**Latin Scholastics on the Eternity of the World and Eternal Creation on the Part of the Creature: Did They Amount to the Same Thing?**[*]

Ann M. Giletti

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When late medieval Latin scholastics addressed the philosophical question of whether the world was eternal, they drew on ancient Greek, Arabic and early Christian traditions. Two theories based on different principles stood at the core of the discussion. One was Aristotle's theory of the Eternity of the World according to principles of natural philosophy in his *Physics*. The other was the theory of Eternal Creation (*creatio ab aeterno*), based on metaphysics and Neoplatonic principles concerning God's supernatural powers, and drawing on discussions by Augustine and Avicenna. In both medieval Arabic and Christian discussions, the two theories were regularly treated together, as was the problem that they did not fit with the religious belief that the world was newly created by God. Among Christian scholastics, objection to the idea of the world's eternity was grounded on the doctrine of Creation by God in time and *ex nihilo*. However, while both theories' conclusion that the world was eternal was problematic in religious terms, strictly speaking only the Eternity of the World contradicted Christian doctrine, by denying Creation by God. Eternal Creation, by contrast, if argued to consist of eternal production of the world and time by God and out of nothing, did not. This is a distinction to be borne in mind when we examine the implications of how Latin scholastics handled the two theories. What follows is a historical study about how two controversial philosophical theories about the world's eternity were handled by Latin scholastics. It concerns how these different theories, originating from diverse principles and arguments, came to be treated in the same way, often at the same time, and in terms of their demonstrability as if they were essentially the same.

Given the way Latin scholastics handled the two theories, it is sometimes difficult for us as historians studying their works to isolate whether the writer is addressing one theory or the other, or both simultaneously. Yet although both theories concluded that the world was eternal, they were not the same or logically equivalent. Nor had they always shared a stage in Christian philosophical and theological discourse. While they may have had a shared history in medieval Arabic philosophical thought, in the Latin tradition their histories were distinct. The theory of Eternal Creation had a presence that went back to early theological discourse, most importantly Augustine, to which thinking from Avicenna's *Metaphysics* presented new considerations in the thirteenth century following its translation into Latin. Aristotle's theory entered scholastic discussion after the twelfth-century translation into Latin of his works on natural philosophy, which were joined in the thirteenth century by translations of Averroes's commentaries on them.[1] The two theories had separate origins, histories,

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[1] For an explanation and history of the late medieval Latin scholastic controversy over the world's eternity, see Dales, *Medieval Discussions of the Eternity of the World*. On the handling of the problem in Arabic philosophical

systems, principles, and arguments proving them; yet in scholastic treatments of the problem of the world's eternity they were often handled together. This may not be surprising, given that they had in common the conclusion that the world is eternal. What is unexpected is that, in spite of the theories' diverse principles and systems, there was one philosophical case – a set of arguments – that was applied to both theories in the effort to disprove them and uphold the doctrine of Creation in time. That is, the arguments raised against the Eternity of the World to prove its impossibility were much same as those used for the identical purpose against Eternal Creation. This was also the case for the opposite position: scholastics showing instead that the world's eternity was philosophically possible did so by producing rebuttals to this set of arguments, applying the same arguments and counter-arguments to both theories. These arguments addressed what we can say about the world's capacity to be eternal yet, as we shall see, they focused not on natural philosophical principles describing the world, but to a significant extent on metaphysical concepts one would associate with Eternal Creation.

While Latin scholastic philosophical discourse often addressed together multiple theories touching on a particular issue, this instance is of particular interest because of its implications regarding deductions that can be made about scholars' positions, and risks they were implicitly taking. That the demonstration against the two theories was the same bears significance with regard to philosophical position. If a scholastic author disproved one theory, he in effect disproved the other. Conversely, if he disarmed the arguments purporting to disprove one theory, he essentially restored the philosophical possibility of both this theory and the other. The two positions had to be the same. Thus, even if a scholastic author presented his view on only one of the theories, his position on the other could be deduced. In the heated environment of this controversy, this meant that a scholar risking his reputation by allowing the possibility of one theory was also justifiably liable regarding the other.

The discussion below shows three links or associations I have noticed in Latin scholastic handling of the theories. The first is that, while the theories were distinct, they were linked together in *quaestiones* and other treatments of the problems by scholastics, and were sometimes conflated. The second is the theories' shared set of arguments in the matter of their demonstrability. The third is a consequence of the second: the implication that a scholastic's position on one theory would necessarily be the same regarding the other. Examination of these associations will involve identification of arguments and evidence of how they were used. The focus in this discussion is mainly on works by scholastics related to the University of Paris and its debates in the late thirteenth century. Most treatments take the form of *quaestiones*, the standard format of scholastic discussion of the time. *Quaestiones* can be described as short essays structured as philosophical demonstrations headed by a question, such as 'whether the world is eternal', and composed predominantly of a set of arguments followed by a set of counter-arguments undermining them. The preliminary set represents the position the author opposes, while the counter-arguments undermine that position and establish the author's (opposing) view. The works we will discuss are philosophical, such as commentaries on Aristotle's *Physics*, and theological, such as commentaries on the *Sentences* of Peter Lombard (the late medieval university exercise for theologians). In the late thirteenth and fourteenth centuries, *Physics* and *Sentences* commentaries took the form of volumes of *quaestiones*. Other works we will see are *quaestiones* which were initially presented orally and publicly at the university, and reworked in written form. The material for this discussion is a first-time collection, the by-product of a project involving a

discussion, see Davidson, *Proofs for Eternity*. Regarding Latin translation of Aristotle and his Muslim interpreters, see: D'Alverny, 'Translations and Translators'; Dod, 'Aristoteles Latinus'; a revision of Dod's table of medieval translations in 'Greek Aristotelian Works Translated into Latin'; Burnett, 'Arabic Philosophical Works Translated into Latin'.

major trawl for late thirteenth- and early fourteenth-century works containing treatments of controversial philosophical theories, including the Eternity of the World and Eternal Creation, mostly connected to activity at the Universities of Paris and Oxford. The examples in this article are illustrative of the findings. The scholastics cited in this study reflect a range of opinions on these theories, from rejection (such as Bonaventure) to acceptance of the theories' philosophical possibility (such as Aquinas, Giles of Rome and Boethius of Dacia). While some modern studies refer both to Aristotle's theory and more loosely to the general problem of the world's eternity (which sometimes includes Eternal Creation) as the 'Eternity of the World', for the sake of clarity in the discussion below I will refer separately to the two theories as the 'Eternity of the World' (Aristotle's theory) and 'Eternal Creation'. References to 'Creation' on its own are to the Catholic doctrine, and references to 'creation' are to the type of production (contrasting with generation, as described below).

In looking at these scholastic arguments, we should bear in mind that the *quaestio* format is derived from university debating techniques, so the counter-arguments are sometimes formulated simply to invalidate the principal (introductory) arguments, not to present a coherent opinion of the author. As the aims of this study are both to show that certain arguments were employed and to highlight the contexts in which they were used (the theories they were applied to), presentation of scholastic use of the arguments and their rebuttals will mostly be limited to indicating their presence, with occasional mention of notable features. Perhaps some arguments will not seem convincing, but it is not the purpose of this historical study to critique their cogency. Limits of space do not permit quotations and analysis of the Latin scholastic arguments cited, but I hope that the multiple citations with respect to each standard argument common to the debate (and the diverse positions represented) will suffice to show how one set of arguments was applied to demonstrating or disproving two different theories.

Before proceeding to this examination, we will look briefly at how the two theories work, simply to highlight how distinct they are in their principles and arguments. Section 1 presents Aristotle's theory of the Eternity of the World and examples of the principles of physics and arguments producing it; and Section 2 presents the theory of Eternal Creation and its central principles and arguments. Section 3 shows how the theories were linked together and sometimes conflated in *quaestiones*. Section 4 turns to the single set of arguments which scholastic writers applied to both theories in demonstrating their impossibility: Section 4-A sets out and explains the core arguments and shows how they were applied to Eternal Creation (specifically Eternal Creation on the part of the creature, as will be explained); while Section 4-B shows how they were applied to the Eternity of the World. Section 5 considers the consequence of this association, that a scholastic's position on one theory would necessarily be the same regarding the other.

**1. Aristotle's Theory of the Eternity of the World**

The two theories under discussion here were grounded on diverse concepts of the production of things: generation and creation. Generation, Aristotle's account of how things are made, follows the physics principle of motion and involves the production of things out of something already existing. If we take for an example the making of a bronze statue, the statue's production entails the re-forming of existing bronze (a lump of bronze) into a new shape or form, the statue. In Aristotle's system, generation is a kind of movement or change from one thing to another. Divine creation, in contrast to generation, involves the production of things out of nothing. Production out of nothing is something the scholastics regularly pointed out was not accepted in Aristotle's natural philosophy. It is a supernatural act not

subject to the principles of physics, and only one agent can perform it: God. For Latin scholastics adopting Aristotelian physics, both generation and creation were kinds of making in a loose sense of the word, though in a strict sense 'making' (*facere*) referred to natural production (Aristotle's explanation of generation), and only in a metaphorical way to God's act of creating, without the involvement of movement.[2] These two diverse concepts were at the core of the respective theories, both resulting in the world's being eternal.

Let us look first at Aristotle's theory. Generation is one of the central concepts of Aristotle's theory of the Eternity of the World. He argued that the world is eternal in *Physics*, based on principles he established there on generation, time and matter. He showed in *Physics* VIII, 1 that generation must be eternal – that is, that there must be an infinite series of generations. He reasoned that motion must always have a subject – the thing that is/can be moved – and that the subject exists before the motion takes place (*Physics* VIII, 1, 251a8-11). Since every motion or generation of a new thing is from something already existing (we can take as an example the bronze of the statue, borrowed from *Physics* III, 201a28-30), there will always be something existing before any generation. Furthermore, each pre-existing thing itself must have come to be through generation (in the statue example, the lump of bronze must have come from somewhere). Each occasion of generation must have a prior generation behind it, accounting for the existence of the pre-existing subject of each generation. This series of generations is thus infinite; consequently, the world must be eternal (*Physics* VIII, 1, 251a8-251b10 and 251b29-252a5).[3]

This is only one of several cases for the world's eternity in Aristotle's *Physics*, which also presents arguments for it according to the principles of time and matter.[4] To take one example, based on the nature of time, we can observe how the physics principle of 'now' results in an eternal world. Aristotle described time as a continuum, with past and future divided by an instant or 'now' (*Physics* IV, 11, 220a5, and VI, 3, 233b32-234a23). 'Now' is not the present or any duration or part of time; nor does Aristotle include the present in describing time (*Physics* IV, 10, 218a5-6). He compared time to a line, with 'now' almost like a point on that line, but with the difference that 'now' is fluid, continuously moving ahead and dividing past from future (*Physics* IV, 10, 218a18-19, and 11, 220a19-21, and VI, 231b6-7). Aristotle presented an argument for the world's eternity based on this principle of 'now'. Since 'now' always has an attendant past and future, even if one posits a beginning or end of time, the 'now' at that theoretical limit must have a past or future beyond it, extending time and making it

