of his humanity, and so the rest of

²⁸ *ST* III, q. 76.

²⁹ As with the phrases "power of the sacrament" and "power of the conversion," Aquinas usually uses *naturali concomitantia*, or "natural concomitance," and more rarely *reali concomitantia*, or "real concomitance." The second only appears in the *ST* and the commentary on 1 Corinthians and becomes the more frequently used phrase in the *ST*. Again, there does not seem to be any intended difference in their meaning. These phrases are used exclusively in the discussion of the Eucharist, although the word *concomitantia* is a general term that Aquinas uses for a close natural or intellectual association: "An act of the sensitive appetite is *concomitant* with some transmutation of the body" (*ST* I, q. 20, a. 1, ad 1); "because patience serves fortitude on the part of its first act, endurance, hence it is *concomitant* to praise the martyrs for their patience" (II-II, q. 124, a. 2, ad 3).

³⁰ While Aquinas thinks that some bodily functions, like eating and drinking, will be possible but superfluous for glorified human beings, like Jesus Christ, some natural bodily functions will continue, and he specifically names motion of the heart as one of these (*De potentia*, q. 5, a. 10, ad 8).

³¹ *ST* I, q. 76, a. 8.

him must be present as well. The blood and soul of Christ are not explicitly made present “by the power of the sacrament” under the species of bread, because they were not named in the words of consecration spoken over the bread: “This is my body.” Nevertheless, they are actually naturally united with the body of Christ, so wherever the body of Christ is made present by divine power in the sacrament, they are present by “natural concomitance.” Similarly, though not named in the consecration and thus made present “by the power of the sacrament,” the body of Christ and his soul are actually present under the species of wine by “natural concomitance.”

Finally, in addition to the natural union of the body, blood, and soul of Christ as a human person, there is a higher union, unique in all creation. In the Incarnation, the Second Person of the Holy Trinity assumed a human nature. As affirmed in the Council of Constantinople, “there is but one *hypostasis* [or person], which is our Lord Jesus Christ, one of the Trinity.”³² Thus, by the “hypostatic union,” there is no distinction between the human and divine persons in Jesus Christ and his full human nature—body and soul—is permanently united to his divinity. Therefore, by the same principle of “natural concomitance,” the divinity of Christ is present whenever either the body or the blood is made present “by the power of the sacrament.” Furthermore, as the Holy Trinity is, by nature, one God and actually inseparable, and though the Father and the Spirit are not human, they are present as well with the Lord, both in his glorified body and in the Eucharist.

Making the Eucharist Reasonable

While strange and unfamiliar, these distinctions in the ways that different aspects of Christ’s humanity are present in the Eucharist make the teaching and worship of the Catholic Church reasonable and consistent. Because it is the body of Christ that is made present under the species of bread and the blood of Christ that is separately made present under the species of wine “by the power of the sacrament,” they are unbloody signs and representations of the one real bloody sacrifice of Christ on Calvary. Simultaneously, by real concomitance, the whole glorified Christ is actually present in the Eucharist, he who was and is the victim and the priest of that sacrifice. Further, reception of the Eucharist under either species is a means of union with the whole Christ—body, blood, soul, and divinity—and none of the sacramental grace or power is lacking. After the consecration, both species are independently worthy of great reverence and the highest form of worship, during the Mass, when reserved in the tabernacle, and when displayed for adoration.

³² CCC, §468, quoting the Second Council of Constantinople from DS, no. 424.

