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Science and Fallenness

Andrew Torrance

This entry offers an overview of some ways to consider the Christian doctrine of the fall in light of the conclusions of contemporary science. Commencing with a concise account of the biblical basis for this doctrine, it looks to the second creation story in Genesis and some relevant passages from the New Testament. The entry then considers some concerns that shape the theological readings of scripture which inform some Augustinian views of the fall. The following section discusses how an Augustinian view of the fall can negotiate the challenges posed by contemporary science. Next, there is a look at how scientific challenges can be negotiated by adopting an allegorical reading of the story of the fall, like the readings found in the work of Dietrich Bonhoeffer and Karl Barth. Finally, there is a brief mention of Peter Harrison's account of the impact of the doctrine of the fall on the history of science.

Keywords: The fall, Science, Book of Genesis, Adam and Eve, Doctrine of humanity, Evolution, Original sin, Bible, Sin, Moral responsibility, Theological anthropology

Table of contents

1 Introduction

2 The biblical basis for the doctrine of the fall

2.1 The Genesis story of the fall

2.2 The fall in the New Testament

3 Theological motivations for an Augustinian view of the fall

3.1 The original goodness of humanity

3.2 Human uniqueness?

3.3 The universal need for redemption

4 Negotiating scientific challenges to an Augustinian view of the fall

4.1 The theological selection and refurbishment models

4.2 Hyper-Adam model

4.3 The genealogical-Adam model

5 Allegorical readings of the story of the fall

5.1 The allegorical approach

5.2 Dietrich Bonhoeffer and Karl Barth on the story of the fall

5.2.1 The meaning of the tree of life

5.2.2 The meaning of the tree of the knowledge of good and evil

6 The impact of the doctrine of the fall on the history of science

1 Introduction

It is difficult to capture a general view of the fall that aligns with the diversity of its theological expressions. However, it is fair to assume that most believers in the doctrine of the fall see it as testifying to the fact that humans do not currently actively participate in a perfect relationship with God, i.e. the relationship in which they are ultimately created to find perfection. For many in the Eastern Orthodox tradition, the doctrine of the fall speaks to a distortion in human nature that prevents humans from participating in union with God (Jacobs 2009: 619; Khramov 2017). According to the Roman Catholic tradition, humans exist in a fallen state, deprived of the original holiness and justice for which they were created (Catechism of the Catholic Church 2012: 404). For many Protestants, human nature has been poisoned, such that humans ‘are all conceived and born in a sinful condition’ (Heidelberg Catechism 2011: Q and A 7). There is more nuance within these traditions, which leads to a diversity of views. Minimally, however, there would be broad agreement that this doctrine testifies to humanity, in its fallenness, being characterized by imperfection – an imperfection that either is itself sinful or, at least, leads to sin.

Such a minimal view of the fall does not in any way find itself in tension with a modern scientific understanding of the natural world. There is no evidence that natural scientists will uncover that should rule out the possibility that humanity does not exist in a perfect relationship with God. Indeed, when observing the history of humanity, there is good reason to believe that humans do not exist in a way that reflects the ultimate purposes of a good and loving God. As Reinhold Niebuhr famously notes, ‘the doctrine of original sin is the only empirically verifiable doctrine of the Christian faith’ (2012: 24, referencing the *London Times*) – a statement that, for Niebuhr, could easily be revised to say the ‘doctrine of the Fall’ instead of ‘the doctrine of original sin’.

Yet there are some views of the fall, based on the story of Adam and Eve, that can appear to sit less comfortably alongside what scientists have uncovered about the origins of human life. These views link the doctrine of the fall to a historical act of disobedience committed by an original human pair. Belief in a historical Adam and Eve and their original act of disobedience has been predominant throughout the Western Christian tradition and remains widespread. For this reason, it is often referred to as ‘the traditional view’. However, given that it is an especially Western view, and is not traditionally held by all Christians (even in the Western tradition), this entry shall refer to it as the Augustinian view – since it is often associated with Augustine (among others), although it is a highly minimal account of his view. On this point, while some Augustinian views of the fall may not straightforwardly align with prevailing scientific theories of human origins, it is certainly possible to hold them together, in ways that shall be considered below. It should also be

noted that many modern constructions of the Augustinian view do seek to take scientific evidence seriously in a way that informs their interpretation of the story of the fall.

However, there are also ways to interpret the Genesis story of Adam and Eve that seamlessly coexist with or are independent of insights from the natural sciences. These interpretations view the story as an allegory that represents historical truths about humanity's alienation from God, yet without being tethered to historical acts of disobedience committed by the original humans. Such interpretations can and often will read the Genesis story of the fall as a theologically true story, which represents metaphorically certain truths about the human condition before God. Moreover, one could argue these readings are more appropriate to the genre of this story because they refrain from engaging with modern apologetic attempts to show the compatibility of an Augustinian reading with scientific findings – an exercise which might be seen to miss the theological point of the story. Still, for those who embrace a more Augustinian reading, such an approach will often be seen to compromise on some matters in a way that is theologically problematic.

In what follows, this entry aims to provide an overview of various ways to think about the doctrine of the fall in light of recent work in the natural sciences. It commences by delving into the biblical roots of the story of the fall in the book of Genesis and the New Testament. It then examines some theological concerns that underpin an Augustinian doctrine of the fall. In defence of an Augustinian view of the fall, it then looks at how such a view can align with evolutionary accounts of human origins. Shifting gears, it turns to consider what can be discerned through an allegorical reading of the story of the fall, paying particular attention to the work of Dietrich Bonhoeffer and Karl Barth. This analysis aims to show how such a reading can be theologically rich without diminishing the significance of the text. Finally, looking to the work of Peter Harrison, the entry shall briefly consider how belief in the story of the fall may have had an impact on the early days of the modern history of science.

2 The biblical basis for the doctrine of the fall

2.1 The Genesis story of the fall

While the developed doctrine of the fall is not explicitly found in the Bible, it is normally associated with the story of Adam and Eve's original act of disobedience. Therefore, this entry shall begin with an overview of this story, highlighting some features that inform the doctrine of the fall.