[2] Prior to the period under discussion here, Peter Lombard addressed the nuances of 'making' and 'creating' in his treatment of Creation in *Sentences*, II, D. 1, Chapters 2-3, ed. by PP. Collegii S. Bonaventurae, I, pp. 330-31. In his *Physics* commentary, Aquinas said of God's 'making'/production of things, 'Et sic 'fieri' et 'facere' aequivoce dicuntur in hac universali rerum productione…': Aquinas, *Commentaria in octo libros Physicorum Aristotelis*, ed. by Fratrum Ordinis Praedicatorum, p. 367, para. 4. See also *Summa contra gentiles*, II, Chapter 37, ed. by Fratrum Praedicatorum, pp. 353-54: 'Et hanc quidem factionem (*i.e., the making of essence or universal being*) non attigerunt primi Naturales, quorum erat communis sententia ex nihilo nihil fieri. Vel, si qui eam attigerunt, non proprie nomen factionis ei competere consideraverunt, cum nomen factionis motum vel mutationem importet…'

[3] Aristotle did not accept the idea of an absolute beginning of motion; for an explanation of his thinking on this question, see Davidson, *Proofs for Eternity*, pp. 18-20. For examples of Latin scholastics addressing Aristotle's generation argument, see: Aquinas, *Summa contra gentiles*, II, Chapter 33, ed. by Fratrum Praedicatorum, pp. 346-47, at 346; Boethius of Dacia, *De aeternitate mundi*, ed. by Green-Pedersen, pp. 335-66, at 342 and 361-62, and see pp. 348-50.

[4] For a description of the main arguments for the world's eternity, based on the nature of matter, motion and time, and of the handling of these arguments by medieval philosophers in the Muslim and Jewish traditions, see Davidson, *Proofs for Eternity*, pp. 12-30.

everlasting (*Physics*, VIII, 1, 251b 10-28). If time continues forever in the past and future, so does motion or generation. This is because, according to Aristotle, neither time nor motion exists without the other because they define and measure one another (*Physics*, IV, 220b15-221a6). We perceive time passing through perceiving changes or motion; while motion is measured by the time in which it occurs. If time and generation/motion are eternal, so are matter (the subject of motion) and the world.

When Latin scholastics spoke of eternity with respect to the world (in the context of both Aristotle's theory and Eternal Creation), they sometimes referred to sempiternity. Sempiternity is a limitless duration in time, an everlastingness (existing with time). It is distinct from atemporality or timelessness (existing outside time), or simultaneity of existence, concepts which are associated with the divine rather than the world.[5] However, most of the texts consulted for this study simply use the word 'eternity' rather than 'sempiternity' when referring to the world's condition, so this is the word used in the discussion below.

The thirteenth-century reaction against Aristotle's theory was fierce. An eternal world contradicted the Christian doctrine of Creation: creation in time and out of nothing. As we shall see, many scholastics argued against the theory. In Paris, the bishop banned the holding of the theory by university members in the famous Condemnations of 1270 and 1277.[6]

To oppose the Eternity of the World philosophically, one could do three things: (1) one could set out rebuttals to Aristotle's arguments, undermining each of his arguments based on time, matter, and generation; (2) one could reply by positing the supernatural creative powers of God; or (3) one could introduce arguments to prove that the world could not possibly be eternal – the approach we will look at in Section 4-B. Scholastic rebuttals to arguments in natural terms (the first approach) sometimes reconsidered the ways one can speak of the principles of physics underlying them; yet often they did not dispute the integrity of Aristotelian principles, but instead introduced God's supernatural powers as transcending them (the second approach).[7] For example, one rebuttal to the generation argument centred on the difference between making in natural terms and creation. One could say that God's kind of production of things, creation, is not restricted by the principles of physics, and so does not require a pre-existing subject. God can create out of nothing, and this production of things can be new. This solution was widely cited, for instance by Bonaventure and Thomas Aquinas.[8] In support of the idea of

[5] An example of a scholastic author who did use the term 'sempiternity' is Aquinas, *Commentaria in octo libros Physicorum Aristotelis*, VIII, Lectio 1, ed. by Fratrum Ordinis Praedicatorum, pp. 362 et seq. On the distinction between eternity and sempiternity, see, e.g.: Kukkonen, 'Eternity' (presenting the history of the concept of eternity in ancient and medieval philosophy, and modern discussion of medieval interpretations); Stump, *Aquinas*, pp. 131-58 (focusing on Boethius and Aquinas).

[6] Condemnation of 1270, Art. 5, in *Chartularium universitatis Parisiensis*, ed. by Denifle and Chatelain, I, pp. 486-87, at 487; and Condemnation of 1277, Arts. 88-91, pp. 98 and 205, ed. by Piché, pp. 106, 108 and 142; previously published in *Chartularium*, ed. by Denifle and Chatelain, I, pp. 543-55, at 548-49 and 554-55. On both Condemnations, see: Wippel, 'The Parisian Condemnations of 1270 and 1277'; Wippel, 'The Condemnations of 1270 and 1277 at Paris'. The Condemnation of 1277 is also edited in Hissette, *Enquête sur les 219 articles condamnés à Paris le 7 mars 1277*.

[7] For a description of rebuttals against the eternity of matter, motion and time, and how they introduce the supernatural possibilities of the divine, see Davidson, *Proofs for Eternity*, pp. 30-45.

[8] Bonaventure, *Commentaria in quatuor libros Sententiarum*, II, D. 1, Part 1, Art. 1, Q. 2, ad 2, ed. by PP. Collegii S. Bonaventurae, pp. 19-24, at 23; Aquinas, *Summa theologiae*, I, Q. 46, Art. 1, ad 5, ed. by Fratrum Ordinis Praedicatorum, 4, p. 479; Aquinas, *Summa contra gentiles*, II, Chapter 37, ed. by Fratrum Praedicatorum, pp. 353-54.

creation unexplained in natural terms, scholastics often recalled a discussion by Maimonides in *Guide for the Perplexed* about how our knowledge is based strictly on the world in its current state, and cannot address how it may have been as it was coming into being through creation, when God could have produced it new and out of nothing.[9] The approach of introducing God's supernatural power to the problem offered ways to invalidate arguments for the Eternity of the World constructed in natural terms, and to allow for the philosophical possibility of Creation; but, as we shall see, it did not demonstrate the theory's impossibility (the topic of Section 4-B), or prove that Creation actually happened.

**2. Eternal Creation (*creatio ab aeterno*)**

Although the introduction of God to the problem of the Eternity of the World offers an answer preserving the possibility of Creation, the concept of creation itself presents problems, and precisely because of God's supernatural powers. These powers open another possibility for an eternal world: the theory of Eternal Creation. Eternal Creation was familiar to the Latin world long before the twelfth and thirteenth centuries. Augustine had criticised aspects of it in *City of God* and *Confessions*.[10] It was now considered in conjunction with Aristotle's theory in exploring the ways in which the world could be said to be eternal. Much of Latin scholastic discussion of Eternal Creation focused on Avicenna's concept of an eternal creation involving a world which is eternal, brought into existence by God, and created out of nothing.[11] As we shall see, scholastic authors such as Aquinas drew on important arguments Avicenna made in his *Metaphysics* to support the theory.[12]

Eternal Creation is the theory that God eternally produces the world, and as a result the world is eternal (or, more precisely, sempiternal, as noted above).[13] The reasoning works as follows. That God eternally produces the world is based on the ideas that God is himself eternal, and that he is perfect and unchanging. He does not change because nothing perfect can change without jeopardizing that perfection. Any action of God's must therefore be eternal, so he must eternally produce the world. Consequently, the world is eternal. Latin scholastics sometimes introduced or represented this argument by saying that when a cause is posited its effect is posited, which is how Avicenna explained Eternal Creation.[14] Two metaphors originating with Porphyry were often cited in the context of Eternal

[9] Maimonides, *The Guide of the Perplexed*, II, 17, trans. by Pines, I, pp. 294-98. Maimonides, and scholastics adopting this argument, cited a remark by Aristotle in *Topics*, I, 11 (104b12-17), admitting that he had not demonstratively proved the Eternity of the World, but had shown merely its probability: Maimonides, *Guide of the Perplexed*, II, 15, trans. by Pines, pp. 289-93, esp. 292. See on this subject: López-Farjeat, 'Avicenna's Influence on Aquinas' Early Doctrine of Creation', pp. 317-20; Giletti, 'The Journey of an Idea'.

[10] Augustine, *De civitate Dei*, X, 31; XI, 4-6; and XII, 15-16 (regarding the human race), pp. 308-09, 323-26 and 369-72; Augustine, *Confessiones*, XI, 10, p. 200.

[11] Avicenna, *The Metaphysics of the Healing* (*Shifā*), ed. and trans. by Marmura, VI, 2, p. 203 (an eternal cause producing an eternal effect, and giving it complete existence); VIII, 3, p. 272 (the effect/world is brought into being in an absolute sense); and IX, 1, p. 300 (an eternal cause produces an eternal effect).

[12] Aquinas was influenced by Avicenna on this question early in his career: see López-Farjeat, 'Avicenna's Influence'.

[13] See n. 5 and the text it accompanies.

[14] An example of a scholastic author presenting the cause/effect argument is Aquinas ('posita causa ponitur effectus') in *Quaestiones disputatae de veritate*, ed. by Fratrum Praedicatorum, pp. 91-93, at 91. Regarding Avicenna, see n. 11. For an account of the history and variations of the argument concerning change in God, tracing it from Proclus (and Philoponus' report of him) through medieval Muslim authors, see Davidson, *Proofs for Eternity*, pp. 49-51, 56-61 and 76-79 (describing rebuttals).

Creation: that of an eternal sun producing eternal light, and that of a foot forever making a footprint in the dust.[15] Augustine used the foot/footprint metaphor in *City of God*, and was widely cited for this in scholastic texts.[16]

The theory of Eternal Creation received renewed criticism in the thirteenth century. The issue was not about God's eternal creative activity, but about how this implied an eternal world. The conclusion ran counter to the biblical account of the world's having a beginning. Like Aristotle's theory of the Eternity of the World, it was condemned in Paris in 1277.[17]

In scholastic discourse, the theory was confronted from two angles. Separating the aspects of cause and effect, writers addressed the matter from the standpoint of God (what God is capable of, given his powers and eternity), and from the standpoint of the creature/world (what the world, in its limited capacity, can do). That is, even if one argued that God has the power to create the world eternally, this did not necessarily mean that the world could exist eternally as a result, given that the world in itself is restricted to existing and functioning according to certain principles. The two standpoints were reflected in *quaestio* titles, such as 'whether God could create the world eternally' and 'whether the world could be created eternally'. The two aspects of the issue are generally referred to as Eternal Creation on the part of God and Eternal Creation on the part of the creature. The rest of this section looks at arguments objecting to Eternal Creation on the part of God, while Section 4-A will examine arguments challenging Eternal Creation on the part of the creature (arguments which would also be used to demonstrate the impossibility of Aristotle's theory).