Importantly, the lynchpin holding all of these distinctions together and maintaining the coherence of Eucharistic practice is the actually existing, living, and glorified human body of Christ. It follows from all this that we must take seriously the reality of the human nature of Christ, his physical body, and even the question of his exalted "place" or location. If Jesus Christ is not presently alive somewhere in his full humanity and divinity, he cannot be the principle by which his soul and divinity are present in the Eucharist as well.³³ If the words of consecration are not making present sacramentally a reality that exists somewhere in its proper natural form, then they must be making that reality come to be anew. If the glorified body of Christ does not actually exist right now in some place, either our worship of the Eucharist is idolatry or the Son of God is being repeatedly incarnated every time we celebrate the Mass. Losing faith in the fact that Christ's body actually is somewhere threatens to undermine the "source and summit of the Christian life."³⁴

The Problem of Place

Given that we know, by faith, that Christ really exists in his full glorified human body right now, an obvious question comes to mind: where exactly is he? We might look for guidance from theologians of the past, but it seems like their answers will not do. Many ancient and medieval Christian thought they knew exactly where the heaven Christ ascended to was. In short, he just went up until he could not go up any farther. Christ is present above the highest part of the visible heaven. For many of the Church Fathers, following a broadly Platonic cosmology, this meant the highest "fiery" heaven above the earth, water, and air. Augustine, for example, ridicules objections against the possibility of the Ascension from the "heaviness" of Christ's earthy body by appeal to divine power.³⁵ While he is insistent that "we must believe that it is in heaven," by which he means the highest part of the cosmos, he

³³ St. Thomas Aquinas even speculates that, if the sacrament of the Eucharist had been celebrated during Christ's three days in the womb, after he had truly died and his soul was separated from his body, then his body would be present under the species of bread and his blood under the species of wine but his soul would in no way be present. This hypothetical drives home the importance of the current actual mode of existence of Christ in his proper physical, living, and glorified body as the principle of his presence in the Eucharist (*ST* III, q. 76, a. 1, ad 1; a. 2; q. 81, a. 4).

³⁴ CCC, §1324, quoting *Lumen Gentium*, §11.

³⁵ St. Augustine, *De civitate Dei* 22.11.

discourages as “over-curious and superfluous” too much curiosity about exactly “where and in what manner the Lord’s body is in heaven.”³⁶

By the medieval period, a tradition of commentary on the opening chapter of Genesis, which was passed through the *Glossa ordinaria* and was spread widely by Peter Lombard in his *Sentences*, named the outermost celestial realm the “empyrean heaven.” Aquinas and many other Scholastics merged this with the Aristotelian-Ptolemaic cosmos and placed the empyrean heaven outside the impassable heavenly spheres of planetary motion, just beyond the outermost sphere of the stars.³⁷ The notion of an empyrean, or fiery, heaven was thought to be a real physical place, but a precursor to the glory of the new creation, a precursor which already enjoyed the perfection of incorruptibility and exuded the very light of glory.³⁸ It was separated from our corruptible order by the perfectly incorruptible heavenly spheres and beyond the reach of any natural observation. Not only was it physically difficult to get there, but even assuming you could find an Aristotelian airplane or rocket ship to get off the ground, it would literally take a miracle, the direct action of divine power, to pass through the solid, incorruptible heavenly spheres to get there.³⁹ According to Ptolemy, the radius of the fixed stars, the outermost sphere of the heavens, was about twenty thousand times the size of the planet earth, putting Christ very far away from his Church, but

³⁶ St. Augustine, *De fide et symbolo* 13.

³⁷ *ST* III, q. 57, a. 5. St. Thomas attributes the idea of the empyrean heaven as the place of the blessed to Basil the Great and Venerable Bede. He notes similar ideas in Augustine and Isidore of Seville, but recognizes that they did not share Aristotle’s cosmology and would not have completely separated the empyrean heavens (see *ST* I, q. 61, a. 4; q. 66 a. 3). Among Scholastics, as in all things, there was much debate about the existence and nature of the empyrean heavens and its relation to the lower heavens. Although it has a primarily theological origin, some felt the empyrean heaven added a missing piece to Aristotle’s cosmology by giving a fixed “place” or container for the outermost sphere of stars. Others like John Duns Scotus, Jean Buridan, and Albert of Saxony argued that it was an unnecessary and unfitting addition to add such an unmoving sphere, since the perfection of the heavenly spheres was their motion. Concerning these Scholastic debates, see Edward Grant, “Cosmology,” in *Science in the Middle Ages*, ed. David C. Lindberg (Chicago: University of Chicago Press, 1978), 274–80.