Towards the beginning of the second creation story in Genesis (the Yahwist story), we are told that God formed man from the dust of the ground, and breathed into him the breath of life, bringing him to life (2:7). God then places this man in a garden that God had planted

in Eden (2:9). In Ezekiel, this Garden is interpreted as the 'Garden of God' (Ezek 28:13; 31:8-9). As such, this Garden is holy land: it belongs to God, is defined by God, and is governed by God.

We then learn about two trees in the Garden that play a prominent role in the story of the fall:

Out of the ground the LORD God made to grow every tree that is pleasant to the sight and good for food, the tree of life also in the midst of the Garden, and the tree of the knowledge of good and evil. (Gen 2:9)

In Gen 2:10–14, we are given some details about the geographical location of the Garden, which encourage the reader to see it as a place that really existed in our world. Yet the geographical details are ambiguous and confusing, such that this passage does not actually provide us with directions to a place that we could ever discover. It simply invites readers to perceive the second creation story as a story about our world.

Following the brief detour into geography, we are given some information about how the man should relate to the two trees in the Garden, with special attention given to one tree:

the LORD God commanded the man, 'You may freely eat of every tree of the garden, but of the tree of the knowledge of good and evil you shall not eat, for in the day that you eat of it you shall die'. (2:16–17)

Genesis 2 ends with God making woman to be the man's helper and companion. This companionship was to be enjoyed in unashamed nakedness – a point that becomes relevant later in the story.

Genesis 3 opens with the introduction of the serpent – a symbol of evil in the ancient Near East. The serpent deceptively questions the woman, asking: 'Did God say, "You shall not eat from any tree in the garden"?' (3:1), to which the woman replies: 'We may eat of the fruit of the trees in the garden, but God said, "You shall not eat of the fruit of the tree that is in the middle of the garden, nor shall you touch it, or you shall die"' (3:2–3). The serpent then counters God's guidance by telling the woman: 'You will not die, for God knows that when you eat of it your eyes will be opened, and you will be like God, knowing good and evil' (3:4–5). Consequently,

the woman saw that the tree was good for food and that it was a delight to the eyes and that the tree was to be desired to make one wise, she took of its fruit and ate, and she also

gave some to her husband, who was with her, and he ate. Then the eyes of both were opened, and they knew that they were naked, and they sewed fig leaves together and made loincloths for themselves. (Gen 3:6–7)

In the following scene, the man and the woman (who would later be given the proper names Adam and Eve) heard ‘the LORD God walking in the garden’ and ‘hid themselves from the presence of the LORD God’ (3:8). This leads the LORD God to ask Adam: ‘Where are you?’ (3:9). To which Adam responds: ‘I heard the sound of you in the garden, and I was afraid, because I was naked, and I hid myself’ (3:10). The LORD God then follows up: ‘Who told you that you were naked? Have you eaten from the tree of which I commanded you not to eat?’ (3:11). Adam replies: ‘The woman whom you gave to be with me, she gave me fruit from the tree, and I ate’ (3:12). Then the LORD God says to Eve: ‘What is this that you have done?’ Eve answers: ‘The serpent tricked me, and I ate’. In response to the serpent’s deception and Adam’s and Eve’s disobedience, God then states the punitive consequences of their actions (3:14–19) The chapter concludes with God saying:

Then the LORD God said, ‘See, the humans have become like one of us, knowing good and evil, and now they might reach out their hands and take also from the tree of life and eat and live forever’ – therefore the LORD God sent them forth from the garden of Eden, to till the ground from which they were taken. He drove out the humans, and at the east of the Garden of Eden he placed the cherubim and a sword flaming and turning to guard the way to the tree of life. (Gen 3:22–24)

Following the chapters in Genesis detailing the story of the fall of Adam and Eve, there are limited references to this story in the rest of the Old Testament – although, as T. Stordalen argues, one can certainly find echoes of the story in later references to Eden (Stordalen 2000; e.g. Gen 13:10; Isa 51:3; Ezek 36:35; Joel 2:3). This lack may explain the absence of a doctrine of original sin in Jewish thought. Nevertheless, one does find further reference to this story in the New Testament, especially in the writings attributed to the Apostle Paul.

2.2 The fall in the New Testament

When thinking about the relationship between the fall and the natural sciences, it is not only the Genesis narrative that factors into theological consideration. The commitment to an Augustinian interpretation of this story is undergirded by a few passages in the New Testament. As William Lane Craig writes:

While these [Genesis creation] narratives need not be read as literal history, the ordering presence of genealogies terminating in persons who were indisputably taken to be historical and the teaching of Paul in the NT about Adam's impact on the world, which bursts the bounds of a purely literary figure, oblige the biblical faithful Christian to affirm the historicity of Adam and Eve. (Craig 2021a: 363)

The main text that motivates this position is Rom 5:12–21, where Paul draws a connection between Adam and Jesus (see also: 1 Cor 15:22, 45; 1 Tim 2:13–14). It opens in verse 12 by affirming that 'sin came into the world through one man, and death came through sin, and so death spread to all because all have sinned'. Then, in verses 15–21, it is reiterated that sin, condemnation, and death came into the world through one man's trespass, but this point is accompanied by the message that justification and righteousness come through the grace of the one man Jesus Christ.

Several things about this passage are worth highlighting. While Adam is presented as the first man to bring sin and death into the world, it is also emphasized that death gained dominion of the world 'because all have sinned'. So, as Tremper Longman III helpfully summarizes: 'the point is not that Adam's sin makes people guilty' but that the 'story of Adam is the account of innocent humanity's rebellion against God (and thus the first sin) and also the introduction of death in the human experience for the first time' (Longman 2017: 272). This point is relevant because Romans 5 has been read by Augustine, and many others (before and since), as providing support for the notion of original guilt: the notion that Adam's trespass makes all persons guilty for sin from birth (irrespective of each person's own sin). This happens because the sin and guilt of Adam is passed on genetically to all his descendants like a disease (thus requiring the view that all sinful humanity descends from Adam). Such a view of original sin and guilt is not implied by this passage from Romans (see Hays 2018: 196–198). However, as a consequence of Augustine's pervasive influence on the Church, it has been adopted by many Christians.