Scholastic authors on both sides of the issue generally accepted that God could eternally will the world's existence, but those opposing Eternal Creation on the part of God held that such eternal creative activity did not imply that an eternal world would result. Both sides considered a range of arguments for and against the theory to determine whether it could be disproved. A major argument against Eternal Creation on the part of God, showing that an eternal world was not a necessary result of God's eternal creative power, was that God's action, in the form of willing, could be eternal in the sense that he could will eternally that a non-eternal world come to be. This idea had been presented by Augustine in *City of God*; and Aquinas included it in *Summa contra gentiles* and his commentary on *Physics* (he in fact accepted the possibility of Eternal Creation on the part of God).[18] If, for the sake of explanation, we can borrow concepts of time, we can put it thus: God could preordain that the world

[15] Regarding the metaphors, see van Veldhuijsen, 'The Question on the Possibility of an Eternally Created World', p. 21; Sorabji, *Time, Creation and the Continuum*, pp. 310-12.

[16] Augustine, *De civitate Dei*, X, 31, p. 309.

[17] Condemnation of 1277, Arts. 26, 39, 48, 87 and 99, ed. by Piché, pp. 86, 90, 94, 106 and 110; previously published in *Chartularium*, ed. by Denifle and Chatelain, I, pp. 545-46 and 548-49.

[18] Augustine, *De civitate Dei*, XII, 17, p. 373, explaining God's fixing in his eternity (cf. Chapter 16) and by predestination the existence of time, human beings, and the 'eternal' life promised to them. Aquinas, *Summa contra gentiles*, II, Chapter 35 (ad 2), ed. by Fratrum Praedicatorum, p. 348; Aquinas, *Commentaria in octo libros Physicorum Aristotelis*, VIII, lectio 2, ed. by Fratrum Ordinis Praedicatorum, pp. 371-72, para. 18; and see nn. 25-26 and the text they accompany. For arguments against the possibility of Eternal Creation on the part of God on the grounds that God's power and will cannot eternally actualise the production of the world (e.g., owing to contradictions which would result, or limitations in the effect), see Matthew of Aquasparta, *Quaestiones disputatae de productione rerum et de providentia*, Q. 9 ('Quaeritur, supposito secundum fidem quod mundus non sit aeternus, sed productus ex tempore, utrum potuit esse ab aeterno vel utrum Deus potuit ipsum ab aeterno producere'), ed. by Gàl, pp. 201-27, at 218-27. The *quaestio* takes a stand against Eternal Creation both on the part of God and on the part of the creature.

come into being at a later moment (Aquinas likens this to a physician's medicine prescription for later consumption). God is always willing this, even once the world exists; but the world exists for a finite time, not eternally. A more scrupulous way to put it is that God's action is beyond time, which comes into existence through creation.[19] The argument did not disprove the theory, but it showed that the conclusion was not necessary, and so made room for the possibility of a non-eternal world.

This is one solution. Yet problems remain which argue for the philosophical necessity of Eternal Creation on the part of God. For instance, if the world did not always exist, one could say that, prior to its existence, something was missing from God (such as the outcome of his action, or his being actually a cause, or something else needed to bring about creation); but God, being perfect, cannot lack anything, so the world must be eternal. Or one could say there was an impediment to the completion of the world's coming to be. If so, there was something (the impediment, whatever it was) which existed before the world, something eternal aside from God. We see versions of these two arguments considered in, for example, Aquinas's *Summa contra gentiles*, Albert the Great's *Physics* commentary, Albert's source Maimonides's *Guide for the Perplexed* and, earlier in the Arabic tradition, Avicenna's *Metaphysics*.[20] One could also ask why, in all of eternity, God would ordain the world's coming into existence when it did: why not before or after? How could God have chosen one moment out of all of eternity for creation?[21] A long tradition stretched back concerning this problem, notably treatments by Aquinas, Albert the Great, al-Ghazālī, Avicenna and Augustine.[22]

These arguments supporting Eternal Creation on the part of God had rebuttals which reopened the possibility of a non-eternal world, in line with Christian belief. An example regarding the last argument can be found in Aquinas. He showed how it could be undermined in *Summa contra gentiles* and his *Physics* commentary, on the grounds that we cannot speak of a choice of moments for the outcome of Creation, since moments connote time, and time itself was created with the world.[23]

While the idea that God could eternally create an eternal world was rejected by some thirteenth-century thinkers, such as Matthew of Aquasparta,[24] it came to be regarded as a matter of

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[19] See n. 23 and the text it accompanies.

[20] Aquinas, *Summa contra gentiles*, II, Chapter 32 (4th arg.), ed. by Fratrum Praedicatorum, p. 344; Albert the Great, *Physica*, VIII, Tract 1, Chapter 11, arg. 6, ed. by Hossfeld, p. 572; Maimonides, *Guide of the Perplexed*, II, 14 (6th method), trans. by Pines, p. 288; Avicenna, *Metaphysics*, IX, 1, ed. and trans. by Marmura, pp. 300-04.

[21] Aristotle had rejected the world's newly coming into existence on similar (natural) grounds, that there was nothing to distinguish one moment from any other for such an event: *De caelo*, I, 12, 283a11-12; *Physics*, VIII, 1, 252a10-19.

[22] Aquinas, *Summa contra gentiles*, II, Chapter 32 (5th arg.), ed. by Fratrum Praedicatorum, p. 345; Albert the Great, *Commentarii in secundum librum Sententiarum*, D. 1, B, Art. 10, ed. by Borgnet, p. 26; al-Ghazālī, *Tahāfut al-falāsifa*, I, Discussion 1, First Proof, first objection, ed. and trans. by Marmura, pp. 13-14; Avicenna, *Metaphysics*, IX, 1, ed. and trans. by Marmura, p. 304; Augustine, *De civitate Dei*, XI, 4-6, pp. 323-26. For this argument's history and analysis of variations of it, tracing it back to Proclus (and Philoponus's report of him), see Davidson, *Proofs for Eternity*, pp. 51-56 and 68-76 (on rebuttals). It should be noted that al-Ghazālī's *Tahāfut al-falāsifa* was unknown to thirteenth-century Latin scholastics; it became available in Latin in 1328, when Averroes's *Tahāfut al-Tahāfut*, which contained and commented on it, was translated from Arabic: see Beatrice Zedler's account in the edition *Averroes' Destructio destructionum philosophiae Algazelis*, pp. 5-6, 21-22 and 24-27.

[23] Aquinas, *Summa contra gentiles*, II, Chapter 35 (ad 5), ed. by Fratrum Praedicatorum, p. 349; Aquinas, *Commentaria in octo libros Physicorum Aristotelis*, VIII, lectio 2, ed. by Fratrum Ordinis Praedicatorum, p. 372, para. 19. Augustine had made this argument in *De civitate Dei*, XI, 6, p. 326.

[24] See n. 18.

opinion, as Aquinas and Giles of Rome noted.[25] Aquinas and others held that to say that God could not produce the world eternally would detract from his omnipotence.[26] However, the idea that the world, for its part, could possibly exist eternally as result – Eternal Creation on the part of the creature – underwent sharp debate. This will be the subject of Section 4-A. As Section 4 shows how these arguments were applied to both eternity theories, Section 3 will first explore how the two theories were frequently addressed together in scholastic treatments.

**3. Linking and Conflating the Two Theories in Scholastic Writing**

From the perspective of Latin scholastics, what precisely was the relationship between Eternal Creation and the Eternity of the World? These authors recognised that the theories were distinct and based on diverse principles. When presenting natural philosophical arguments, they might cite Aristotle's *Physics* or *De caelo* for the source of an argument or principle, or they might identify a set of arguments as being Aristotle's.[27] In presenting arguments about Eternal Creation, they usually excluded arguments from nature and focused on arguments from God or the arguments from the creature we will see in Section 4-A. When Albert the Great presented a certain collection of arguments for the world's eternity in his *Sentences* commentary (completed *c*. 1246), *Physics* commentary (1251-52) and *Summa theologiae* (after 1274), he attributed the first arguments to the natural philosophy of Aristotle and Peripatetic followers, and the remainder, regarding Eternal Creation on the part of God, to principles of metaphysics as handled by later Greek and Arab philosophers.[28] He acknowledged Maimonides's *Guide for the Perplexed* as the source of this collection of arguments. Maimonides had specified that the first arguments were drawn from Aristotle and his followers, and the others took God as the starting point.[29] Yet notwithstanding the distinction of principles and arguments underlying the theories, close scrutiny of scholastic handling of the theories in *quaestiones* and other treatments shows them running along the same track: the two were often treated together, or even conflated. We find so many examples of this phenomenon that it is clear that, in the late thirteenth century, they were regarded as closely related in spite of their differences.

For instance, early in his career, Aquinas took up the question of the world's eternity in a *quaestio* in his *Sentences* commentary ('Utrum mundus sit eternus', 1252-56). Among the many arguments for the world's eternity which he sets out are ones in natural terms (e.g., relating to time and

[25] Aquinas, *De aeternitate mundi*, ed. by Fratrum Praedicatorum, pp. 85-89, at 85, ll. 17-23; Giles of Rome, *Apologia*, ed. by Wielockx, p. 55.

[26] Aquinas, *De aeternitate mundi*, ed. by Fratrum Praedicatorum, p. 86, ll. 71-75; Peter of Auvergne, 'Utrum Deus potuerit facere mundum esse ab eterno', ed. by Dales and Argerami, pp. 144-48, at 144; Guido Terreni, 'Utrum motus sit aeternus', ed. by Giletti, pp. 283-305.

[27] Two examples bracketing the time period we are examining are: Albert the Great, *Physics* commentary (1251-52), ed. by Hossfeld, p. 570 ('sunt in universo septem [rationes] collectae a Moyse Aegyptio, Iudaeorum philosopho, quae in diversis locis librorum Aristotelis colliguntur'); and Guido Terreni, 'Utrum motus sit aeternus' (1314-17), ed. by Giletti, p. 285 ('Hae sunt rationes Aristotelis').

[28] Albert the Great, *Sentences*, II, D. 1, B, Art. 10, ed. by Borgnet, pp. 24-30 at 24-26; Albert the Great, *Physics* commentary, VIII, Tract 1, Chapter 11, ed. by Hossfeld, pp. 568-72 at 570-72; Albert the Great, *Summa theologiae*, II, Tract 1, Q. 4, Art. 5, part. 3, ed. by Borgnet, 32, pp. 101-03.