³⁸ *ST* I, q. 66, a. 3.

³⁹ *ST* III, q. 57, a. 3, a. 4, ad 3. Somewhat surprisingly, but consistent with his natural philosophy and understanding of the resurrected body, Aquinas argues that the ascent of Christ’s body was not a violent motion, but one proper to the power of his glorified body, absolutely full of divine grace. That said, He still needed direct divine action, a miracle, to pass through the incorruptible heavenly spheres to his proper place above the highest heavens (see *ST* III Suppl., q. 83, aa. 2–4).

it was a conceivable, finite distance.⁴⁰ Further, this distance was balanced by solid arguments from fittingness for the need for some sort of separation and for the appropriateness of the empyrean heavens as a dwelling place for Christ.⁴¹ In the thirteenth century, this seemed the best explanation of the plain meaning of the words "he ascended into heaven." Where is Christ? Go as far up as you can see, and he is just beyond that.

For us, with our understanding general relativity, our experience of space flight, probes traveling beyond the solar system, and the Hubble Space Telescope looking deep into the emptiness of space, going up simply will not do. Up goes really far. The radius of the visible universe is an unimaginable forty-six billion light years.⁴² Ptolemy's estimate of twenty thousand earth radii would put the edge of his universe a bit inside the actual distance to the sun, a large but not unimaginable distance. For scale, if the earth were the size of a ping pong ball, the edge of Ptolemy's universe would be four hundred meters away, about four football fields. On the same scale, the edge of the visible universe would still be 146 light years away, a distance that is easy to write but, even when scaled down, hard to conceive.⁴³ And that is

⁴⁰ Bernard R. Goldstein, "The Arabic Version of Ptolemy's Planetary Hypotheses," *Transactions of the American Philosophical Society* 57, no. 4 (1967): 3–55, at 11.

⁴¹ *ST* III, q. 57, a. 1, ad 3.

⁴² J. Richard Gott III et al., "A Map of the Universe," *The Astrophysical Journal* 624, no. 2 (May 10, 2005): 463–84, at 465. As Gott and his coauthors note, this is larger than the current best estimate for the age of the universe (13.7 billion years) times the speed of light because, while the light we might see from any source at the edge of the universe has travelled for only 13.7 billion years, any sources at the "edge" of the visible universe and what has become our galaxy and solar system have been moved apart by the general expansion of the universe.

⁴³ As C. S. Lewis points out in ch. 7 of *Miracles* ancient and medieval thinkers were perfectly aware of how insignificant the earth was compared to the size of the universe. For instance, Ptolemy notes in *Almagest* 1.6 that "the Earth has, to the senses, the ratio of a point to the distance of the sphere of the so-called fixed stars" (trans. G. J. Toomer in *Ptolemy's Almagest* [Princeton, NJ: Princeton University Press, 1998], 43). While the size of the earth was sensibly negligible for the majority of Ptolemy's astronomical work, he still claimed to be able to calculate a distance to the stars with respect to the radius of the earth and got a number that was large but relatively familiar: 19,865. My point here is not to rehash the false argument that ancient and medieval thinkers did not understand that the Earth was a miniscule part of the universe, but that they could at least imagine the universe "as a whole." They could even build a relatively functional model of everything in the universe like the armillary sphere, with the earth being an insignificant point in the middle. What has changed is that the scale and scope of the visible universe, with everything in it, cannot come close to being imagined directly, even by a simple analogy or model. We need nested layers of analogies to begin to imagine the scope, and then we have no tools to tell us how much farther we have to go to get

just the limit of what we can, in principle, see. The full extent of the unobservable part of the universe is larger than the measurable visible universe, almost certainly many times larger.⁴⁴ Our best observations cannot even rule out the mathematical possibility that the actual universe is infinitely large, although that would raise a whole host of other philosophical issues.⁴⁵ At the very least, this should make clear that, if we want to imagine Christ traveling “up” beyond the furthest extent of our universe, then he is unknowably, unimaginably far away.