This raises the question of how else this passage should be interpreted. The trespass of Adam (whether or not he ever existed) can be seen to represent how each human falls into sin by turning away from God's moral authority and choosing to embrace our own knowledge of good and evil, thereby treating ourselves as being like God in possessing ultimate moral authority over our lives. Accordingly, the passage from Romans can be read as saying that the fall into sin has been a constant pattern from the very origins of humanity, and the way to be delivered from this disorder is by the grace of Jesus Christ. For humans to become righteous before God, they must stop identifying with the sinfulness represented by Adam, in whom 'all die' (1 Cor 15:22), and must identify with Jesus Christ, the 'last Adam' (15:45), in whom all are 'made alive' (15:22). This means, for

Paul, that humans must come to participate in Christ by the life-giving power of the Holy Spirit, in a way that properly orients them towards the authority of God.

3 Theological motivations for an Augustinian view of the fall

There are many ways to interpret the story of the fall. However, rather than offer a comprehensive survey of the various options, this entry shall instead consider some of the theological pressures that tend to influence its interpretation.

If one proposed a spectrum of ways to interpret this story, with one end being a photographic record of events and the other a meaningless fairy tale, there would be very few Christian theologians at either end of the spectrum. Broadly speaking, most Christian theologians recognize some mythical elements to the story, such as the image of the LORD God walking in the garden or the contributions of a talking serpent. Most will also acknowledge that the story can tell us something true about the history of creation and the human condition: e.g. that humans are not leading the lives for which God created them. Nonetheless, there is extensive debate among Christian theologians over how to interpret various features of the story. Much of this debate is motivated by different responses to the following question: does there need to be an original (innocent) human couple who performed an act of disobedience, which explains why there is sin and human death in the world? In debates over this question, the discussion does not tend to be driven by the Genesis text itself, which leaves room for a variety of interpretations. Rather, the debates tend to revolve around a number of theological concerns that motivate certain interpretations of this story, which the following sections will consider.

3.1 The original goodness of humanity

Perhaps the foremost theological concern motivating an Augustinian view of the fall is a particular belief in the original goodness and innocence of humanity. This belief is emphasized in the Western church through Augustine's doctrine of the fall, which was grounded in his belief that all God creates is originally good. For Augustine, the original humans are created innocent with a good and upright will (Augustine of Hippo 2013b: Book 14, 11; see Eccl 7:29). God does not create humans with either an evil nature or a disposition towards evil. Rather, evil is construed negatively, as a privation of the good nature with which God created humanity. This means that the emergence of sin and evil must take place as a result of a human error that takes place after the original goodness of creation has been established – i.e. after all creation has been created out of nothing by an act of God who is perfectly good. Given the goodness of God, it is understood that it must be humans (and/or perhaps Satan) who are responsible for the emergence of sin. Otherwise, the emergence of sin may lead one to question the goodness of God

and/or the goodness of creation as God's creation. However, once the original act of disobedience has been performed, for Augustine, the original goodness of creation becomes tainted by the disease of original sin, which ails all descendants of Adam.

Following Augustine, belief in the original goodness (or moral neutrality) of humanity continued to be upheld as a traditional Christian belief. For example, the Heidelberg Catechism maintains that 'God created [people] good in his own image, that is, in true righteousness and holiness' (Heidelberg Catechism 2011: Q and A 6; see also Belgic Confession: : Article 14). The Westminster Confession affirms God 'created man, male and female, with reasonable and immortal souls, endued with knowledge, righteousness, and true holiness after His own image, having the law of God written in their hearts, and power to fulfil it' (The Westminster Confession of Faith: : 4:2). The Catechism of the Catholic Church also affirms that God created man 'in a state of holiness' until man 'chose himself over and against God, against the requirements of his creaturely status and therefore against his own good' (Catechism of the Catholic Church 2012: 398). While later interpretations of scientific evidence can make it difficult to maintain such an anthropology, many Christian theologians are not dissuaded from continuing to hold such a view on the basis of the Genesis story. Again, a core reason for this is a particular belief in the original goodness of humanity, accompanied by an Augustinian explanation of how sin and evil came into the world. It is worth noting here, as Jesse Couenhoven argues (2013a: 24–25), that Augustine does not intend to offer a complete explanation of precisely how sin and evil came into the world through the original sin of Adam and Eve. Nonetheless, Augustine certainly sees the story of the fall as offering some explanation of the emergence of sin.

Echoing Augustine, many contemporary Christian theologians continue to maintain that humans were originally created righteous and holy, in a state of innocence, with a capacity not to disobey God – a capacity they possessed on the basis of their given nature. Insofar as 'ought' implies 'can', if it was never possible for humans to sustain their state of righteousness, holiness, and innocence then it would be difficult to say they were responsible for the fall, which could then seem to make God responsible for the fall. This could also entail making sin a part of God's creative purposes. As James K. A. Smith points out, this could mean that sin becomes 'naturalized', such that we end up 'inscribing brokenness into the fabric of creation' (2017: 63).

The notion that sin is an inevitable part of creation would also be difficult to reconcile with the second Genesis story. As Thomas McCall emphasizes, a belief 'in the inevitability of the fall – the notion that the act of sin was determined for Adam and Eve – is not [only not] stated *explicitly* in the biblical account [...but] it is not even *suggested* by that account' (2019: 133, original emphasis).

There are, however, other ways to interpret the story of the fall that do not place so much weight on it providing a historically accurate explanation for the fall. Walter Brueggemann, for example, notes:

Frequently, this text [Genesis] is treated as though it were an explanation of how evil came into the world. But the Old Testament is never interested in such an abstract issue. In fact, the narrative gives no explanation for evil. (Brueggemann 1982: 41)

Rather than being an explanation for how or why sin and evil came into the world, the story of Genesis can speak to the nature of the human condition in the fallen world. It is for this reason that Ian McFarland notes that ‘the proper dogmatic function of original sin is limited to offering a description of rather than an explanation for the human condition apart from grace’ (2010: 47). To be fallen is not simply to be a descendent of Adam who, because of Adam’s disobedience, is now caught up in a world of sin. It could also be that, for some unknown reason, humans exist in a state where they are constantly turning away from God for themselves, irrespective of whether there was an original human couple whose first act of disobedience led to the fall.