[29] Maimonides, *Guide of the Perplexed*, II, Chapter 14, trans. by Pines, pp. 285-89, esp. 287, and Chapters 17 and 18, pp. 294-302, esp. 298 and 299. For an example of Albert the Great's citing Maimonides for this argument collection, see n. 27 above.

motion/generation), along with several relating instead to Eternal Creation, such as that there cannot be a change in God's will, and that nothing would cause him to create at one time rather than another.[30]

Aquinas covered both eternity issues in a set of chapters, 32-37, in *Summa contra gentiles* II (completed 1265/67), where he divided the arguments by type. He presented three pairs of chapters of arguments and counter-arguments: a pair from the standpoint of God (Chapters 32 and 35), regarding Eternal Creation on the part of God; a pair from the standpoint of the world (Chapters 33 and 36), largely in natural terms; and a pair on the subject of making (Chapters 34 and 37), in natural terms.[31]

Aquinas merged the two theories in *Summa theologiae*, I, Q. 46, Art. 1 (1266-68), which asks whether creatures have always existed ('Utrum creaturae semper fuerint'). He considers first the case for the world's eternity, drawing on natural philosophy arguments (involving, e.g., principles of motion, matter, potency, vacuums and time, such as the 'now' argument), as well as arguments to do with Eternal Creation (involving, e.g., a change in God's will, and God's being a sufficient cause). In the response section, Aquinas speaks in quick succession about Eternal Creation and Aristotle's theory: he takes up the theme of God as a cause in Eternal Creation, and then discusses how we should take Aristotle, saying that the Philosopher had not demonstratively proved the Eternity of the World.[32]

Bonaventure, in his *Sentences* commentary (completed *c.* 1253), asked whether the world was produced eternally or in time ('Utrum mundus productus sit ab aeterno, an ex tempore'), and first considered arguments having to do with the natural principles of motion and time. He identified these as arguments of Aristotle obtaining on the part of the world.[33] He then took up arguments on the part of the producing cause, God, such as God's being a sufficient cause, and the problem of his changing from not producing the world to producing it. In his response section, Bonaventure addressed simultaneously Eternal Creation and the Eternity of the World. He refers here to the Eternal Creation metaphors of the co-eternal foot and footprint and co-eternal sun and light. In his next breath he switches to Aristotle's theory, and says that Aristotle never meant that the world never began in any way, but simply that it never began in terms of natural motion. Before this, Bonaventure set out arguments against the Eternity of the World, a demonstration which implicitly also serves to disprove Eternal Creation.[34]

Giles of Rome, in his *Sentences* commentary (a second, *ordinatio* version finished after 1309), asked whether the world was eternal ('An mundus sit aeternus'), and took up common arguments on the Eternity of the World, involving motion, time and prime matter, and citing Aristotle's *Physics*, *De caelo* and *De generatione*.[35] In the same *quaestio* he considered arguments regarding Eternal Creation,

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[30] Aquinas, *Scriptum super libros Sententiarum*, II, D. 1, Q. 1, Art. 5, ed. by Mandonnet, II, pp. 27-31. Mark Johnson has argued that Aquinas attributed to Aristotle a doctrine of creation, and shows quotations of works throughout his career to support this understanding. Some of them indicate an interpretation of Aristotle resulting in Eternal Creation; see Johnson, 'Did St. Thomas Attribute a Doctrine of Creation to Aristotle?', esp. pp. 137, 141 and 150. This possibility should be borne in mind when considering the examples of Aquinas presented here and in the discussion below.

[31] Aquinas, *Summa contra gentiles*, II, Chapters 32-37, ed. by Fratrum Praedicatorum, pp. 344-54.

[32] Aquinas, *Summa theologiae*, I, Q. 46, Art. 1, ed. by Fratrum Ordinis Praedicatorum, 4, p. 479. Regarding the non-demonstrability of Aristotle's theory, see n. 9 and the text it accompanies.

[33] Bonaventure, *Sentences*, II, D. 1, Part 1, Art. 1, Q. 2, ed. by PP. Collegii S. Bonaventurae, p. 20: 'Hae sunt rationes Philosophi, quae sunt sumtae a parte ipsius mundi.'

[34] Bonaventure, *Sentences*, II, D. 1, Part 1, Art. 1, Q. 2, ed. by PP. Collegii S. Bonaventurae, pp. 20-22.

[35] Giles of Rome, *Sentences – ordinatio*, II, D. 1, Part 1, Q. 4, Art. 1, pp. 42-54, at 43-45 and 50-52.

such as that God lacked something to be a cause.[36] Similarly, in his commentary on *Physics* (before 1277/78), Giles asked whether motion was eternal ('Utrum hoc ratio simpliciter et absolute concludat motum eternum esse'), a matter regarding Aristotle's theory, but approached here according to God's role and the issue of Eternal Creation, including the problem of why God would create when he did and not before.[37]

The last example is Boethius of Dacia, the Paris Arts Faculty master whom historians often identify as one of the radical Aristotelians of the 1260s and '70s. In his *De aeternitate mundi* (*c.* 1270/72), Boethius compartmentalised approaches to the matter of the world's eternity: according to faith or reason, and within reason according to diverse sciences. His position on the faith-reason distinction is famous: he accepted the philosophical possibility of the world's eternity, but also maintained that as a Christian he accepted (without proof) that the world began. His view has been much discussed in connection with the Double Truth, the position of holding two contradictory philosophical and religious truths.[38] Boethius's separation of diverse rational approaches is also precise. Midway in the treatise, he considers what can be determined about the world's eternity in the distinct fields of the natural philosopher, mathematician and metaphysician. The description of the metaphysician indicates that it is he who handles Eternal Creation.[39] Yet notwithstanding this compartmentalisation, Boethius addresses together arguments in natural terms and arguments relating to Eternal Creation. In the opening remarks, he takes up the matter of the demonstrability of the world's eternity, a theory he ascribes to Aristotle. He then presents sets of arguments representing three possible positions: (1) a set against the world's eternity (that it is not and cannot be eternal); (2) a set for its possibility (that it could possibly be eternal); and (3) a set for its actual eternity (that it is eternal). Leaving aside the first set (for discussion in Section 4-B), the arguments in the second set (for the possibility of the world's eternity) turn largely on Eternal Creation.[40] In the third set (for the world's actual eternity), half are in Aristotelian natural terms (e.g., to do with the nature of motion and time) and half are about Eternal Creation (e.g., that God's effects are immediate, and that there cannot be an impediment to his causing). Following this is an expanded discussion of Eternal Creation on the part of God.[41] Thus, although Boethius distinguishes between the systems to which natural and Eternal Creation arguments pertain, he addresses together arguments relating to these two domains.

The examples above show how Aristotle's theory and Eternal Creation were frequently linked in scholastic works. While some works linking them may indicate a distinction between them, others seem to conflate them. The next section shows a connection which is more philosophically significant: how one set of arguments was deployed against both theories.

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[36] Giles of Rome, *Sentences – ordinatio*, pp. 45-46 and 53-54.

[37] Giles of Rome, *In libros de physico auditu Aristotelis*, VIII, Lectio III, dubitatio 1, fol. 158$^{r}$.

[38] Boethius of Dacia, *De aeternitate mundi*, ed. by Green-Pedersen, pp. 335-36, 347, 351-53, 356-57 and 365-66. Historians generally conclude that neither Boethius nor any of his contemporaries held the Double Truth, because they held religious truth in an absolute sense and philosophical opinions in a conditional sense, avoiding a contradiction. See, e.g., Bianchi, *Pour une histoire de la 'double vérité'*, pp. 12-13, 17-18, and 43-44; Piché, *La condemnation*, pp. 183-225; John F. Wippel's introduction in his English translation of *Boethius of Dacia: On the Supreme Good*, *On the Eternity of the World*, *On Dreams*, pp. 4, 9, 14 and 17; Dales, 'Origin of the Doctrine of the Double Truth'; see also Giletti, 'Double Truth'.

[39] Boethius of Dacia, *De aeternitate mundi*, ed. by Green-Pedersen, pp. 347-55.

[40] Boethius of Dacia, *De aeternitate mundi*, ed. by Green-Pedersen, pp. 339-40.

[41] Boethius of Dacia, *De aeternitate mundi*, ed. by Green-Pedersen, pp. 340-46; rebuttals to the arguments are on pp. 357-64.

## 4. Applying the Same Arguments against Both Theories

As mentioned in Section 1, there were three ways to combat Aristotle's theory: (1) one could undermine the arguments Aristotle had made according to time, matter and generation; (2) one could introduce God and his creative powers to posit the possibility of Creation against his theory (the approach shown in Section 1); or (3) one could introduce arguments to prove that the world could not possibly be eternal. The first two routes would succeed in showing that the theory was not demonstrative (not necessarily true), but they would not prove that it was necessarily false. To defeat Aristotle's theory completely, one had to take the third route: demonstrate that the theory was impossible by presenting fresh arguments which built a case against it.

Opposition to Eternal Creation addressed either the role of God or that of the world. In Section 2, we saw arguments opposing Eternal Creation on the part of God. There was a different set of arguments for undermining Eternal Creation on the part of the creature – that is, what is possible for the world itself, with its limited capacity. This was a case aiming to show that, regardless of whether God could produce the world eternally through his eternal action, it was impossible that the world, for its part, could exist eternally.

Most of the arguments for demonstrating the impossibility of Eternal Creation on the part of the creature were the same as those demonstrating the impossibility of the Eternity of the World. Similarly, most of the rebuttals to these arguments proposed by scholars on the other side of the debate were the same for both theories. Section 4-A sets out some of the most common arguments against Eternal Creation on the part of the creature, along with rebuttals to them. Examples of scholastics using these arguments and counter-arguments are cited in each case. Section 4-B examines how scholastics applied these arguments and counter-arguments to the Eternity of the World.