As an alternative, we might try to imagine Christ being somewhere closer to us, in some far off, but not seemingly infinitely far off, corner of our visible universe. Some early Christians did speculate that Christ in his glorified state is still “within” the physical world as we know it. Ultimately, though, this will not do. While we can imagine that “life” on some distant planet around some distant star would be very different from that on earth, it ultimately can be only a rearrangement of the familiar patterns of life—and chemistry and physics—that we see on earth. We know that the stars are not part of some fixed spheres made of an incorruptible aether, but instead are dispersed throughout a vast amount of emptiness and made of a particularly beautiful and powerful combination of the same elements that we can find

to the “whole” universe. Thanks to an anonymous reviewer for pressing this point and the Lewis reference.

⁴⁴ Estimating the unobservable is always conjectural, but one reasonable lower limit suggests the universe is at least 250 times the volume of the visible universe, which corresponds to at least six times the radius (Mihran Vardanyan, Roberto Trotta, and Joseph Silk, “Applications of Bayesian Model Averaging to the Curvature and Size of the Universe,” *Monthly Notices of the Royal Astronomical Society: Letters* 413, no. 1 [May 1, 2011]: L91–95).

⁴⁵ There is no physical evidence yet observed that can suggest a size of the universe, either finite or infinite. Our best tool for understanding the shape of the observable universe is the cosmological curvature constant, which was measured by the Planck mission to be $\Omega_k = 0.000 \pm 0.005$, which is consistent with a flat (zero curvature universe). Even if we knew whether the curvature was exactly zero or nonzero, there are finite and infinite geometries that satisfy both conditions. Some new theory would be necessary for physics to tell us the size of the universe. Aristotle and Aquinas and other ancient and medieval thinkers consistently argued against the possibility of an actual infinity, either in number or in size, in the real world (see, e.g., *ST* I, q. 7, aa. 2–4). These arguments are often dismissed because they wrote before the advent of modern mathematics and because contemporary physicists have become used to “dealing” with infinities in Quantum Field Theory and other fields. Still, there are strong arguments to be made against the possibility of an actually infinite quantity or magnitude in the physical world from the perspective of modern mathematics and physics. See, for instance, George F. R. Ellis, Krzysztof A. Meissner, and Hermann Nicolai, “The Physics of Infinity,” *Nature Physics* 14, no. 8 (August 2018): 770–72.

here on earth. When we understand that Carl Sagan was right when he said, "we are made of star-stuff,"⁴⁶ no part of this visible universe, despite the amazingly beautiful pictures astronomers are constantly taking, seems distinct enough to be a fitting place for the resurrected and glorified Christ. It ultimately seems absurd to imagine his incorruptible glorified humanity inhabiting a distant, corruptible exo-planet around a distant corruptible star in a corruptible galaxy far, far, away. If it is still part of our corruptible universe, what is so heavenly about that?

Further, it seems strange to think that we could, in theory, physically come into contact with Christ one day by traveling far enough through natural means of transport. Chances are that most of the places in the visible universe will be practically inaccessible to human travel. Nevertheless, in principle and given enough time, we could travel anywhere in the visible universe. It seems improper to think that Christ is spending his days in a place we could actually travel to with the right technology and patience. There seems to be something fitting to the idea that there should be some sort of barrier preventing human beings, or any other corruptible things, accidentally stumbling upon the resurrected Jesus Christ, until he is ready to come again in glory. It seems reasonable to expect the place Christ is to be not simply *somewhere* else, but *somehow* else as well. A place physically more adapted to his glorified nature, with some different rules for how the things around him act and react, and separated in some way from the normal corruptible stuff we are used to.

It might seem as if we are painting an impossible picture, confronted by the incompatibility of the medieval imagination with contemporary science. Perhaps hitherto our reflections have shown only the juxtaposition and incompatibility of traditional Catholics self-understanding and the presumed modern enlightened vision of the physical cosmos. If only there were room in our scientific worldview for some real place that would not be absurdly far away but would be, in principle, beyond the reach of normal physical power and would have properties that would be completely unfamiliar to us, like the medieval thought they had.

Thankfully, there is.