Such an alternative view has implications for how Christians think about the goodness of creation. Irrespective of whether or not there was a historical Adam, one can still maintain that each human is perfectly good on the basis of their createdness. Yet the unfathomable reason why Adam and Eve disobeyed God (despite their innocence and, for some, their perfect holiness and righteousness) could also be the kind of reason why each human falls away from their God-given createdness. Even if the second Genesis story is treated as an aetiology of evil, the fundamental question remains as to why a perfectly holy and righteous human would choose to disobey God. For every human, as much as Adam and Eve, this has something to do with the human will going in its own direction, falling away from both God and God’s creative purposes. For all persons, this fall would be seen as an inexplicable one that brings disorder to a creation that is perfectly good. Moreover, if the fall is to be associated with every person, it can be viewed as historical insofar as it involves something taking place within the history of creation that brings about this disorder – a disorder that involves a departure from its created nature.

Another view that is worth briefly mentioning here is that of Irenaeus, according to which all humans are originally created good but in a state of immaturity, which is why they make the naïve move to fall away from God. On such a view, human perfection requires all humans to mature from their childish state – which led them to fall into sin – in order to enter the state of perfection for which they were ultimately created (for further discussion of Irenaeus’ view, see Lane 2009: 140–148; and McCoy 2018: 160–172).

A key question for an Augustinian view of the fall is why the origin of sin needs to be tied more closely to Adam and Eve than anyone else. The basic answer to this question is that they are – or, at least, they represent – the first humans who are the first ones chronologically to fall away from God and their original innocence. It is this act that introduces a divergence from God’s creative purposes, thereby introducing human death into the world as a consequence of the first human sin.

When it comes to thinking about the relationship between the natural sciences and the fall, an Augustinian view holds to another theological commitment that motivates its reading of the fall and which can find itself in tension with stories of evolution. That is, the Augustinian view holds that God creates humans (who fall) who are uniquely marked out from the rest of creation.

3.2 Human uniqueness?

The creation stories of Genesis present a picture of humans as being created by God to play a unique role in creation, characterized by obedience to God. The shadow side of this role is that they possess a distinctive capacity to disobey God, as is depicted in the story of the fall. Something that stands out about this potential for disobedience is that, when realized, it introduces a distinctively human form of death into the world. This possibility would not have emerged had humans continued to live in obedience to God, in a place where they had continued access to the tree of life.

It is therefore difficult to make sense of the story of the fall if no creatures are uniquely human. Also, as considered in the following section, it is difficult to maintain the universality of sin if sin does not afflict all humans from their very beginning, i.e. from a feasibly identifiable origin (associated with Adam) where they are clearly distinguished from all other creatures. In short, there are reasons to think that an important message of the story of the fall is that sin and human death came into the world through the disobedience of original humans, meaning that there could not have been any other humans before the event of the fall.

To affirm the identifiable emergence of original humans, one must affirm either (1) that God miraculously created the first humans *de novo* without biological parents, or (2) that the first humans are, in some way, distinguishable as humans from their non-human parents.

Option (1) does not necessarily mean that God created the original humans out of nothing. One might affirm, alongside Gen 2:7, that ‘the Lord God formed man from the dust of the ground’. This would enable one to maintain a close connection between the original humans and the rest of creation, even if not genealogically. A potential difficulty with this option is that it does not straightforwardly align with evolutionary stories of the world which suggest that the species currently associated with humans, *Homo Sapiens* (as well as

other hominins we might want to associate with humans, such as *Homo Heidelbergensis*; see Craig 2021a), share ancestry with creatures that would seem to be a part of the chain of evolution of the living world – including other primates that are alive today. However, it is certainly possible, for example, that God could have introduced the original humans into the world as creatures that bore striking similarities to the nonhuman hominins that were a part of the history of evolution.

Option (2) faces the difficulty of trying to understand how the original humans can be clearly distinguished from their non-human parents, as well as the larger group of hominins to which evidence would seem to suggest they are tied genetically. While this may be difficult to comprehend biologically, given the close biology of parents and children, it is less difficult to construe theologically. For example, it could be that God elected that the first humans would be born at a particular time and place and would be identified as uniquely human based on a unilateral act of God – not simply on the basis of their biology. It could also be that God transforms these original humans in a way that further distinguishes them from their parents. For example, William Lane Craig notes:

God's creation of Adam and Eve plausibly required both biological and spiritual renovations, biological to equip their brains with the capacity to serve as the instruments of rational thought and spiritual to furnish them with rational souls different from any sort of soul that nonhuman animals might be thought to possess. Thus, Adam and Eve were something radically new. (Craig 2021a: 378)

Craig then notes that, following these renovations, which generate 'a modern human consciousness and linguistic capacity', 'Adam and Eve would increasingly feel themselves at a distance from their nonhuman contemporaries and, as their descendants multiplied, their tribe would be naturally inclined to increasingly self-isolate' (2021a: 378). If God did transform the original humans in a way that surpassed the kinds of changes that take place through regular genetic processes, then this transformation could be said to bring with it the unique possibility of (human) sin and also the possibility of a unique (human) mortality that is markedly different from the creaturely death of their (non-human) parents.

If no transformation took place, there is a difficulty that Richard Swinburne raises. That is, the desire to perform activities that would be considered sinful (if performed by humans) would have existed in the parents of the original humans and, without divine intervention, would likely have been passed on to their children prior to the fall (Swinburne 1989: 143; see Children and Christian Theology). Consequently, the original humans would have inherited a disposition towards sin, which could create difficulties for an Augustinian view of humanity's original goodness and also their responsibility for sin – although the notion that a disposition toward sin is itself sinful is certainly not affirmed by everyone

(see McCluskey 2017). However, if one takes Craig's approach, one can affirm that God transformed the original humans so that they were born without such a disposition.