### A. The Core Arguments as Applied against Eternal Creation on the Part of the Creature

Included among the arguments below are two which turn on God's nature, rather than the creature's: they are about imposing necessity on God, and the priority of a cause to its effect. They might seem to relate to Eternal Creation on the part of God, but they address God's relationship with the world, and scholastics included them in treatments of Eternal Creation on the part of the creature. The other arguments described below focus strictly on what is possible for a creature: they are about the priority of non-being to being, traversing an infinity, and an infinity of things (e.g., people, stones or souls). Together, these arguments formed a core set used to confront Eternal Creation on the part of the creature. We find the arguments about imposing necessity on God and a cause's priority to its effect grouped with those about the priority of non-being to being and infinities of things in treatments of Eternal Creation on the part of the creature by, for example, Henry of Ghent, Aquinas, Godfrey of Fontaines and John Quidort.[42]

[42] Henry of Ghent raises the argument about imposing necessity on God along with the non-being/being argument: Henry of Ghent, *Quodlibet I*, Q. 7-8 ('Utrum creatura potuit esse ab aeterno' and 'Utrum repugnet creaturae fuisse ab aeterno'), ed. by Macken, pp. 27-46, at 29-30 and 33-42. He sets the necessity argument in the context of what is possible in a creature's nature: 'In hac quaestione erat opinio philosophorum quod creatura potuit esse ab aeterno et quod non repugnant eius naturae' (p. 29). Aquinas addresses the argument about God's priority to the world along with those on non-being/being and an infinity of souls: Aquinas, *De aeternitate mundi*, ed. by Fratrum Praedicatorum, pp. 86-89. Godfrey of Fontaines treats the argument about imposing necessity on God, along with those on non-being/being, and infinities of stones and souls: Godfrey of Fontaines, *Quodlibet II*, Q. 3 ('Utrum

1) Imposing Necessity on God

One argument concerning God and his relation to the world made the case that Eternal Creation would impose necessity on God. It relied on Aristotle's principle in *De interpretatione* 9 that, when something exists, it necessarily exists; that is, it could not *not* exist when it does exist.[43] If God created the world eternally and it existed eternally as a result, he would do so by necessity and not by his will, in that, since it existed eternally, he could never not create it. But as God does have free will and power to do or not do things, this is impossible; so Eternal Creation is impossible. This argument was used against Eternal Creation by, for instance, Richard of Middleton in his *Sentences* commentary (*c.* 1281-84) and Henry of Ghent, in a quodlibetal *quaestio* of 1286 where he bases his position on remarks on cause/effect relationships in Avicenna's *Metaphysics* VI, 2.[44] In opposition to the position, the argument was addressed by, for example, Aquinas, Godfrey of Fontaines, John Quidort and Henry of Harclay.[45] Aquinas countered it by saying that God's creating is necessary not in an absolute sense (he has the ability not to create), but rather in a conditional sense; that is, whenever he creates, he can be said to create necessarily only inasmuch as he does create, yet nevertheless he is free not to create.[46]

2) Priority of a Cause to Its Effect

Another argument about God's relation to the world turned on the concept of priority. It took up the relationship between cause and effect, and the principle that a cause is necessarily prior to its effect. It said that, if the world were created by God but was eternal like God, God would not be prior to the world. William de la Mare objected to Eternal Creation on these grounds in his *Sentences* commentary (*c.* 1272-79) in a *quaestio* asking whether God could make a creature coeternal with him, and in his *Correctorium fratris Thomae* (1278/79) attacking Aquinas (posthumously) in an article rejecting Aquinas's position that God need not be prior to the world in duration.[47] We will examine a rebuttal Aquinas had used against this argument in the description of the next argument.

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mundus sive aliqua creatura potuit esse vel existere ab aeterno'), ed. by De Wulf and Pelzer, pp. 68-80, at 68-71 and 76-79. John Quidort handles the necessity argument along with those on non-being/being and an infinity of stones, and discusses the non-being/being and God/creature priority arguments together: John Quidort, *Sentences*, II, D. 1, Q. 4, ed. by Müller, pp. 24-28, at 24-25 and 26-28.

[43] *De interpretation*, 9, 19a23.

[44] Richard of Middleton, *Super quattuor libros Sententiarum*, II, D. 1, Art. 3, Q. 4, contra, p. 17; Henry of Ghent, *Quodlibet I*, Q. 7-8, ed. by Macken, pp. 40-42; Avicenna, *Metaphysics*, VI, 2, ed. and trans. by Marmura, pp. 202-03, and see Chapter 3, pp. 214-15.

[45] Aquinas, *Summa theologiae*, I, Q. 46, Art. 1, resp., ed. by Fratrum Ordinis Praedicatorum, 4, p. 479; Godfrey of Fontaines, *Quodlibet II*, Q. 3, ed. by De Wulf and Pelzer, p. 68; John Quidort, *Sentences*, II, D. 1, Q. 4, ed. by Müller, pp. 25 and 28; Henry of Harclay, *Ordinary questions XV-XXIXI*, ed. by Henninger, Q. 18, pp. 732-73, at 750; previous edition: Dales, 'Henricus de Harclay *quaestio* "Utrum mundus potuit fuisse ab aeterno"', pp. 223-55.

[46] Aquinas, *Summa theologiae*, I, Q. 46, Art. 1, resp., ed. by Fratrum Ordinis Praedicatorum, 4, p. 479. Aquinas refers to his earlier discussion on the difference between necessity that is absolute and necessity by supposition, where he shows that God's willing things apart from himself is not absolutely necessary: Aquinas, *Summa theologiae*, I, Q. 19, Art. 3, resp., ed. by Fratrum Ordinis Praedicatorum, 4, pp. 234-35, at 235.

[47] William de la Mare, *Scriptum in secundum librum Sententiarum*, Q. 3 ('Utrum Deus potuerit facere creaturam sibi coaeternam'), contra, ed. by Kraml, pp. 10-11 at 10; idem, *Correctorium fratris Thomae*, Art. 7 (addressing Aquinas's position 'Quod non sequitur si Deus est causa activa mundi quod sit prior mundo duratione'), ed. by Glorieux, pp. 40-45, at 41. See also the in-depth study of the Dominican responses to the *Correctorium* in relation to the Eternity of the World in Hoenen, 'The Literary Reception of Thomas Aquinas' View'.

3) Priority of Non-Being to Being

A different argument about priority addressed what is possible for a creature. The argument considered how, when anything comes into being, it must have non-being (*non esse*) before being (*esse*); that is, before it exists, it must not exist. If the world were eternal, its non-being could not be prior to its being. That a thing not exist before its existence is all the more true for creation, which involves coming into existence out of nothing. This was considered an important objection to Eternal Creation, and was used by, for example, Bonaventure in his *Sentences* commentary and *Breviloquium*, and *quaestiones* by Henry of Ghent, John Pecham and Matthew of Aquasparta.[48]

Both objections to Eternal Creation according to priority (of a cause and of a creature's non-being) could be rebutted. Aquinas showed this in his *De aeternitate mundi* (*c.* 1270/72).[49] In the relationship between cause and effect, priority need not be related to time. The cause could be prior simply by essence or nature, in the sense that the effect could not exist without it. The effect could depend on the cause for its existence, and yet exist eternally with that eternal cause without perverting the relationship between cause and effect. Aristotle had made the distinction between priority in time and priority in nature or being.[50] The source for this solution was Avicenna's *Metaphysics* (VI, 2; VIII, 3; and IX, 1), which was cited in making the rebuttal by, for example, John Quidort and Aquinas in their *Sentences* commentaries.[51]

One could use the same solution for the problem of non-being having to be prior to being in the production of the world. Non-being could precede being not in time but by nature. Thus the world could be created *ex nihilo* eternally. When Aquinas made this argument in *De aeternitate mundi*, he explained that *ex nihilo* ('out of nothing') does not mean 'after nothing'; and that in Eternal Creation nothingness is prior to the world by nature, not in time.[52] Godfrey of Fontaines, in a quodlibetal *quaestio* of 1286, explored the non-being/being problem in depth and, following Aquinas, came to the same conclusion;[53] so had Giles of Rome, according to a *reportatio* of his early *Sentences* teaching (1269-71).[54]

The scholastics had this rebuttal from Avicenna's *Metaphysics*.[55] Avicenna described creation as being unlike generation. Generation involves matter and potentiality as prior in time to the newly existing thing; but creation involves the absolute bringing into existence of a thing, not from something pre-existing. Avicenna explained that non-being was prior to being in creation, but that this was not a

[48] Bonaventure, *Sentences*, II, D. 1, Part 1, Art. 1, Q. 2, Sed ad oppositum, arg. 6, ed. by PP. Collegii S. Bonaventurae, p. 22; Bonaventure, *Breviloquium* II, 1, ed. by PP. Collegii S. Bonaventurae, p. 219; Henry of Ghent, *Quodlibet I*, Q. 7-8, ed. by Macken, p. 30; John Pecham, 'Utrum mundus potuit fieri ab aeterno', ed. by Brady, pp. 170 and 175; and see Pecham's discussion of the being/non-being problem in several ways in a *quaestio* on creation *ex nihilo* ('Utrum aliquid factum sit vel fieri potuit de nihilo ordinaliter') on pp. 156-57; Matthew of Aquasparta, *Quaestiones disputatae de productione rerum*, Q. 9, ed. by Gàl, pp. 206-07.

[49] Aquinas, *De aeternitate mundi*, ed. by Fratrum Praedicatorum, pp. 86-87 and 88.

[50] *Categories*, 12; *Metaphysics*, V, 11; *Physics*, VIII, 7, 260b17-19.

[51] Avicenna, *Metaphysics*, VI, 2, VIII, 3, and IX, 1, ed. and trans. by Marmura, pp. 202-03, 272 and 305-7; John Quidort, *Sentences*, II, D. 1, Q. 4, ed. by Müller, p. 27; Aquinas, *Scriptum super libros Sententiarum*, II, D. 1, Q. 1, Art. 5, ed. by Mandonnet, II, p. 29.

[52] Aquinas, *De aeternitate mundi*, ed. by Fratrum Praedicatorum, pp. 87-88.

[53] Godfrey of Fontaines, *Quodlibet II*, Q. 3, ed. by De Wulf and Pelzer, pp. 69-71.

[54] Giles of Rome, *Sentences – reportatio*, II, D. 1, Q. 7, ed. by Luna, pp. 204-07.