⁴⁶ Carl Sagan, *The Cosmic Connection: An Extraterrestrial Perspective*, ed. Jerome Agel, 2nd ed. (Cambridge: Cambridge University Press, 2000), 190. He also used the quote in his *Cosmos: A Personal Voyage* television series in the episode called "The Shores of the Cosmic Ocean."

A Multiplicity of Places

There are in fact whole classes of such places in a variety of physical theories. In what are colloquially referred to as “multiverse” theories, physicists have for some time proposed different types of physical places that are inaccessible to us but help explain confusing physical phenomena.

Of course, not all multiverses are created, or at least imagined as if they were created, equal. In his popular science book *The Hidden Reality: Parallel Universe and the Deep Laws of the Cosmos*, physicist Brian Greene catalogs nine distinct classes of multiverses, with varying levels of complexity and testability.⁴⁷ Some of the theories, drawing on the fact that our familiar physical space could be infinite, simply describe some of those far off places that we could never hope to encounter as “separate” universes. In some cases they are just like our universe, with the same physics and chemistry, but exceedingly far away.⁴⁸ In others, they are not only far off, but physically inaccessible, even in principle, with unfamiliar physical properties.⁴⁹ Beyond this, some theories propose more exotic ideas for the very structure of space and time, where our experience of length, breadth, and height flowing through time is a subset of a more expansive reality with additional dimensions or directions that we do not directly notice. This opens up the possibility that there could be other subsets, perhaps similar to or quite different from our own, if only we could search for them in some of these other directions.⁵⁰ Other theories do not try to label different parts of one disparate and varied physical entity, but propose that there are separate physical entities to account for every conceivable historical or physical reality, or even every imaginable mathematical model of reality.⁵¹ Each of these theories has its supporters

⁴⁷ Brian Greene, *The Hidden Reality: Parallel Universes and the Deep Laws of the Cosmos* (New York: Vintage, 2011). Another helpful summary and taxonomy of various multiverse theories is Max Tegmark, “Parallel Universes,” in *Science and Ultimate Reality: Quantum Theory, Cosmology, and Complexity*, ed. John D. Barrow, Paul C. W. Davies, and Charles L. Harper Jr., illustrated ed. (Cambridge: Cambridge University Press, 2004), 459–91. The “Levels” mentioned in the following footnotes are drawn from Tegmark.

⁴⁸ These would include what Tegmark lists as Level I parallel universes.

⁴⁹ These would include most of what Tegmark lists as Level II parallel universes.

⁵⁰ These are theories deriving from string theory that propose the existence of ten or eleven space-time dimensions where we exist on limited a four-dimensional “brane” in a multi-dimensional “bulk.” Tegmark includes these as a subset of Level II parallel universes.

⁵¹ These theories include the “many-worlds interpretation” of quantum mechanics and related ideas that propose some actual physical existence for every possible quantum

and detractors, but a good number of them are taken very seriously by the physics community, and some of them might even be true.

I do not bring up multiverse theories to claim that science can offer a solution to the mystery of the Ascension. In truth, I am generally dubious of positing unobservable entities to explain scientific phenomena. Many of the theories underlying various types of multiverses have given rise to serious debate not simply about whether such theories are true, but also about whether they really constitute scientific theories, since so many of them are formally, or at least practically, impossible to observe experimentally.⁵² In addition to the disputes over their scientific value, many of these theories are philosophically and theologically problematic as well. One could posit that an infinite universe should contain an infinite number of possible worlds or sub-worlds within it, but this does not mean that the universe is infinite or that there are such possible worlds. Clearly, we should be skeptical of theories that argue that every possible history or every possible mathematical structure actually exists, a notion that would destroy God's freedom to create and lead to the implicit denial of our real human free will, among other things. Part of our realistic experience is that only finite effects occur, some and not others, based on finite events, and based also on human volition, to choose this and not that. More fundamentally there is the contingency of finite being as such: God has freely communicated being to the world but need not have. If we acknowledge the reasonableness of these traditional metaphysical claims, then our theories about infinite possibilities have to be examined critically. Even those theories that simply assume the universe is actually infinite in size lead to serious philosophical difficulties, since they imply that every possible finite configuration of finite entities must exist an infinite number of times, including ones that look remarkably like you and me.⁵³

mechanical history (what Tegmark lists as Level III parallel universes), as well as theories claiming some reality for every possible mathematical structure, including every mathematically conceivable universe (what Tegmark lists as Level IV parallel universes).