3.3 The universal need for redemption

The next theological concern is tied to belief in the universal need for redemption: if there is no original sin to define all humans as sinful, then why would all persons (from the origin of humanity) need to be redeemed? As it is written in the Psalms, 'all [humankind has] gone astray, they are all alike perverse; there is no one who does good, no, not one' (Ps 14:3); and 'all [humankind has] fallen away; together they have become corrupt; there is none who does good, not even one' (Ps 53:3). Drawing on the Psalms (Rom 3:9–12), the apostle Paul reaffirms that all persons are 'under the power of sin' (Rom 3:9), and that 'all have sinned and fall short of the glory of God' (Rom 3:23; see also Gal 3:22). For those who are committed to biblical inerrancy or infallibility, the biblical support for this view can add to the theological pressure to embrace a more historical reading of the second creation story.

If every human in the world is and always has been sinful, and always experiences the deathly consequence of sin, there must be a shared origin for sin and mortality. For the apostle Paul, this origin is identified with Adam, who is presented as the representative of all humanity (Rom 5:12, 14; 1 Cor 15:22). This view was further established by Augustine, who held that the human nature of all who descend from Adam is somehow distorted by Adam's original act of disobedience. That said, Augustine advanced this view with a greater emphasis on the genetical connection between Adam and the rest of humanity than is found in scripture.

Before considering the more allegorical readings of the story of the fall, and how they might negotiate some of these theological concerns, it will be relevant to say something about how one might maintain the Augustinian view in the face of apparent challenges from modern science.

4 Negotiating scientific challenges to an Augustinian view of the fall

Despite what is often thought, it is possible to come up with views of the fall that align with evolutionary accounts of human origins. This does not make it straightforward for Christians to continue to read the second creation story as providing a report that directly represents some historical events at the origin of humanity. Therefore, many will continue to share John Polkinghorne's view that the fall is 'the major Christian doctrine that I find most difficult to reconcile with scientific thought' (1991: 99). Among the biggest challenges, as noted above, is that it is difficult to align the theory of evolution with the belief in an original human couple, a historical Adam and Eve, who were unique from all

other creatures in the world (including their parents if they had any; see De Smedt and De Cruz 2020; Oviedo 2022). According to recent genetic research on human development, there is no obvious biological leap from a non-human species to a wholly unique human one (see Marks 2003; Venema 2010). It is also difficult to make sense of how human death came into the world as a result of an original act of disobedience.

One way to respond to these difficulties would be to opt for a more allegorical reading of the fall, which shall be considered below. Another option would be to reject the doctrine of the fall altogether (see Southgate 2008; Sollereeder 2019), although such views would be outside the focus of this entry. There are, however, other ways to negotiate evolutionary theory that allow readers to maintain an Augustinian view of the fall, which may be important for those who feel the force of some of the theological pressures mentioned in the previous section (for a more detailed consideration of the proposals discussed here, see McCall 2019: 388–398).

4.1 The theological selection and refurbishment models

According to the theological selection model mentioned above, it could be that God simply selected two hominins (who participated in the history of evolution) to be the first two humans on the basis of a divine designation – irrespective of whether they were biologically unique (see Moritz 2011).

The refurbishment model adds to the theological selection model by affirming, as Thomas McCall plainly articulates, ‘God took two existing hominins and “refurbished” them’ (2019: 389). This view is advanced by William Burt Pope, Peter van Inwagen, Denis Alexander, James K. A. Smith, and, as seen above, William Lane Craig (see McCall 2019: 389–390). This option can easily align with widely accepted theories of evolution. However, it adds the idea that God at some point took a pair of hominins, who had emerged through the process of evolution, and transformed them in some way to become the unique humans who reflect the image of God. For some Roman Catholics, such a transformation could also involve God ensouling, since, for Pope Pius XII, ‘the Catholic faith obliges us to hold that souls are immediately created by God’ (Pope Pius XII 1950; see Hofmann 2020: 124–125). Another option, as Gijbert van den Brink proposes, is that God simply spoke to a pair of hominins who had developed certain personality traits, such that, by addressing them, God could deliver them into a uniquely human life, which bears the image of God (2020: 189). It is these humans – transformed, ensouled, and/or addressed – who commit the original act of disobedience and fall away from God.

4.2 Hyper-Adam model

In *The Fall and Hypertime* (2014), metaphysician Hud Hudson proposes that the events reported in the story of the fall may not have taken place in the past of our immediate

history but could have occurred in another dimension of time, in a hypertime with a hyperhistory. Were this the case, there would be no evidence to support the events of the fall because it took place in another dimension that we no longer inhabit. The reason that humans no longer participate in this hyperhistory is that they were exiled from this timeline in the event of the fall. The Hypertime Hypothesis thus succeeds at proposing a possible way to explain the historical occurrence of the events of the fall.

Clearly, a number of outlandish claims could be made on this basis, and the hypertime hypothesis will likely appear preposterous to many. However, any assertion about the eccentricity of the hypertime hypothesis will itself require metaphysical judgment, which goes beyond what can be known on the basis of scientific evidence alone. Therefore, what Hudson exposes is that scepticism about a historical fall will require metaphysical assumptions. It might also be added that the reason this hypertime hypothesis may seem preposterous is that humans are caught up in an immanent frame that is enclosed to our immediate historical experience. Hudson's proposal can appear less counterintuitive if we are open to the possibility of wider horizons – those that stem from the recognition that a transcendent God creates the historical world(s) we inhabit.

4.3 The genealogical-Adam model

This proposal is put forward by computational biologist S. Joshua Swamidass in *The Genealogical Adam and Eve: The Surprising Science of Universal Ancestry* (2021). Swamidass proposes that current genetic and archaeological evidence can be entirely consistent with the existence of a historical Adam and Eve less than ten thousand years ago (2021: 10) – although his view could be adapted to recognize that Adam and Eve existed much longer ago. This couple could have been created *de novo* – i.e. they are created 'by a direct act of God without parents, but of the same biological type as people outside the Garden' (which is the view that Swamidass adopts for his hypothesis; 2021: 83). Alternatively, this couple could have been an existing couple that God selected and perhaps refurbished (Swamidass 2021: 83–91). Either way, Swamidass contends that scientific evidence allows for an Augustinian view that 'Adam and Eve must sit at the "headwaters" of all humanity, and somehow the consequences of [Adam's original sin] spread to all of us' (2021: 185). Swamidass does not make a scientific case for Adam and Eve being the sole-progenitors of all humanity. Rather, he simply demonstrates that, if they existed, the possibility that they are ancestors of all humanity cannot be ruled out on the basis of available scientific evidence.