[55] Avicenna, *Metaphysics*, VI, 1; VIII, 3; and IX, 1, ed. and trans. by Marmura, pp. 194-200, 272-73 and 305-07.

temporal priority. Instead, the world had ontological dependence on God, whose priority was in essence or nature, not time. Thus it could not be demonstrated that the world began in time, and it was philosophically possible for it to be eternal. Avicenna was cited in connection with the non-being/being argument by scholastics on both sides of the issue of Eternal Creation. Henry of Ghent, who opposed Eternal Creation, cited and critiqued Avicenna repeatedly in analysing the argument in the quodlibetal *quaestio* of 1286 mentioned above.[56] John Quidort, who by contrast accepted Eternal Creation in his *Sentences* commentary (1292-96), relied on Avicenna for his rebuttal.[57]

4) Traversing an Infinity

Other arguments involved concepts of infinity. One was that an infinity cannot be traversed. This is because, according to Aristotle, infinities exist only potentially, not in actuality, so the traversing of an infinity could never be completed.[58] The argument is that, if the world were eternal, there would be an infinity of days to traverse, which is impossible. One could also argue that, with an infinity of days in the past, the past could not be completed, so we could not arrive at today. The argument about traversing an infinity was a commonplace, used, for example, by Bonaventure in his *Sentences* commentary and Matthew of Aquasparta in his *Quaestiones disputatae de productione rerum* (*c.* 1279-84).[59] It was rebutted, for instance, in Aquinas's *Summa contra gentiles*, where he said that the days (or 'revolutions of the sun') would not exist in actuality (not all at the same time) but rather in succession, each one a finite element which could be completed, allowing the infinite series to be traversed.[60]

5) Infinity of Things

Another infinity argument worked on the objection against an infinity of things existing at the same time, an actual infinity. According to what were widely accepted Aristotelian terms, an actual infinity is impossible because infinities exist only potentially.[61] Arguments against the world's eternity made propositions such as that, if the world were eternal, the human race would also be eternal (because there is no reason to posit a first or last generation), resulting in an infinity of people; and such as that, if the world were eternal, God could produce on each day a stone or other object, so that there would already exist an actual infinity of these things, which is impossible. The most common version of the argument was that an eternal world and eternal human race would result in an actual infinity of souls of people who had died, which is impossible. While one could counter the first argument by saying the

[56] Henry of Ghent, *Quodlibet I*, Q. 7-8, ed. by Macken, pp. 33 and 35-37.
[57] John Quidort, *Sentences*, II, D. 1, Q. 4, ed. by Müller, p. 27.
[58] *Physics*, III, 4, 204a3-6; and 6, esp. 206b13-16; *Posterior Analytics*, I; 3, 72b10; and 22, 82b37-39; *Metaphysics*, XI, 10, 1066a35-b1. For an account of the argument about traversing an infinity and variations of it, tracing its history from Philoponus through Muslim philosophers, see: Davidson, *Proofs for Eternity*, pp. 87-89, 117-20 and 127-34 (on rebuttals); Sorabji, *Time, Creation and the Continuum*, pp. 210-24.
[59] Bonaventure, *Sentences*, II, D. 1, Part 1, Art. 1, Q. 2, Sed ad oppositum, arg. 3, ed. by PP. Collegii S. Bonaventurae, p. 21; Matthew of Aquasparta, *Quaestiones disputatae de productione rerum*, Q. 9, ed. by Gàl, p. 207. See also John Pecham, 'Utrum mundus potuit fieri ab aeterno', ed. by Brady, p. 172. Regarding whether Bonaventure regarded this argument (and the next infinity argument) to be demonstrative against the world's eternity, see Baldner, 'St. Bonaventure on the Temporal Beginning of the World'.
[60] Aquinas, *Summa contra gentiles*, II, Chapter 38 (3rd arg. and ad 3), ed. by Fratrum Praedicatorum, p. 355 (as will be seen in Section 4-B, this chapter also addresses the Eternity of the World). Grounds for this solution can be found in *Physics*, III, 6, 206a19-b14. Another example is Henry of Harclay, 'Utrum mundus potuit fuisse ab aeterno', ed. by Henninger, pp. 750 and 756-58.
[61] See n. 58.

people would exist in succession rather than at the same time (avoiding an actual infinity), this could not be said about stones (theoretically producing an infinite mass) or souls. This argument, too, had a prior history among philosophers writing in the Arabic philosophical tradition, including al-Ghazālī and Maimonides.[62] Among Latin scholastics opposing Eternal Creation, this argument was presented by Richard of Middleton in his *Sentences* commentary, John Pecham in a *quaestio* on Eternal Creation (*c.* 1270), and Matthew of Aquasparta in his *Quaestiones disputatae de productione rerum*.[63] Matthew employed in his treatment a series of arguments about infinities to demonstrate the impossibility of Eternal Creation on the part of the creature, including those of celestial rotations, souls and human beings, and returned to them later to refute possible objections to them, declaring that they demonstrated that the world could not possibly be eternal, and any counter-arguments to them were sophistic.[64]

On the other side of the debate, accepting the theoretical possibility of Eternal Creation, Giles of Rome cited and countered the argument in the *reportatio* of his *Sentences*, as did Peter of Auvergne in a quodlibetal *quaestio* ('Utrum Deus potuerit facere mundum esse ab eterno', 1296), and Henry of Harclay in an ordinary *quaestio* ('Utrum mundus potuit fuisse ab aeterno') which he wrote while serving as chancellor of the University of Oxford (1312-1317).[65] The standard rebuttal to the argument was problematic. It played with various theories about the soul, listing several ideas which avoid the impossibility of an infinity of souls, such as the highly controversial theory of the Unicity of the Intellect. With the unicity theory, an infinity of souls would not result because individual souls would be reabsorbed by the single intellect after death of the body. The rebuttal was useful in showing how the argument against the world's eternity did not stand; but at the same time it was distasteful in that most scholastics putting forward the rebuttal were appalled at the hint of accepting such an idea. Peter of Auvergne, for instance, called the Unicity of the Intellect 'heretical' when he mentioned it in describing the solution.[66] When Aquinas discussed and rebutted the infinity of souls argument in accepting the

[62] al-Ghazālī, *Maqāsid al-falāsifa*, I, Tract 1, Div. 6, ed. by Muckle, pp. 40-41; al-Ghazālī, *Tahāfut al-falāsifa*, I, Discussion 1, First Proof, first objection, and Discussion 4, ed. and trans. by Marmura, pp. 19-20, 80 and 82-83; Maimonides, *Guide of the Perplexed*, I, 74 (7th arg.), trans. by Pines, pp. 220-22. Latin scholastics often cited al-Ghazālī's *Maqāsid al-falāsifa* for solving the infinite souls problem by accepting the possibility of an actual infinity; al-Ghazālī in fact did not accept the world's eternity, as he showed in his *Tahāfut al-falāsifa*: see n. 22 above regarding this work's unavailability to Latin readers before 1328. For an account of the argument about an infinity of things and variations of it, tracing its history from Philoponus through Muslim philosophers, see Davidson, *Proofs for Eternity*, pp. 86-89, 122-25 and 127-34 (on rebuttals); Sorabji, *Time, Creation and the Continuum*, pp. 225-31.

[63] Richard of Middleton, *Super quattuor libros Sententiarum*, II, D. 1, art. 3, Q. 4, p. 17; John Pecham, 'Utrum mundus potuit fieri ab aeterno', ed. by Brady, pp. 171-72; Matthew of Aquasparta, *Quaestiones disputatae de productione rerum*, Q. 9, ed. by Gàl, pp. 207 and 210-12.

[64] Matthew of Aquasparta, *Quaestiones disputatae de productione rerum*, Q. 9, ed. by Gàl, p. 210: 'Quamvis autem rationes illae de infinitate animarum, de infinitate revolutionum et de infinitate generationum sufficiant ad improbandam mundi aeternitatem vel [ad probandam] impossibilitatem exsistendi ab aeterno sub ista universitate et forma in qua mundus est: probant enim demonstrative mundum nec fuisse nec esse potuisse ab aeterno. Demonstrative, inquam, non demonstratione dicente "propter quid", nec a priori seu ostensive, sed demonstratione "quia", a posteriori et ducente ad impossibile, quibus responderi non potest nisi sophistice.'

[65] Giles of Rome, *Sentences – reportatio*, ed. by Luna, pp. 204 and 205-07; Peter of Auvergne, 'Utrum Deus potuerit facere mundum esse ab eterno', ed. by Dales and Argerami, pp. 144 and 146-47; Henry of Harclay, 'Utrum mundus potuit fuisse ab aeterno', ed. by Henninger, pp. 734 and 772 (regarding stones), and 750 and 756-58 (regarding souls).

[66] Peter of Auvergne, 'Utrum Deus potuerit facere mundum esse ab eterno', ed. by Dales and Argerami, p. 146. A set of four theories about the soul was usually mentioned as possible (but unacceptable) rebuttals: that an actual infinity is possible; that there is a single, unified intellect; that a finite number of souls migrate to new bodies; and

possibility of Eternal Creation in his *De aeternitate mundi*, he said as a rebuttal that God could create an eternal world that did not necessarily have an eternal human race. This answer offers a possibility, not a conclusive solution (it has as much force as the argument that God could eternally will the existence of a non-eternal world). Aquinas conceded that this argument was a tough challenge.[67]

**B. Applying the Core Arguments to the Eternity of the World**

Most of the arguments described above for demonstrating the impossibility of Eternal Creation on the part of the creature were also used for showing the impossibility of the Eternity of the World. Likewise, in countering this position, most of the rebuttals outlined above were applied to Aristotle's theory. We find this not just in *Physics* commentaries addressing Aristotle's teaching, but also in *Sentences* commentaries and other theological works. Apart from occasionally posing the question as one of eternal movement or time, there is often little to distinguish *Physics* treatments from theological ones. In some examples below, of both philosophical and theological works, the *quaestio* is about Aristotle's theory, but includes arguments relating to Eternal Creation. This is characteristic of treatments of the issue at this time, though writers were conscious of the distinction between the principles/arguments of the theories, as the examples below show.[68] Many of the works cited below treat both theories together in the manner described in Section 3. In these instances, the arguments demonstrating the impossibility of the world's eternity (or the opposing view) apply to both theories. The examples are presented in two groups, according to whether the author opposed or accepted the philosophical possibility of the Eternity of the World.

Starting with opponents to the Eternity of the World, the first example is a *quaestio* by the theologian William of Baglione investigating whether Aristotle's theory is demonstrably false ('Utrum mundum non esse aeternum sit demonstrabile', 1266-67). He attributes the theory to *Physics* VIII, *De generatione* II, and Ps.-Aristotle *De plantis* I, and explores how it can be demonstrated to be false through two arguments: those about priority of non-being to being and about an infinity of souls.[69] This discussion is expanded in the response section, where William considers types of causes, treating the two arguments at length under the subject of material causes and the world's limited state. Following this, he considers formal, efficient and final causes. Under efficient causes, where he introduces the topic of God as a cause, he presents a variation of the argument that an eternal world would impose necessity on God (the argument that God could not *not* make the world). In concluding, he returns to Aristotle and states that it can be demonstrated that the world is not, and could not possibly be, eternal.[70]

Geoffrey of Aspall, working probably at the Arts Faculty at the University of Oxford, wrote commentaries on Aristotle's books on natural philosophy and metaphysics, including a *Physics*

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that souls die with the body's death. This formulation appeared already in the early 1230s, but as absurd consequences of an eternal world proving its impossibility: Robert Grosseteste, *Hexaëmeron*, I, Chapter 8, 7, ed. by Dales and Gieben, p. 62; see also Dales, 'Robert Grosseteste's Place', pp. 557-58.

[67] Aquinas, *De aeternitate mundi*, ed. by Fratrum Praedicatorum, p. 89, ll. 297-299; cf. *Summa contra gentiles*, II, Chapter 38 (ad 6), ed. by Fratrum Praedicatorum, p. 355.

[68] Examples from works already cited are Albert the Great's *Physics* commentary and Aquinas's *Summa contra gentiles*: see nn. 28 and 31 above and the text they accompany.

[69] William of Baglione, 'Utrum mundum non esse aeternum sit demonstrabile, ita quod per rationes necessarias possit istud probari', according to the *quaestio* incipit), ed. by Brady, pp. 367-70.