⁵² While these debates are not new, there has been a renewed flurry of debate recently. See, for instance, Paul Davies, "A Brief History of the Multiverse," *The New York Times*, April 12, 2003, nytimes.com/2003/04/12/opinion/a-brief-history-of-the-multiverse.html. For a summary of the discussion, as well as an argument that certain theories should be considered only mathematical, as opposed to physical, see George Ellis and Joe Silk, "Scientific Method: Defend the Integrity of Physics," *Nature News* 516, no. 7531 (2014): 321–23, at 321.

⁵³ It is helpful to note that, while the physics behind modern multiverse theories is very new, many of the philosophical questions they raise are quite ancient. For example, Aristotle rejects a type of multiverse drawn from the thought of the atomists (see *Physics*

In my opinion, the most useful version of the “multiverse” for grappling with the notion of the Ascension is one that comes out of string theory known as “brane cosmology.” In a nutshell, the idea is that our three-dimensional universe exists as a membrane or “brane” inside of a larger dimensional structure, known as the “bulk.” As a visual analogy, think of a two-dimensional sheet or “brane” that exists in a larger three-dimensional bulk. The electrons, photons, quarks, and other particles that make up our visible universe are constrained to move only on our three-dimensional “brane” and cannot move in the other directions or dimensions.

Why would a physicist propose such a strange structure, and why would other physicists listen to him? Because there are a number of facts about the universe that physics does not currently offer a self-consistent explanation for, and many physicists would very much like to have such an explanation. One of these big open questions is the “hierarchy problem,” which asks why the force of gravity is 10^{24} times weaker than the weak force for the same type of particle. A number of possible solutions have been suggested to the hierarchy problem and a number of them draw on the notion of extra dimensions, like “brane cosmology.” If gravity acts in the “bulk” as well as the “brane,” while the other forces are restricted to just the “brane,” this would help explain why it is comparatively so weak.⁵⁴

If this “brane cosmology” were true, there could be other three-dimensional “branes” with physical objects constrained to move along them, perhaps with different laws for their interaction. What we have is a collection of places that need not be very far away, but that are physically impossible for our familiar material objects to get to, and whose basic physical rules might be very different from ours. This seems to check most of our medieval boxes, but we need to be careful.

First, the other “branes” in this theory are not completely isolated from us, even if the stuff we are made of could never travel to them. The theory usually claims that at least gravity and perhaps some other exotic particles or

3.4.203b27) and warns against assuming that whatever is imaginable can or does exist (3.8.208a15–20).

⁵⁴ The notion of extra dimensions as a tool for solving physics problems dates back to the 1920s but was considered more seriously with the advent of string theory in the 1980s. In 1998, Nima Arkani-Hamed, Savas Dimopoulos, and Gia Dvali proposed their ADD model which could explain the weakness of gravity, and in 1999 Lisa Randall and Raman Sundrum developed their RS models which have spurred various related theories which could, in principle, be testable with current technology. For a brief summary of the history, the technical details, and references see the review “Extra Dimensions” in Particle Data Group et al., “Review of Particle Physics,” *Progress of Theoretical and Experimental Physics* 2020, no. 8 (2020): 083C01.

forces can move through the extra dimensions of the bulk. Secondly, even if the particles and forces that are constrained to other three-dimensional branes are very different from ours, the fact that they interact in some way gravitationally means that they must be corruptible material beings. Our best models for physical interactions always involve the exchange of energy between particles or fields (in this case, gravity and whatever exotic matter is on the other "branes"), which seem to suggest that some sort of physical change, and thus generation and corruption, is happening. Finally, we do not actually have evidence that such parallel "branes" exist, although parts of the theory underlying them are in principle testable, especially the way extra dimensions would change the details about how gravity acts at various scales.⁵⁵