At the heart of Swamidass' argument is a distinction between genealogical and genetic ancestry. On the one hand, he clarifies that genealogical ancestry 'traces the reproductive origin of people, matching the common use of ancestor, descendent, parent, and child' (2021: 32). Genetic ancestry, on the other hand, 'traces the history of stretches of

DNA in our genomes, using recently invented technology (2021: 33). Swamidass explains that, genetically, ‘we seem to arise as a population, not a single couple’, and ‘we also share ancestors in common with the great apes’ (2021: 12). Genealogically, however, it is possible that ‘Adam and Eve could have been ancestors of us all as recently as six thousand years ago’ (2021: 10).

According to Swamidass’ proposal, when Adam and Eve arrive on the scene, they are not biologically unique from all the other creatures surrounding them. For Swamidass, they need to be sufficiently close biologically to be able to breed with other creatures. This is because, after the fall, the offspring of Adam and Eve interbreed with those other creatures – creatures who, theologically speaking, are not uniquely human in the same way as Adam, Eve, and their descendants. After a few thousand years, however, by 1 CE, the all-pervasive breeding of Adam and Eve’s descendants with non-descendants bring it about that Adam and Eve ‘become genealogical ancestors of everyone’ (2021: 83). Therefore, while it is the case that humanity is genetically connected to creatures that are not a part of the lineage of Adam and Eve (e.g. the lineage of non-descendants prior to the interbreeding with their descendants), the lineage of all non-descendants will have become intertwined with the lineage of Adam and Eve such that everyone living today (and since 1 CE) is genealogically connected to them.

What these four hypotheses show is that it is possible to embrace the dominant conclusions of contemporary science alongside an Augustinian story of the fall. There are, however, other ways to take the story of the fall seriously while not running into tensions with contemporary science, and these involve an allegorical reading.

5 Allegorical readings of the story of the fall

5.1 The allegorical approach

As considered above, there are valid theological reasons for wanting to embrace an Augustinian reading of the story of the fall. Furthermore, there are a number of ways to negotiate potential scientific objections to such a view. Another way to avoid scientific challenges, while still reading the story as a medium of God’s revelation, is by reading it allegorically – or, at least, more allegorically than those committed to an Augustinian reading of the fall (although, there are many ways in which Augustine himself offered an allegorical reading). By so doing, greater attention is given to discerning what the mythical features of the story seek to represent about the nature of the human condition before God. (One other option, which we shall not consider here, is to offer a secular reading of the fall. This project is taken up by Mulhall 2007. For a helpful critique of Mulhall, see Smith 2007.)

When the Genesis stories were written, they would have been crafted and passed on by people who told stories to make sense of the world with less concern about being strictly tied to actual historical events than tends to be the case in contemporary thought. Such stories are not so bound to eyewitness reports as contemporary historical accounts or, indeed, as accounts offered later in the bible, e.g. in the Synoptic Gospels. When it comes to stories of human creation, this is especially significant, given the very limited numbers of eyewitnesses available. It is possible for God to have dictated God's own eyewitness report to the authors of the creation stories. However, it would seem just as valid for God to inspire the authors of Genesis to come up with the kind of meaningful allegories that were told at the time to make sense of the world.

Many theological views can be discerned from an allegorical reading of the story of the fall, while not embracing a more traditional view. Minimally, the story can simply be read as revealing that all humanity (represented by Adam and Eve) chooses to fall into sin. Such a view is associated with the story of the fall by Immanuel Kant, who saw it as representing the uncontested truth that sin is universal because no one is characterized by persistent obedience to the moral law; no one ever remains wholly innocent because all persons fall foul to their propensity to sin. Nonetheless, Kant also suggests that this does not make sin necessary, which would risk suggesting that humans are not accountable for sin. He reads the story as representing how all humans, in their weakness, choose to transgress the moral law (Kant 1998: 63–65).

For some, Kant's commitment to evil as something universal and yet also for which all persons are culpable creates a problem.

If each individual is free to do duty for duty's sake, then Kant's assertion that evil is universal seems empty – at least from a philosophical point of view. It seems that he isn't in a position to know whether everyone has chosen evil unless he knows that it is necessary. But if it is necessary, then it cannot be free. (Houck 2020: 147–148)

While Kant was arguably a critical influence on more modern allegorical readings (see Houck 2020: 138–178), his account was not as theologically sophisticated or biblically informed as some later figures. Friedrich Schleiermacher, for example, offers an allegorical reading which generates a constructive account of original sin that can negotiate both the challenges that emerge from evolutionary accounts of human origins as well as the theological concerns that motivate the Augustinian view – especially concerns about maintaining the goodness of creation (see Pedersen 2020). There are also many other theologians who invite readers to consider how an allegorical reading of the story of the fall (i.e. a reading that is more allegorical than an Augustinian one) can be theologically instructive. The two figures selected here, to give further consideration to such a view, are

Dietrich Bonhoeffer and Karl Barth, whose approaches shall be considered together (see Torrance 2023: 133–150).

5.2 Dietrich Bonhoeffer and Karl Barth on the story of the fall

For Dietrich Bonhoeffer and Karl Barth, as for Kant, the story of the fall witnesses to something true about the human condition before God. Yet neither of them read the story as providing a scientific record of events that took place at the origin of humanity. It was instead interpreted as a poetic representation that reveals some key features of human life before God.