[70] William of Baglione, 'Utrum mundum non esse aeternum sit demonstrabile', ed. by Brady, p. 370.

commentary (between 1250 and 1263) with a *quaestio* asking whether time (and hence the world) is eternal. In it, he sets out principal arguments purporting to demonstrate the world's eternity in natural terms, such as the argument about 'now', as well as arguments for Eternal Creation on the part of God working on variations of the idea that God cannot change, and the argument asking how Creation could take place at one particular moment rather than another.[71] For the opposing position, demonstrating that time and the world are not eternal, Geoffrey presents five arguments, including those about traversing an infinity and an actual infinity of souls.[72] He closes by rebutting the principal arguments for the eternity of time/the world, leaving the case against their eternity to stand. As the principal arguments include both natural and Eternal Creation arguments, the case against the world's eternity applies to both theories.

Bonaventure, in the *Sentences* commentary *quaestio* discussed in Section 3 ('Utrum mundus productus sit ab aeterno, an ex tempore'), also addressed both Aristotle's theory and Eternal Creation. He set out six arguments against the world's eternity: one about priority of non-being to being, and five about infinities, such as that an infinity cannot be traversed, and that an eternal world would result an infinity of souls. This set of arguments opposes simultaneously Aristotle's theory and Eternal Creation.[73]

Peter of Tarentaise (later Pope Innocent V) took a stand against the world's eternity in his *Sentences* commentary (completed by 1257), where his case addressed both theories. He opened by considering the possibility of the world's eternity, first with arguments from the standpoint of the world, followed by a set from that of a cause. The first set is predominantly in natural terms, such as arguments concerning matter and time (e.g., the argument about 'now'). Included here is the argument about priority of the creator to the world in time/nature, which he attributes to Avicenna. The second set is a mix of arguments in natural terms (to do with the eternity of motion and generation/corruption) and arguments for Eternal Creation on the part of God (mostly variations on his eternally causing because he does not change). Following these is a set of arguments for the opposite view, that the world cannot possibly be eternal. While the first two sets of arguments are later rebutted, this set is allowed to stand. It includes the arguments about imposing necessity on God, traversing an infinity (two on not arriving at today or any 'present'/'now') and an infinity of souls.[74]

There are also examples on the other side of the debate, by scholastics who accepted the philosophical possibility of the Eternity of the World. In his *Physics* commentary, Albert the Great confronted the position against the world's eternity in a chapter considering standard arguments, including those about traversing an infinity, an infinity of souls, and that a cause must precede its effect. This case presumably applies to both the Eternity of the World and Eternal Creation, as the chapter is

[71] Geoffrey of Aspall, *Questions on Aristotle's 'Physics'*, VIII, Q. 5 ('Utrum tempus sit eternum'), ed. by Donati and Trifogli, I, pp. 652-63, at 654. In the *quaestio*'s opening argument (p. 652), Geoffrey offers a version of the non-being/being argument, in this instance for the side of the world's eternity: that non-being and being of time could not be in the same instant.

[72] Geoffrey of Aspall, *Questions on Aristotle's 'Physics'*, VIII, Q. 5, ed. by Donati and Trifogli, I, p. 656.

[73] Bonaventure, *Sentences*, II, D. 1, Part 1, Art. 1, Q. 2, ed. by PP. Collegii S. Bonaventurae, pp. 20-22; and see nn. 33-34 above and the text they accompany.

[74] Peter of Tarentaise, *In IV libros Sententiarum commentaria*, II, D. 1, Q. 2, art. 3, pp. 10-12, at 11; *quaestio* also ed. by Dales and Argerami, *Medieval Latin Texts*, pp. 61-68, at 65.

the counter-position to that of the previous chapter, discussed above in Section 3 as distinguishing between natural and Eternal Creation arguments but grouping them together.[75]

John of Jandun, in his *Physics* commentary of 1315 (during his regency in the Paris Arts Faculty), treated a *quaestio* on whether motion is eternal ('Utrum motus sit eternus'). He showed that in natural terms the Eternity of the World was philosophically possible and an accurate account of the teaching of Aristotle and Averroes. Before proceeding to the case for the eternity of motion (and hence the world), he opened the *quaestio* by considering standard arguments used to disprove the position, among them those about traversing an infinity, an infinity of souls, and the priority of non-being to being.[76]

Theologian Guido Terreni, who held that both Aristotle's theory and Eternal Creation could not be disproved, examined the same arguments against both theories. In a *Physics* commentary posing the question of whether motion is eternal ('Utrum motus sit aeternus', 1314-17), he set out arguments purporting to demonstrate the impossibility of Aristotle's theory, including ones about infinities of days, stones and souls, and those about imposing necessity on God and the non-being/being problem.[77] He presented much the same arguments in a *quaestio* on Eternal Creation on the part of the creature ('Utrum mundus potuerit creari ab aeterno', 1313-18): among the principal arguments, he included those about infinities of days and souls, and imposing necessity on God; and later in the *quaestio*, in another section of arguments against Eternal Creation on the part of the creature, he included arguments about infinities of asses and celestial rotations, and the non-being/being problem.[78]

While Aquinas's treatment of the problem of the world's eternity in his *De aeternitate mundi* focused on Eternal Creation on the part of the creature (discussed Section 4-A regarding priority in time or nature), in *Summa theologiae* and *Summa contra gentiles* his exploration of the arguments for and against the world's eternity covered both Eternal Creation and Aristotle's theory (as discussed in Section 3). *Summa theologiae*, I, Q. 46, Article 1 turns on the question of whether Aristotle's theory is demonstrative, and opens with natural philosophical arguments for the world's eternity such as ones to do with the eternity of matter, motion and time; these are joined by arguments for Eternal Creation on the part of God regarding God as a cause. Following this, Article 2 presents and refutes arguments showing that the world's eternity is impossible. Included here are the arguments about the priority of non-being to being, traversing an infinity, and an infinity of souls.[79] As Article 1 features arguments for both Aristotle's theory and Eternal Creation, the case in Article 2 against the demonstrability of the non-eternity of the world applies to both theories.

Similarly, in *Summa contra gentiles* II, Chapter 38, we find both theories targeted. This chapter immediately follows the pairs of chapters identified in Section 3 as being from the standpoint of God, the created world, and making. The arguments from the standpoint of God (Chapters 32 and 35) concern Eternal Creation on the part of God; while some of the arguments from the standpoint of the creature (Chapters 33 and 36) and all of those from the standpoint of making (Chapters 34 and 37) are in

[75] Albert the Great, *Physics* commentary, VIII, Tract 1, Chapter 12, ed. by Hossfeld, pp. 572-74; and see n. 28 above and the text it accompanies.
[76] John of Jandun, 'Utrum motus sit eternus', ed. by Dales and Argerami, pp. 182-83.
[77] Guido Terreni, 'Utrum motus sit aeternus', ed. by Giletti, p. 288.
[78] Guido Terreni, 'Utrum mundus potuerit creari ab aeterno', ed. by Giletti, pp. 293 and 296-97.
[79] Aquinas, *Summa theologiae*, I, Q. 46, Art. 2, 2 and ad 2, 6 and ad 6, and 8 and ad 8, ed. by Fratrum Ordinis Praedicatorum, 4, pp. 481-82.

natural terms, including ones for the eternity of time, matter and motion.[80] These pairs of chapters show that it cannot be demonstrated that the world is eternal. Chapter 38 shows conversely that it also cannot be demonstrated that the world is *not* eternal – whether one's starting point is the Eternal Creation or natural terms of the preceding chapters. The chapter lists and rebuts a catalogue of arguments Aquinas's contemporaries used to demonstrate the world's non-eternity, including those about the priority of a cause to its effect, priority of non-being to being, traversing an infinity, and several about infinities of days, people and souls.[81]

Giles of Rome, in the *Sentences* commentary (the *ordinatio*) discussed in Section 3 for linking the eternity theories, treated another *quaestio* on the world's eternity, this time asking whether it can be demonstrated that the world is not eternal. In setting out the case that this can be demonstrated, Giles presents (and later refutes) nine arguments regarding infinities, including that an infinity cannot be traversed and that an eternal world would result in an infinity of souls or asses/horses, as well as six arguments from the standpoint of making, including that the eternal existence of the world would impose necessity on God.[82] Given the treatment of both the Eternity of the World and Eternal Creation in the previous *quaestio*, the arguments regarding the demonstrability of the world's eternity in this *quaestio* address both theories.

Boethius of Dacia's *De aeternitate mundi* is the last example. As discussed in Section 3, although he distinguished between the approaches/arguments of the natural philosopher and the metaphysician, Boethius used both natural and Eternal Creation arguments in presenting the case for world's eternity.[83] On the opposite side, in the set of arguments against the world's eternity, there are variations of the arguments about priority of causes to effects, priority of non-being to being, and several infinities arguments including the problems of an infinity of souls and traversing an infinity.[84] What is interesting about this example is that Boethius, who so carefully distinguishes the ways of thinking of a natural philosopher, mathematician and metaphysician, and between a philosopher and a Christian (or both aspects in an individual thinker), as well as between the actual and possible eternity of the world (giving them separate sets of arguments), does not make a distinction between natural philosophy and Eternal Creation in terms of arguments demonstrating their impossibility.

Taking the examples in this section together, we find that scholastics on both sides of the debate over the Eternity of the World applied to it the arguments and rebuttals employed in the same way for Eternal Creation on the part of the creature. Yet there is an important distinction to be made regarding those arguments/rebuttals involving a role for God. As noted at the start of Section 4-A, in confronting Eternal Creation on the part of the creature, two arguments turning on the role of God were used side-by-side with the arguments about priority of non-being to being, traversing an infinity, and infinities of things. These were the arguments about imposing necessity on God and about a cause's priority to its effect. The grouping of the arguments fit the purpose of confronting Eternal Creation on the part of the creature, in the sense that God's role in these arguments is in relation to the world. However, strictly speaking such arguments do not suit confrontation of the Eternity of the World, which is based on principles to do with nature, not the divine.

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[80] Aquinas, *Summa contra gentiles*, II, Chapters 32-37, ed. by Fratrum Praedicatorum, pp. 344-54.
[81] Aquinas, *Summa contra gentiles*, II, Chapter 38, ed. by Fratrum Praedicatorum, pp. 355-56.
[82] Giles of Rome, *Sentences – ordinatio*, II, D. 1, Part 1, Q. 4, Art. 2, pp. 55-56 and 66-69.
[83] See n. 41 and the text it accompanies.
[84] Boethius of Dacia, *De aeternitate mundi*, ed. by Green-Pedersen, pp. 336-38.