The point of bringing up the multiverse theories, and "brane cosmology" in particular, is not to claim that contemporary science has "found" the place where the glorified Christ is. It has not. Even if we were somehow able to prove one of these other "branes" existed, Christ would almost certainly not be in one of them, as they would still be full of corruptible matter. Rather, the point is that physicists have thought deeply about the physical makeup and structure of the world and learned to imagine "places" that are very different from those that make up the world we are used to seeing and thinking about. If there are such exotic places and states of matter as yet unknown to us, then by analogy there could be "room" in, or at least near, our cosmology for glorified matter, present but of an alternative sort, supernaturalized. I do not want to claim that we should simply follow wherever physicists' imaginations lead, as that can often lead into philosophical questionable territory. My point is that, in the case of the Ascension, the theological truths push us to speculate about a very odd and unfamiliar place, and it is significant to acknowledge that, for very different reasons, physicists have speculated about places that are qualitatively comparable. It is true that we could also find company with L. Frank Baum's *Wizard of Oz* or a whole host of parallel universes in science fiction or fantasy, but it is rhetorically more powerful, particularly in a contemporary context, to find yourself among seriously considered realistic and scientific claims. If we cannot explain

⁵⁵ The best tools we currently have for testing the consistency of gravity include laboratory experiments for short distance changes and precision measurements of planetary orbits in the solar system. There are also constraints that can be placed on "brane" cosmologies from analysis of data from the Large Hadron Collider (LHC) and from various astrophysical sources. For a review of the physics of "extra dimensions" and the observational constraints on them see the "Extra Dimensions" in Particle Data Group et al., "Review of Particle Physics."

the physical universe comprehensively and can reasonably have recourse to hypotheses of parallel dimensions of reality on the plain of the natural sciences, then perhaps the teaching of supernatural faith pertaining to the body of Christ, somehow outside our world and yet present to it, not of our world but present at times in it, is not entirely incongruent with modern scientific reasoning.

The Place of Christ

Reflection on the destination of the Ascension of Christ began with the most plain reading of Scripture and the cosmos: he went up to the heavens, “above the highest heavens,” which was strange but non-unimaginable. By the medieval period, the place of Christ became well defined, if stranger and more unfamiliar, being above and physically separate from the corruptible world we are familiar with. There was a fittingness, if a complexity and strangeness, to this place set aside for the glorified Christ, but it could at least, in theory, be placed on a map.

Astronomers and physicists have convinced us that we cannot find anywhere that is “above” the earth that is a fitting destination for the Ascension, and there seems to be no reasonable place for him in our map of the universe. Nevertheless, some serious members of that scientific community have also begun imagining that there might be real places that are not simply “above,” but in some unforeseen direction. While the places they describe are not “heaven,” the fact that they are not treated as fantasy and wishful thinking can strengthen the imagination of Christians trying to grapple with the fact that the glorified body of Christ truly is somewhere, right now. We can imagine that Christ truly is somewhere, perhaps not even that far away from us, in a place that would be at once familiar and yet very different from the places we find on earth, just in a direction that we cannot naturally travel. This is a strange thought, but it is not an irrational or unreasonable thought, and there lies all the difference.

It is by faith that we believe and profess in the Creed that Christ “ascended to the right hand of the Father.” It is by further reflection on that faith that we understand just how central and important is the truth that Christ ascended “in the flesh” and continues to live as a human being. While the Christian faith does ask us, at times, to believe things that cannot be confirmed by science or by human reason, it does not and should not place us in a position of having to choose one or the other. With the Ascension we find, yet again, that the apparent tension between faith and reason opens up to a more fitting compatibility, although perhaps in a way that might not

have entered in to the minds of ancient and medieval Christians. We can believe what the Church has always taught, that the risen glorified Christ “ascended in the flesh” and exists right now in heavenly glory awaiting his return, and we might even imagine, without embarrassment, where he might be. N.V.