Barth associates the Genesis story of the fall with the genre of saga, which refers to ‘historicized myth’ (Barth 1958: 87). It is historical because it reveals something true about the history of human lives before God. For example, based on the story of fall and the reference to it in Romans 5, Barth writes:

The name of Adam sums up this history as the history of the mankind which God has given up, given up to its pride on account of its pride. It sums up the meaning or meaninglessness of this history. It is Adamic history, the history of Adam. It began in and with his history, and this is the Word and judgment of God on it, this is the explanation of its staggering monotony, this is the reason why there can never be any progress - it continually corresponds to his history. It is continually like it. With innumerable variations it constantly repeats it. It constantly re-enacts the little scene in the garden of Eden. There never was a golden age. There is no point in looking back to one. The first man was immediately the first sinner. (Barth 1956: 508)

Therefore, for Barth, ‘we are no less truly summoned to listen to what the Bible has to say here in the form of saga than to what it has to say in other places in the form of history’ (1958: 83). Yet, the fall story is also mythical, since it does not provide a record of events that actually took place at the origin of human history. By not being constrained to provide such a record, Barth considers that this narrative has even greater potential to educate the reader about their history in a way a scientific textbook would never be able to accomplish. On this point, Barth quotes Adolf Schlatter approvingly on the role of biblical authors:

With all the obscurities of his historical hindsight and his prophetic foresight, the biblical narrator is the servant of God, the one who awakens the recollection of him and makes known his will. If he doesn’t do it as knower, he does it as dreamer; if his eye should toil, his imagination steps in and fills the gaps as needed. In this way he passes on the divine gift that entered into the course of history and makes it fruitful for posterity. The fact that he

has to serve God not only as knower and thinker but also as poet and dreamer is grounded in the fact that he is human and we human beings are unable to arrest the transition from thought to poetry. (Schlatter 1923: 337; Barth 1956: 508; using the translation from Green 1990: 28–29)

Bonhoeffer adopts a similar approach to Barth. He affirms that, when we read the story of the fall, 'we remain wholly in the world of pictures, in the world of the magical' (Bonhoeffer 1997: 82). Yet he also believes that the story of the fall is in many ways a true story. If the reader learns to see how each of us is represented by Adam and Eve, they can see themselves as 'the ones who are addressed, accused, condemned, expelled' by God (1997: 82). The story of the fall, therefore, 'is *our* primeval history, truly our own, every individual person's beginning, destiny, guilt, and end' (1997: 82, original emphasis).

In short, while Bonhoeffer and Barth recognize that much of the imagery of the story of the fall is fantastical, they are adamant that it speaks truly to what goes wrong with human life in this world. At the crux of the message of the story of this fall, for both of them, is the account of the two trees in the garden. As Bonhoeffer notes, the story of Adam and Eve tells us that 'the destiny of humankind is [...] to be decided in relation to these two trees' (1997: 81). Simply put, the tree of life tells us what is right for humanity, and the tree of the knowledge of good and evil tells us what goes wrong.

5.2.1 The meaning of the tree of life

By planting the tree of life in the middle of the garden, according to Barth and Bonhoeffer, God gives the garden a heart, which is a sign of the life God breathes into the garden. As Bonhoeffer writes:

At the center of the world that has been put at Adam's disposal and over which Adam has been given dominion is not Adam himself but the tree of divine life. Adam's life comes from the center which is not Adam but God; it revolves around the center constantly, without ever trying to take possession of this center of existence. (Bonhoeffer 1997: 83–84)

This central tree reveals that the garden is a place where human flourishing revolves around God, who defines what it means to be human as the author and giver of life. The tree of life indicates that the garden is not a free space where Adam and Eve are left to their own journeys of self-discovery. Rather, it reveals it as a place purposefully governed and defined by God, a place where 'God wills to be recognized, honoured and loved by man' (Barth 1958: 87). It reveals that true life is found 'in the unity of unbroken obedience to the Creator – [Adam] has life just because Adam lives from the center of life, and is oriented toward the center of life, without placing Adam's own life at the

center' (Bonhoeffer 1997: 84). As Barth puts it, the tree is a visible sign that tells Adam 'where he is, to whom the place [the garden] belongs, and what he may expect and be' (Barth 1958: 256). The tree, therefore, reveals that Adam and Eve must look to God to learn about who they are in the story of creation. It tells them that they do not simply live because they have biological function; they live by the grace of God and therefore in virtue of God's purposes for them as those to whom God gives life.

5.2.2 The meaning of the tree of the knowledge of good and evil

The tree of the knowledge of good and evil offers a very different message. As Barth writes, the tree of knowledge 'is not by name or nature the sign [...] of a reality given to man by God' (1958: 257). Rather, it is 'the warning sign of a possibility which, if realised, will necessarily be the opposite of the life and salvation [that is] promised' (1958: 270). The presence of this tree indicates that 'this place is not without serious problems' (1958: 250). Yet this does not mean the tree poses a 'threat to man in this arrangement' (1958: 263). By planting this tree, God does not turn the garden into a threatening place. The garden continues to be a place of human flourishing so long as Adam and Eve remain obedient to God. Nonetheless, the presence of the two trees does place them at a crossroads. Access to the tree of knowledge means that obedience to God is not inevitable but a possibility that Adam and Eve must choose to embrace. To apply this point to all humanity, the story of the two trees speaks to the ultimate crossroads facing each person: either to obey or disobey God.

While God allows humans to choose between these two possibilities, this does not mean God is unconcerned about whatever choice is made. As Bonhoeffer notes, God creates humans to have life 'in a particular way' (Bonhoeffer 1997: 84). God does not create them to live by a capricious freedom, given over to endless possibilities, but to live according to God's purposes. It is only by embracing God's guidance that humans can be free to flourish according to how God creates them to flourish, and therefore how they are meant to flourish. Thus, for Bonhoeffer, the freedom we should associate with human flourishing is a freedom defined and limited by God's judgement. If humans decide to reject God's judgement, this will be due to a confusion on the part of humans. It would involve judging God on the basis of their own sense of good and evil – of what is right and wrong for them. For Bonhoeffer and Barth, a core message of the story of the fall is that the human disposition to question God's authority on the basis of their own knowledge of good and evil is at the very root of sin. Before elaborating on this point, it is helpful to consider what unfallen human life might look like – if Adam and Eve had not chosen to eat from the tree of the knowledge of good and evil.