Indeed, in the examples cited in this section, scholastic use of the two arguments relating to God occurs where both eternity theories are addressed, or the role of God as a cause has been introduced to a discussion of Aristotle's theory in natural terms. Among the four examples employing or rebutting the argument about imposing necessity on God, the *Sentences quaestiones* by Peter of Tarentaise and Giles of Rome (the *ordinatio*) address both theories together.[85] The two other examples where this argument appears do so only after a discussion in natural terms evolves into one taking the role of God into account. William of Baglione's *quaestio* on whether the Eternity of the World is demonstrable opens by focusing on the natural philosophical origins of Aristotle's theory, responding with the non-being/being and infinity of souls arguments in this context. It is not until the response section, which takes up the subject of causes, that the argument about imposing necessity on God is put forward.[86] The argument appears following a similar route in Guido Terreni's *Physics quaestio*. The *quaestio* presents arguments for the Eternity of the World as establishing the position of Aristotle and Peripatetics, and then rejects the position as 'false' and 'heretical', introducing the role of the divine to say that God can do as he wishes in causing the world. When Guido later sets out the case for the non-eternity of the world, he includes the argument about imposing necessity on God along with arguments about infinities.[87]

The three examples where we encounter the argument about the priority of a cause to its effect treat the Eternity of the World and Eternal Creation together. Albert the Great's *Physics quaestio* includes this argument as part of the case against the world's eternity according to a previously presented set of arguments grouping natural and Eternal Creation arguments. In setting out variations of the arguments about infinities and the priority of a cause to its effect, Albert describes the infinities arguments as reputed among philosophers of the Arabic tradition to demonstrate the impossibility of the world's eternity, whereas the cause/effect arguments have been regarded as merely probable.[88] Aquinas's *Summa contra gentiles* II, 38 also addresses both eternity theories, with this single chapter considering the case for the non-eternity of the world, following six chapters testing the case for its eternity according to natural philosophical and divine principles.[89] Similarly, Boethius of Dacia's *De aeternitate mundi* includes the cause/effect argument in showing the case for the non-eternity of the world, which is set alongside cases characterized as for its eternity and the possibility of its eternity, in which we again encounter arguments relating to both theories.[90]

As the two arguments presupposing a creator fit with Eternal Creation but not with the natural basis of Eternity of the World, the arguments which most accurately can be said to serve a dual purpose in addressing both theories are those of priority of non-being to being, traversing an infinity, and infinities of things. Strictly speaking, then, this is the core set of arguments which was applied to both theories.

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[85] For the examples of Peter of Tarentaise and Giles of Rome, see nn. 74 and 82, respectively, and the text they accompany.

[86] For the example of William of Baglione, see nn. 69-70 and the text they accompany.

[87] For the example of Guido Terreni, see nn. 77-78 and the text they accompany.

[88] For the example of Albert the Great, see n. 75 and the text it accompanies. Regarding the reputed demonstrability or probability values of the infinities and cause/effect arguments, see Albert the Great, *Physics* commentary, VIII, Tract 1, Chapter 12, ed. by Hossfeld, p. 572.

[89] For the example of Aquinas's *Summa contra gentiles*, see nn. 80-81 and the text they accompany.

[90] For the example of Boethius of Dacia, see n. 84 and the text it accompanies.

**5. Does Employing the Same Arguments Mean Having the Same Position for Both Theories?**

At this point, we might ask what lay behind the conflating of the two theories, and whether the shared set of arguments about their demonstrability indicates a harmonisation of the theories despite their diverse principles. The conflation of the theories seems to be a product of personal outlook. While to the scholastics the distinction between the principles/systems underpinning the theories was clear, their personal conception of the world was Christian: that the world was created by God out of nothing and had had a new beginning. To address the matter of the world's eternity only in natural philosophical terms would not take the full matter into account as they saw it, which meant including God and Creation in the discussion, as well as the eternity problems introduced by positing an eternal, unchanging cause of the world. Even radical philosophers defending conclusions in purely natural terms – or the right to come to such conclusions – said they believed in Creation.[91]

This is not to say that the theories were generally regarded as compatible with the doctrine of Creation.[92] This is also not to say that they and the principles establishing them were regarded as working in harmony with each other. A hard distinction lay between natural making involving a pre-existing subject and divine production *ex nihilo*. Exploring this area meant pursuing further matters such as: accounting for prime movement (which is responsible for eternal movement of the heavens) along with God's absolute production of the world out of nothing; and whether an efficient cause only brings about its effect through motion or change in something pre-existing (as Aristotle and Averroes taught), or can produce the very being of the effect (as Avicenna held), and thus whether God is an efficient cause as well as a final cause of the world. Such matters were the subject of discussion and diverse opinion, and did not resolve in a consensus blending the theories in terms of their underlying principles.[93]

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[91] This was the stance taken by John of Jandun and Boethius of Dacia, both of whom have been studied in modern scholarship in connection with the Double Truth: John of Jandun, 'Utrum motus sit eternus', ed. by Dales and Argerami, pp. 192-93, which shows that motion is eternal according to natural philosophy, but concludes with a defence of creation *ex nihilo* according to faith and without rational demonstration; regarding Boethius of Dacia, see n. 38, above.

[92] Thirteenth-century scholastics had diverse views as to whether, or to what degree, Aristotle's thinking and other philosophical opinions on the world's duration/eternity might be made compatible with the doctrine of Creation. In the 1230s, Philip the Chancellor and Alexander of Hales took Aristotle as teaching that movement was commensurate with the duration of time (it was perpetual, not eternal) and thus had an absolute beginning, an interpretation that harmonised Aristotle's *Physics* and Creation. Robert Grosseteste fiercely attacked this view as an incorrect representation of Aristotle owing to poor understanding and corrupted texts: Robert Grosseteste, *Hexaëmeron*, I, Chapter 8, 4, ed. by Dales and Gieben, pp. 58-59 and 61; and see the analysis of Philip the Chancellor, Alexander of Hales and Grosseteste in Dales, 'Early Latin Discussions', pp. 177-84; Dales, 'Robert Grosseteste's Place', pp. 547-52. Following this period, scholastics generally agreed that Aristotle had not posited Creation: see Noone, 'The Originality of St Thomas's Position'. In *De potentia*, Aquinas set out the generally recognised distinction between what Aristotle had posited (the eternity of motion and therefore the world) and what later thinkers who believed in God posited (eternal production through God's will, or Eternal Creation): Aquinas, *Quaestiones disputatae de potentia*, Q. 3, art. 17, resp., ed. by Bazzi et al., 2, pp. 90-96, at 93-94. See, however, n. 30 above regarding Aquinas on Aristotle and creation.

[93] While Latin scholastics generally identified the Prime Mover as God (e.g., Aquinas, *Summa theologiae*, I, Q. 2, Art. 3, resp., 1st way), Aristotle's Prime Mover's eternal act was on an eternally existing subject that it did not create. One could posit, as Aquinas did, that God was an efficient cause and, following Avicenna, that his efficient causality was a metaphysical causality transcending natural movement/making and capable of producing being. John of Jandun, by contrast, a close adherent to Aristotle and Averroes, did not see God as an efficient cause, and placed efficient causality of the eternal movement of the heavens not with God but with the intelligence moving

Thus, while the conflating of the two theories may have been a natural outcome of discussion carried out by Christian thinkers, the use of a core set of arguments against both theories, in a discussion that differentiated between the principles of physics and metaphysics, presents a striking philosophical phenomenon which goes beyond blurring argumentative lines. In particular, it prompts the question of where a scholastic author's conclusion on the demonstrability of one theory put him with regard to the other, and what the implications of a link in these positions might be. That is, if the two theories were treated as the same in terms of philosophical demonstrability, would that make one's position on both the same? In short, yes. If one demonstrated that Eternal Creation on the part of the creature was impossible, this case would be equivalent to demonstrating the impossibility of the Eternity of the World. Likewise, if one showed instead that the case demonstrating the impossibility of Eternal Creation on the part of the creature could be undermined, thus leaving the theory philosophically possible, by implication one held that Aristotle's theory was also possible. In the latter case, the implication that a scholar held both theories were possible is not a logical necessity – given the diverse principles and arguments establishing the theories – but rather a striking consequence of the association of the theories in contemporary discussion. That a writer's position on both theories would likely be the same can be seen among the examples cited above. This was clearly the case with Bonaventure,[94] who held that the two theories could be demonstrated to be impossible, and with Aquinas[95] and Guido Terreni,[96] who both held the opposite view. This is also the case with the other examples of linking and conflating of the issues, where the case for the demonstrability/ undemonstrability of the world's eternity applies to both theories.

It would thus have been reasonable to suppose that a scholar accepting the philosophical possibility of Eternal Creation on the part of the creature would also have accepted the possibility of the Eternity of the World, even in the absence of evidence of his stand on both issues – and even if he did not believe that either scenario actually happened. In the highly-charged atmosphere at the University of Paris in the late thirteenth century, this could bear significance regarding the kinds of accusations made against scholars, by the authorities and by colleagues. In Christian terms, both theories were unorthodox, owing to their acceptance of an eternal world, and holding them as philosophically possible could cause scandal, while holding them as necessarily true invited accusations of maintaining errors against faith. Yet, bearing in mind the principles establishing the theories, could it be sustained that they both offended against faith? In principle, a scholar questioned about his acceptance of the possibility of Eternal Creation and the theory's conflict with the doctrine of Creation in time and out of nothing could argue that Eternal Creation involved the (continuous) new production of time and the world *ex nihilo*. No such compatibility existed between Aristotle's natural philosophical theory and Christian doctrine. In physics terms, time is eternal and nothing can be made without a pre-existing subject. Indeed, Aquinas, in the introduction to his *De aeternitate mundi*, took great care in arguing that the possibility of Eternal

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the outermost sphere of the universe. See: John of Jandun, 'Utrum motus sit eternus', ed. by Dales and Argerami; and analysis in Maurer, 'John of Jandun and the Divine Causality', which includes an edition of a *quaestio*, 'Utrum aeternis repugnet habere causam efficientem'. See also: Kukkonen, 'Creation and Causation'; and Davidson, *Proofs for Eternity*, pp. 67 and 237-40 et seq. on the history of the complexities involved in identifying the Prime Mover with God.

[94] Bonaventure, *Sentences*, II, D. 1, Part 1, Art. 1, Q. 2; and see nn. 33-34 and 73 and the text they accompany.

[95] Aquinas, *Summa contra gentiles*, II, Chapters 32-38; Aquinas, *Summa theologiae*, I, Q. 46, arts. 1-2; and see nn. 31-32 and 79-81 and the text they accompany.

[96] Guido Terreni, 'Utrum motus sit aeternus' and 'Utrum mundus potuerit creari ab aeterno', ed. by Giletti; and see nn. 77-78 and the text they accompany.

Creation did not risk heresy.[97] By distinguishing between production involving something pre-existing (he cited the pre-existence of passive potency) and absolute production into being, Aquinas could assert that the idea that there was something eternal and not made by God was heretical, whereas the idea that God could eternally and wholly bring about an eternal world was not. Thus, from the standpoint of the faith-reason problem, there is reason to distinguish between the two theories, as the linking of them through their demonstrability has implications beyond philosophy.

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