Describing Adam's knowledge prior to eating from the tree of the knowledge of good and evil, Bonhoeffer writes, 'Adam cannot know evil, cannot conceive it, and cannot know or conceive death either. But Adam knows the limit of human beings because Adam knows

God' (1997: 86). Adam obeys God because he knows God as the one who defines the boundaries of his existence. He lives with an unquestioning respect for God's commands that is intrinsic to his relationship with God. It is in this way that he experiences what it truly means to be human.

This raises the much-debated question of what happens when Adam and Eve disobey God and eat from the tree of the knowledge of good and evil. Bonhoeffer's and Barth's views find resonance with a number of other readings (e.g. Wenham 1987: 63–64; and Clark 1969: 266–278). For Barth, the knowledge of good and evil enables us to 'distinguish and therefore judge between what ought to be and ought not to be, between Yes and No, between salvation and perdition, between life and death' (Barth 1958: 257–258). To have this knowledge 'is to be like God, to be oneself the Creator and Lord of the creature' (Barth 1958: 258). The problem with humans gaining this knowledge, however, is that, unlike God, humans are not essentially good in and of themselves. Therefore, when human knowledge of good and evil is grounded in ourselves rather than God, it goes awry. This is because our understanding of good and evil is not grounded in what is truly and essentially good but rather in our own arbitrary constructions of meaning. As the book of Isaiah says, when humans try to live according to these constructions, without a firm grounding in God's holy plan (Isa 5:19), we fall into confusion; we call good what is objectively evil (i.e. according to God) and call evil what is objectively good (i.e. according to God; Isa 5:20).

It is because God defines all creation that creatures can only find fulfilment according to God's creative purposes. There is no competing structure of meaning that truly presents us with an alternative way to live and flourish. As Barth explains:

[God does not envy humanity] the joy of its own choice and therefore its own decision, but because He knows that it can find true joy only in His divine choice and decision; that with every act of self-choice and self-justification, with every attempt to understand and to that extent accomplish its own distinction, even if only secondarily, it simply pronounces its own death sentence instead of living in it. (Barth 1958: 270)

For Barth, therefore, we have no option but to accept and respond to God's account of who we are and should be, regardless of our own views on the matter. We have no autonomy to judge God's judgement according to our own accounts of who we are and should be. Whenever we pretend we can do this, as Augustine puts it, humanity 'turn[s] to itself with its back to God' (Augustine of Hippo 2013b: 79). In so doing, Barth explains, humanity grasps at the 'possibility of an unheard of exaltation of the creature' (1958: 258). In Bonhoeffer's words, humanity 'sit[s] in judgment on God's word instead of simply listening to it and doing it' (Bonhoeffer 1997: 91). When this happens, Bonhoeffer elaborates,

[humans believe] on the basis of an idea, a principle, or some prior knowledge of God [and then] pass judgment on the concrete word of God. But where human beings use a principle, an idea of God, as a weapon to fight against the concrete word of God, there they are from the outset already in the right; at that point they have become God's master, they have left the path of obedience, they have withdrawn from being addressed by God. In other words, in this question what is possible is played off against reality, and what is possible undermines what is reality. In the relation of human beings to God, however, there are no possibilities: there is only reality. There is no 'let me first' [...]; there is only commandment and obedience. (Bonhoeffer 1997: 108–109)

For Bonhoeffer, as for Barth, because God creates humans to participate in right relationship with God, there is no space for them to try to judge things in their own terms, according to their own categories, apart from God. Before God, we must come to know ourselves as we are known by God. Furthermore, we must come to know all else in a way that reflects God's knowledge of it. It is only according to this relationship that we can discover what it truly means to live and flourish. It is based on God's unwavering commitment to defining human life and flourishing, and to securing that life and flourishing, that God prohibits Adam and Eve from eating from the tree of the knowledge of good and evil (for a critique of Barth's reading of the story of the fall, see Houck 2020: 149–56; for a critique of Bonhoeffer's, see Spencer 2023: 48–50).

There is much more that could be said about Barth's and Bonhoeffer's doctrine of the fall, but the aim of this section is simply to provide a glimpse of an alternative reading of the story of the fall to the more traditional reading. What their readings would seem to provide are theological interpretations of the story of the fall as a story that is theologically revelatory but which is wholly compatible with scientific evidence.

6 The impact of the doctrine of the fall on the history of science

When considering the relationship between fallenness and the sciences, there is a further discussion that is noteworthy, albeit one that is a somewhat adjacent addendum to most of the discussion in this entry: Peter Harrison's discussion of the impact that the doctrine of the fall had on the history of science in his book *The Fall of Man and the Foundations of Science* (2007).

Harrison shows that, in the early modern period, belief in the story of the fall led to an understanding that human knowledge had become compromised as a consequence of Adam's fall and had become characterized by a propensity to error. Prior to the fall, Adam enjoyed perfect and universal knowledge of the natural world because God created

Adam with an encyclopaedic mind. This meant ‘that if those impediments that arose as a consequence of the Fall could be identified and neutralized, the mind would once again, of its own nature, arrive at truth or at least be better equipped to do so’ (Harrison 2007: 4). Therefore, scholars such as Francis Bacon ‘saw in the sciences the prospect of restoring, or at least repairing, the losses to knowledge that had resulted from the Fall’ (Harrison 2007: 4).

Harrison argues that modern work in the sciences was not simply motivated by an enlightened confidence in the power of human reason but by a concern to move beyond the sinful confusion that characterizes fallen humanity. In the seventeenth century, much work in the sciences was shaped by a pervasive awareness of the fallibility of the human pursuit for understanding. To compensate, scientists sought to go about their work with a meticulousness that would serve to ensure that their conclusions were characterized by greater accuracy and reliability. To some, for example, ‘the unreliability of reason meant knowledge of the natural world would come only after laborious experimentation, the long accumulation of many different observations, and orchestration of the efforts of numerous investigators’ (Harrison 2007: 88). Further, it was appreciated that the support of scientific instruments was needed to help us understand the natural world, to make up for our confused and weakened senses (2007: 203)

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